

FEA

MONTHLY BULLETIN

MAY 2026





Happy
Eid al-Adha



MAY 19

Commemoration of Atatürk, Youth and Sports Day



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IGU FEA

MAY 2026

ARTIFICIAL
INTELLIGENCE

NEWS FROM THE FACULTY

TECHNOLOGY

SCIENCE

INNOVATION

Powering the Future with Technology

INDUSTRIAL ENGINEERING

VEFA HIGH SCHOOL STUDENTS EXPERIENCED ERGONOMICS: HUMAN-CENTERED ENGINEERING INTRODUCED VIA ERGONOMICS COURSE WORKSHOP

On May 5, 2026, the "Ergonomics Course Workshop" was organized for Vefa High School students by Asst. Prof. Didem YILMAZ and Res. Asst. Duygu TÜYLÜ from the Department of Industrial Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University. The workshop aimed to introduce students to the concept of ergonomics through practical applications and to provide them with hands-on experience in the human-centered fields of Industrial Engineering.

As part of the event, students had the opportunity to closely examine ergonomics applications based on human-machine-environment interaction. Topics such as working environment design, human performance, safety, productivity, and user comfort were addressed through practical examples and an interactive course structure.

Thanks to the Ergonomics Course Workshop, students observed that ergonomics is not only a field that improves physical working conditions but also a crucial engineering approach that directly impacts human health, safety, performance, and operational efficiency. By experiencing different applications throughout the course, students gained a more tangible understanding of the importance of human-centered system design.

The workshop contributed to the students' recognition of Industrial Engineering as a comprehensive discipline that considers human factors just as much as quality, efficiency, and system design. The Department of Industrial Engineering at Istanbul Gelişim University continues to support young people's interest in engineering fields through applied and awareness-raising events tailored for high school students.



HÜSEYİN YILDIZ ANATOLIAN HIGH SCHOOL STUDENTS PRODUCED CREATIVE SOLUTIONS: DESIGN THINKING WORKSHOP WAS ORGANIZED

On May 5, 2026, the "Design Thinking Workshop" was organized with the participation of Hüseyin Yıldız Anatolian High School students by Asst. Prof. Mert YILDIRIM and Res. Asst. Sude Nur BOZİK from the Department of Industrial Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University. The event was held to contribute to the development of students' creative thinking skills, enable them to experience problem-solving processes, and introduce them to the engineering perspective through practical applications.

As part of the workshop, students worked on the core stages of the design thinking approach, including understanding user needs, defining problems, ideating, and developing solutions. In activities conducted in teams, students evaluated different perspectives, developed shared ideas, and generated innovative solution proposals. The Design Thinking Workshop enabled students to focus not only on technical knowledge but also on skills such as empathy, analytical thinking, collaboration, and creative problem-solving. In this respect, the workshop effectively introduced students to the human, process, system, and solution-oriented nature of Industrial Engineering.

Throughout the event, students observed that engineering problems can be addressed not only through numerical analysis but also through innovative approaches centered on user needs. The Department of Industrial Engineering at Istanbul Gelişim University continues to support high school students in gaining awareness of the engineering profession and experiencing the university environment firsthand through such interactive workshops.



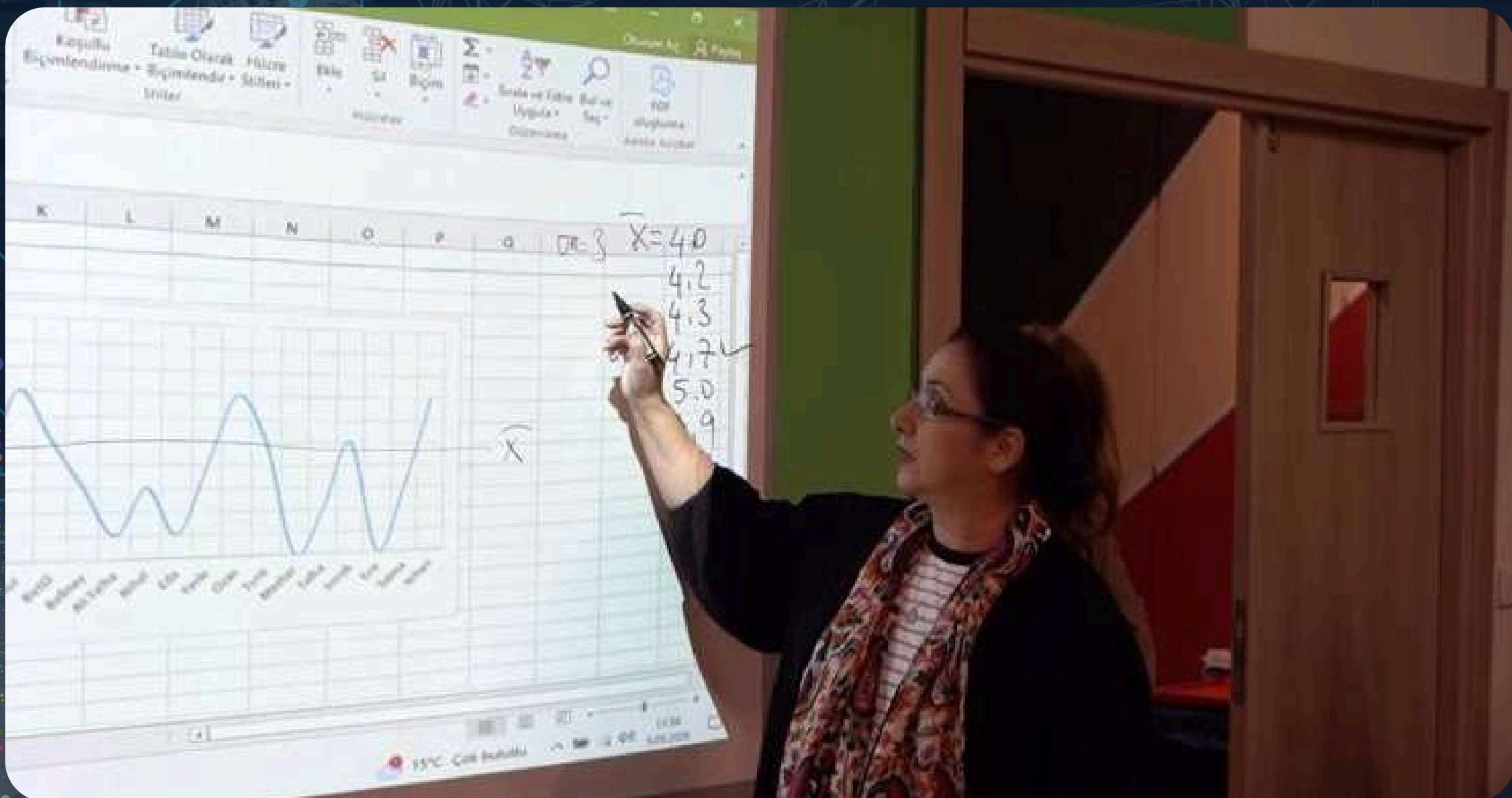
CAĞALOĞLU ANATOLIAN HIGH SCHOOL STUDENTS DISCOVERED QUALITY WITH INDUSTRIAL ENGINEERING: STATISTICAL PROCESS CONTROL WORKSHOP WAS HELD

On May 5, 2026, the "Statistical Process Control Workshop" was organized for Cağaloğlu Anatolian High School students by Asst. Prof. Didem YILMAZ and Res. Asst. Duygu TÜYLÜ from the Department of Industrial Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University. Aiming to introduce high school students to the engineering discipline through practical applications, the event addressed quality control processes and the statistical thinking approach through interactive examples.

As part of the workshop, students gained insights into how quality can be monitored in production and service processes, how variations occurring in processes can be evaluated, and the importance of the concept of control in engineering applications. Not limited to theoretical knowledge alone, students had the opportunity to evaluate quality improvement processes in a more tangible manner through hands-on activities.

The Statistical Process Control Workshop aimed to develop students' data-driven thinking, process analysis, and problem-solving skills. In line with this, students obtained the opportunity to closely experience the role of Industrial Engineering in quality management, process improvement, and decision-making areas.

The event was completed in a participatory and application-oriented learning environment under the guidance of the department's faculty members and research assistants. The Department of Industrial Engineering at Istanbul Gelişim University continues to support young people's interest in engineering fields through scientific and applied events tailored for high school students.



A SEMINAR PRESENTATION WAS DELIVERED TO UNDERGRADUATE STUDENTS

A seminar-style presentation tailored for undergraduate students was delivered by Muhammed Tahir Noaman NOAMAN, a master's student of Assoc. Prof. Ahmad Reshad NOORI, the Head of the Department of Civil Engineering.

In the presentation, structural irregularities were addressed within the scope of the Turkish Building Earthquake Code 2018 (TBDY 2018), with a particular emphasis on critical topics such as torsional irregularity and soft stories. Information regarding the effects of these irregularity types on structural behavior and their importance in the design process was conveyed to the students.

Such seminars aim to contribute to the enhancement of students' professional knowledge bases and to help them gain awareness of earthquake engineering topics.

We thank Muhammed Tahir Noaman NOAMAN for his contributions.



CIVIL ENGINEERING

A SEMINAR ON CONCRETE-STEEL COMPOSITE SLABS WAS HELD FOR UNDERGRADUATE STUDENTS

A seminar-style presentation tailored for undergraduate students was delivered by Fatma DAFER, a master's student of Assoc. Prof. Ahmad Reshad NOORI, the Head of the Department of Civil Engineering.

In the presentation, the topic of "Cost Optimization of Concrete-Steel Composite Slabs" was addressed, and insights regarding the structural properties, advantages of use, and cost-effectiveness evaluation of composite slab systems were shared. Additionally, assessments regarding the impacts of different design approaches on costs and the search for optimum solutions were conveyed to the students.

Such seminars aim to contribute to students gaining knowledge about current engineering applications and developing awareness of academic research.

We would like to thank Fatma DAFER for her contributions.



CIVIL ENGINEERING

A SEMINAR ON AI-ASSISTED BUILDING PERIOD CALCULATIONS WAS HELD FOR UNDERGRADUATE STUDENTS

A seminar for undergraduate students was delivered by Chaimaa SEBBAR and Abdiaziz Mohamed ABDI, master's students of Assoc. Prof. Ahmad Reshad NOORI, the Head of the Department of Civil Engineering.

In the presentation titled “Calculation of Building Period Using AI-Generated Codes,” the potential use of artificial intelligence technologies in the field of civil engineering and their contributions to structural analysis processes were addressed. Focusing particularly on the utilization of AI-assisted codes in building period calculations, the advantages offered by these technologies in engineering processes in terms of speed, efficiency, and analytical accuracy were conveyed to the students.

Within the scope of the presentation, evaluations were also made regarding the importance of the building period in terms of earthquake engineering, the differences between traditional calculation methods and next-generation digital approaches, and the role that artificial intelligence might play in the construction sector in the future.

Such seminars aim to contribute to students keeping track of current technologies, gaining an academic research culture, and developing awareness of digital transformation processes.

We would like to thank Chaimaa SEBBAR and Abdiaziz Mohamed ABDI for their contributions.



CIVIL ENGINEERING

THE MASTER'S STUDENT OF THE CIVIL ENGINEERING DEPARTMENT, SUCCESSFULLY COMPLETED HIS THESIS DEFENSE

Mohammed Taher Noaman NOAMAN, a master's student of Assoc. Prof. Ahmad Reshad NOORI, the Head of the Department of Civil Engineering, has successfully completed his thesis defense and earned the right to graduate.

Within the scope of the master's study, the effects of geometric variations in reinforced concrete structures on structural behavior were investigated. During the thesis defense, the student delivered a detailed presentation to the jury members regarding the scope, methodologies, and findings of his research. Gratitude was extended to the jury members for their contributions to the thesis evaluation process.

We congratulate Mohammed Taher Noaman NOAMAN and wish him continued success in his academic and professional life.



CIVIL ENGINEERING

PRACTICAL TRAINING CONTINUES WITHIN THE SCOPE OF THE CIVIL ENGINEERING SURVEYING COURSE

Within the scope of the Surveying course conducted in the Department of Civil Engineering, practical training for students continues to be carried out by Asst. Prof. Mustafa Yurdabal APAK, one of the faculty members of the department.

While practical training had previously been provided to a segment of the students within the scope of the course, field and measurement applications were carried out for the remaining group of students this week. During the sessions, students gained hands-on experience in using surveying equipment, data collection processes, and core measurement techniques.

Such practical training activities aim to enable students to reinforce their theoretical knowledge through practical work and to develop their professional skills.

We would like to thank Asst. Prof. Mustafa Yurdabal APAK for his contributions.



TÜBİTAK 2209-A SUCCESS FROM OUR MECHATRONICS ENGINEERING STUDENTS

The project titled “Production and Investigation of Properties of Thermoplastic Composites Reinforced with Titanium Dioxide and Boron-Doped Titanium Dioxide Nanoparticles,” supervised by Asst. Prof. Cansu NOBERİ and to be carried out by Ahmet Melih Albayrak, has been granted support under the TÜBİTAK 2209-A Research Project Support Programme for Undergraduate Students. Within the scope of the project, it is aimed to produce thermoplastic composites reinforced with titanium dioxide and boron-doped titanium dioxide nanoparticles and to investigate the structural and physical properties of the resulting materials. We congratulate our student and our supervising faculty member who contributed to the project, and wish them continued success.

The project titled “Synthesis of Silver (Ag) and Boron (B) Doped Hydroxyapatite Nanomaterials by Sol-Gel Method and Comparative Investigation of Their Properties,” supervised by Asst. Prof. Cansu NOBERİ and to be carried out by Serap Nur Akpınar, has been granted support under the TÜBİTAK 2209-A Research Project Support Programme for Undergraduate Students. Within the scope of the project, it is aimed to synthesize silver and boron-doped hydroxyapatite nanomaterials using the sol-gel method and to conduct a comparative analysis of the properties of the synthesized nanomaterials. We congratulate our student and our supervising faculty member who contributed to the project, and wish them continued success.



MECHATRONICS ENGINEERING

A 3D PRINTER APPLICATION WORKSHOP WAS HELD FOR ŞEHİT MÜNİR ALKAN SCIENCE HIGH SCHOOL STUDENTS

On May 5, 2026, a "3D Printer Application" event was organized for Şehit Münir Alkan Science High School students by the Department of Mechatronics Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University. The "3D Printer Application" workshop event, organized by the Department of Mechatronics Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University, was held on Tuesday, May 5, with the intense participation of Şehit Münir Alkan Science High School students. In the event, where additive manufacturing technologies—which are gaining more and more importance in the field of Mechatronics Engineering—were discussed, participants had the opportunity to acquire both theoretical and practical knowledge. Within the scope of the workshop, comprehensive information on the operating principles, software and hardware infrastructures, production processes, and application areas of 3D printer technologies was shared by the instructor, Res. Asst. Muhammed Lütfi TIRABZON. Supported by practical demonstrations, the event provided students with the opportunity to closely examine the working logic of a 3D printer and experience the manufacturing processes firsthand. Aiming to increase awareness of technology and production processes, the workshop contributed to the students' professional development while allowing them to experience the interdisciplinary nature of Mechatronics Engineering through practical application.



MECHATRONICS ENGINEERING

A HYDRAULIC AND PNEUMATIC SYSTEMS APPLICATION WORKSHOP WAS HELD FOR VEFA HIGH SCHOOL STUDENTS

On Friday, May 8, the Department of Mechatronics Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University organized a workshop titled “Hydraulic and Pneumatic Systems Application” for Vefa High School students. Held with the intense participation of students, the event brought together theoretical knowledge and practical experience.

In the workshop conducted by Asst. Prof. Safar Pourabbas, one of the faculty members of the Department of Mechatronics Engineering, comprehensive information was shared regarding the operating principles of hydraulic and pneumatic systems, their application areas in industry, control mechanisms, and their roles in automation processes. Thanks to practical demonstrations, participants had the opportunity to closely examine the core building blocks and system components of modern manufacturing technologies, experiencing their working logic firsthand.

The event, held with the motto “Control the Power, Move the Factories: A Journey from Manual to Full Automation!”, emphasized the importance of hydraulic and pneumatic technologies in today’s industry, aiming to increase students' awareness of sectoral applications.

The Department of Mechatronics Engineering continues to connect future generations with up-to-date engineering applications and to organize dynamic events that transform theoretical frameworks into practice.



MECHATRONICS ENGINEERING

AN INTERVIEW TITLED “THE ROLE OF THE ENGINEER IN THE INDUSTRY” WAS HELD IN THE DEPARTMENT OF MECHATRONICS ENGINEERING

In the interview titled “The Role of the Engineer in the Industry” organized by the Department of Mechatronics Engineering, Mr. Gökhan ERKOCA, an Electrical and Electronics Engineer from Frenox Industrial Cooling Systems, met with the students. The event addressed the role of the engineering profession in the sector, the career development process, and the competencies expected from engineers.

The interview, titled “The Role of the Engineer in the Industry,” was organized by the Department of Mechatronics Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University, to contribute to the professional development of students and to provide them with the opportunity to hear about sectoral experiences directly from experts working in the field.

The event took place on Tuesday, May 12, 2026, in Classroom J-322, featuring Mr. Gökhan ERKOCA, who works as an Electrical and Electronics Engineer at Frenox Industrial Cooling Systems, as the guest speaker. During the interview, significant evaluations were shared regarding the position of the engineering profession in the industry, the post-graduation career process, the application of technical knowledge in business life, and the competencies expected from engineers.

Within the scope of the event, students had the opportunity to see how the theoretical knowledge gained during engineering education translates into industrial applications. Drawing from his experiences in the field of industrial cooling systems, Mr. Gökhan ERKOCA drew attention to the importance of an interdisciplinary perspective, problem-solving skills, and continuous development in engineering.

The interview continued with answering students' questions about the sector and sharing recommendations for their career planning. At the end of the event, gratitude was extended to the speaker, Mr. Gökhan ERKOCA, for the interview, which contributed to increasing the professional awareness of the students.



ARCHITECTURE

ASSOC. PROF. DR. SEMİH G. YILDIRIM ATTENDED THE I. GRADUATE ACADEMIC STUDIES CONGRESS

Within the scope of the I. Graduate Academic Studies Congress organized by the Istanbul Gelişim University Institute of Graduate Studies on May 4, 2026, Assoc. Prof. Dr. Semih G. Yıldırım, one of the faculty members of the Department of Architecture, presented his study titled “Rationalizing Conceptual Illusions in AI-Assisted Design via the ‘Technical Verification’ Method.”

In the study, conceptual illusions that may arise in artificial intelligence-assisted design processes were addressed, and a method for the technical verification of design outputs was proposed. The research highlights the importance of technical verification processes in the reliable and effective use of AI-assisted design tools.

While showcasing the contribution of the Department of Architecture to current research in the fields of artificial intelligence and digital design, this study provided significant insights into the integration of innovative technologies into design processes.



İSTANBUL GELİŞİM ÜNİVERSİTESİ | **I. Lisansüstü Akademik Çalışmalar Kongresi**
 Sunum Programı • 1. Gün Öğleden Sonra
 04-05 Mayıs 2026 • İstanbul Gelişim Üniversitesi Lisansüstü Eğitim Enstitüsü (F Blok)

Sunum Oturumları 13:00 - 15:00

SALON 1				SALON 2				SALON 3				SALON 4				SALON 5			
SAAT	SIRA	YAZARLAR	BİLDİRİ BAŞLIĞI	SAAT	SIRA	YAZARLAR	BİLDİRİ BAŞLIĞI	SAAT	SIRA	YAZARLAR	BİLDİRİ BAŞLIĞI	SAAT	SIRA	YAZARLAR	BİLDİRİ BAŞLIĞI	SAAT	SIRA	YAZARLAR	BİLDİRİ BAŞLIĞI
13:00-13:20	1	Şahin Can	Planlama ve Yapay Zeka Destekli Dönüşümler Yoluyla İnanılmaz Bir Süreklilik İçeren Akıllı Alanların Süreklilik Etkinleştirilmesi	13:00-13:20	1	Ahmed Reşad Nezi, Abdülhamid Salah Rameed, Mervat Maysi, Tawfik Khaled, Abdulla Mohamed, Ahmed, Othman Sidiq	Calculation of Building Period Using AI Generated Codes	13:00-13:20	1	Bahar Bekir Celik	Yerine Geçimi Açıklamalarında Yeni Bir Veri Toplama Yöntemi: Kıyıcı Tıp Kayıt Güvencesi	13:00-13:20	1	Turgut Çaykırı, Arif Çelinc, Murat Beşal	Algortmik Akadik ve Nöromorfik İnternet (ANI) Tabanlı Kuyulaklımlama: Yapay Zeka Destekli Sağlık Planlamasında Hasta Deneyimi Ve Tecrübe Etkisi	13:00-13:20	1	Kayratova Meruert, Zharkhanovna, Aul Jergali	The Digital Transformation of Young People's Cultural Leisure Activities
13:20-13:40	2	NEHİR KAHVECİ	Hayatın Üstününde Performansın Yönetimi İçin Yapay Zeka Destekli Çözümler (Etkinlik: İstanbul Örneği)	13:20-13:40	2	Ahmed Reşad Nezi, Osman Şereef Özalp, Yousef Hany Hussein, Mohamed Ali Hussein, Abdulkarem Fahem Abdulkarem, Salih Taha Skhal	Seismic Location Effects on Structural Irregularity Response of a U-Shaped Building in Turkey	13:20-13:40	2	EM Güneş	Klasik Türk Şehirinde Mimarlık ve İktisadi Yapıların Üzerine Bir İnceleme	13:20-13:40	2	Melika İpek Karavcı	Diyalektik Bir Önce Önce: Yapay Zeka Hedefi ve Düşüncenin Öteki Kavramı Üzerinde Bir Okuma	13:20-13:40	2	Erkin Koca	Güven Kalite Sağlama Etkisi: Akıllı Altyapı Örneği
13:40-14:00	3	Bahar Teyfik, İsmet Serel	Türkiye'de Yerel Yönetimler ve Çözüm Modelleri	13:40-14:00	3	Ahmed Reşad Nezi, Harth Talib Ibrahim, Ammar Youssef, Moustafa Ghazal, Nayef Khudher, Nayef, Ahmed Isam Nayef	Effect of Column Dimension Variation on the Structural Behavior of a 2-Storey Building: A Parametric Study Using SAP2008	13:40-14:00	3	Gökçe Şeyma	Çarşıların Dönüşümü: Yeni Bir Şehirleşme Modeli İçin Bir Çözüm Önerisi	13:40-14:00	3	Mil Karayolları	Hava Kirliliği Sektöründe Yapay Zeka Destekli Karar Süreçleri: Operasyonel Performans Etkisi, Maviye Önerileri Tabanlı Bir Analiz	13:40-14:00	3	Kadir Alp	Sağlık Hizmetlerinde Güncelleme ve İnançlı Uygulamaların Hizmet Kalitesi ve Operasyonel Verimliliği Üzerindeki Etkisi: Dijital Dönüşüm Perspektifinden Analiz
14:00-14:20	4	Zeynep Şenel, İsmet Serel	Türkiye'de Yerel Yönetimler ve Çözüm Modelleri	14:00-14:20	4	Ahmed Reşad Nezi, Yousef Hany Hussein, Mohamed Ali Hussein, Abdulkarem Fahem Abdulkarem, Salih Taha Skhal	Effect of Storey Number on Torsional Irregularity of a T-Shaped RC Building	14:00-14:20	4	Özge Akın	Orhan Özalp Çarşısında Geleneksel Mimarlık ve İktisadi Yapıların Üzerine Bir İnceleme	14:00-14:20	4	Burhan S. A. Mahmut, Sezer Çihan Benken	How Does Artificial Intelligence Perception Affect Crisis Management Through Digital Leadership and Strategic Decision-Making in High-Context?	14:00-14:20	4	Enise Kızılcık, Sezer Çihan Benken	Dönüşümler Üzerine ve Stratejik Dönüşüm Start-Up Sosyal Girişimciliği Üzerine Bir Analiz
14:20-14:40	5	Eniş Özalp, Ümit İsmailoğlu	Uygun Etkinliklerin Yönetimi İçin Yapay Zeka Destekli Çözümler (Etkinlik: İstanbul Örneği)	14:20-14:40	5	Ahmed Reşad Nezi, Yousef Hany Hussein, Mohamed Ali Hussein, Abdulkarem Fahem Abdulkarem, Salih Taha Skhal	Effect of Different Soil Types on Seismic Behavior of U-Shaped Reinforced Concrete Buildings	14:20-14:40	5	Zeynep Ünal	Bilgi Kaynakları İçerisinde Akadik Arayışların Yeni Bir Yöntemi: Akadik Arayışların Yeni Bir Yöntemi	14:20-14:40	5	Semih Güneş, Yabancı	Yapay Zeka Destekli Tarama ve Karar Süreçleri: Operasyonel Performans Etkisi, Maviye Önerileri Tabanlı Bir Analiz	14:20-14:40	5	Fayruz Emadillo, Mohamed Mayar, Hana Saqan	Perceived Family Expectations and Future Anxiety Among International University Students: A Literature Review
14:40-15:00	6	Kadir Özalp, Çiğdem Erkin	Fizyolojik ve Psikolojik Verilerin Yapay Zeka Destekli Analizi	14:40-15:00	6	Ahmed Reşad Nezi, Yousef Hany Hussein, Mohamed Ali Hussein, Abdulkarem Fahem Abdulkarem, Salih Taha Skhal	Effect of Different Soil Types on Seismic Behavior of U-Shaped Reinforced Concrete Buildings	14:40-15:00	6	Zeynep Ünal	Bilgi Kaynakları İçerisinde Akadik Arayışların Yeni Bir Yöntemi: Akadik Arayışların Yeni Bir Yöntemi	14:40-15:00	6	Semih Güneş, Yabancı	Yapay Zeka Destekli Tarama ve Karar Süreçleri: Operasyonel Performans Etkisi, Maviye Önerileri Tabanlı Bir Analiz	14:40-15:00	6	Fayruz Emadillo, Mohamed Mayar, Hana Saqan	Perceived Family Expectations and Future Anxiety Among International University Students: A Literature Review

ARCHITECTURE

ASSOC. PROF. DR. SEMİH G. YILDIRIM, HEAD OF THE ARCHITECTURE DEPARTMENT, FEATURED AS A SPEAKER AT THE ARCHI SUMMIT'26 EVENT

Assoc. Prof. Dr. Semih G. Yıldırım, the Head of the Department of Architecture, featured as an invited speaker at the seminar event titled "Archi Summit'26: New Production and Design Approaches at the Intersection of Architecture and Artificial Intelligence," organized in collaboration with the Istanbul Gelişim University Faculty of Fine Arts and the Artificial Intelligence and Design Club on April 9–10, 2026.

In the event, where current developments in the fields of architecture and artificial intelligence were addressed, the impacts of AI technologies on design processes, digital production methods, and innovative approaches to the future of architectural practices were shared with the participants. In his presentation, Assoc. Prof. Dr. Semih G. Yıldırım shared assessments regarding AI-assisted design processes and the opportunities these technologies offer in the field of architecture.

The event contributed to the interdisciplinary interaction in architecture and technology by supporting knowledge sharing among students, academics, and sector representatives.



ARCHITECTURE

INTERNSHIP ORIENTATION WAS HELD FOR ARCHITECTURE DEPARTMENT STUDENTS

On May 12, 2026, an internship orientation was organized by the Department of Architecture in separate sessions for Turkish Program and English Program students. In the orientation program, comprehensive information was provided to ensure that students are well-informed about the internship process and can manage it correctly.

During the sessions, detailed explanations were given regarding the internship application process, required documents, the internship calendar, insurance procedures, and the rules to be followed during the internship. Additionally, points to consider in selecting an internship placement, the importance of internships for professional development, and recommendations regarding situations that may be encountered during the internship process were shared.

Within the scope of the orientation, students' questions were answered, up-to-date procedures regarding internship practices were conveyed, and information was provided for a more efficient execution of the process. The event served as an important guide for students preparing for the internship process, which will contribute to their gaining professional experience.



Department of Architecture
**STAJ
ORYANTASYON**

12.05.2026 15th Kat

Türkçe Program : 12:00
İngilizce Program: 13:00



ARCHITECTURE

AN ACADEMIC PERSPECTIVE ON THE CULTURAL HERITAGE OF SIRKECI FROM THE STUDENTS OF THE DEPARTMENT OF ARCHITECTURE (ENGLISH)

Within the scope of the Cultural Heritage Management course, master's students from the Department of Architecture (English) conducted a technical field trip to the Sirkeci district. During the trip, students had the opportunity to examine the historical and cultural heritage of the area on-site, making observations on historic structures, urban fabric, and preservation practices.

Following the technical trip, students conducted research on selected historical buildings in Sirkeci and prepared poster studies. The exhibition featuring these posters opened on May 21, 2026, presenting the students' work for evaluation by academics and participants.

Following the exhibition opening, a seminar titled "Problems and Solution Proposals for the Architectural and Cultural Heritage of Sirkeci" was held. As part of the seminar, students shared their research results and delivered assessments on the district's historical building stock, preservation processes, usage issues, and the sustainability of cultural heritage.

Throughout the event, recommendations for preserving the architectural identity of Sirkeci, cultural heritage management approaches, and solution proposals regarding the future of the historical environment were discussed. This integrated event—comprising the technical trip, exhibition, and seminar—contributed significantly to students reinforcing their theoretical knowledge with field studies and developing their awareness of cultural heritage preservation.



The poster features the Istanbul Gelişim Üniversitesi logo and a 5-year anniversary emblem. The title is "THE VALUE OF SIRKECI IN TERMS OF ARCHITECTURAL AND CULTURAL HERITAGE: PROBLEMS AND PROPOSALS". The speaker is Dr. Öğr. Üyesi İLKNUR TÜRKÖĞLÜ. The event is on May 21, 2026, Thursday, from 01:00 AM to 2:30 PM at the Ötügen Conference Hall. A photograph of the Sirkeci district is included. Logos of various organizations like İCUAM, CSYBUAM, İKİB, SKSÜB, KİK, and others are at the bottom.



ARCHITECTURE

THE CONTRIBUTION OF IN-SERVICE TRAINING TO THE DISSEMINATION IMPACT OF SCIENTIFIC AND PROFESSIONAL STUDIES WAS ADDRESSED

The event titled “Bridge from Academy to Practice: Increasing the Dissemination Impact of Scientific and Professional Studies Through In-Service Training” was held on May 20, 2026, between 14:00 and 15:30 at the Istanbul Gelişim University E-Block Conference Hall. Organized in cooperation with the Architecture and Design Club, ESG BUAM, and ICUAM, the event featured Ömer Yeşildal, who has prominent studies in the field, as the guest speaker.

Within the scope of the event, strengthening the relationship between academic knowledge production and professional fields of practice, increasing the social and sectoral impact of scientific studies, and the importance of in-service training in this process were addressed. Participants had the opportunity to acquire comprehensive information regarding the role of in-service training in keeping individuals' knowledge and skills up-to-date, the processes of adapting to changing technologies and professional requirements, and the contributions of the lifelong learning approach to professional development.

In his speech, Ömer Yeşildal emphasized that academic research should not be limited solely to scientific publications, and that it is crucial to convey the acquired knowledge and experience to wider audiences through training programs, application projects, and sectoral collaborations. Furthermore, he stated that in-service training activities, in addition to contributing to the updating of specialized knowledge, also enable the establishment of strong communication networks among institutions, sector representatives, and academic circles.

During the event, which was held with intense participation, the attendees gained insights into current approaches for increasing the dissemination impact of scientific studies and exchanged views on developing cooperation between the academia and the world of practice. Following the Q&A session, the event was successfully completed. We would like to thank Ömer Yeşildal for his contributions.

İSTANBUL GELİŞİM ÜNİVERSİTESİ Mimarlık Ve Tasarım Kulübü

AKADEMİDEN UYGULAMAYA KÖPRÜ:

MESLEK İÇİ EĞİTİMLER ARACILIĞIYLA BİLİMSEL VE MESLEKİ ÇALIŞMALARIN YAYGIN ETKİSİNİN ARTIRILMASI

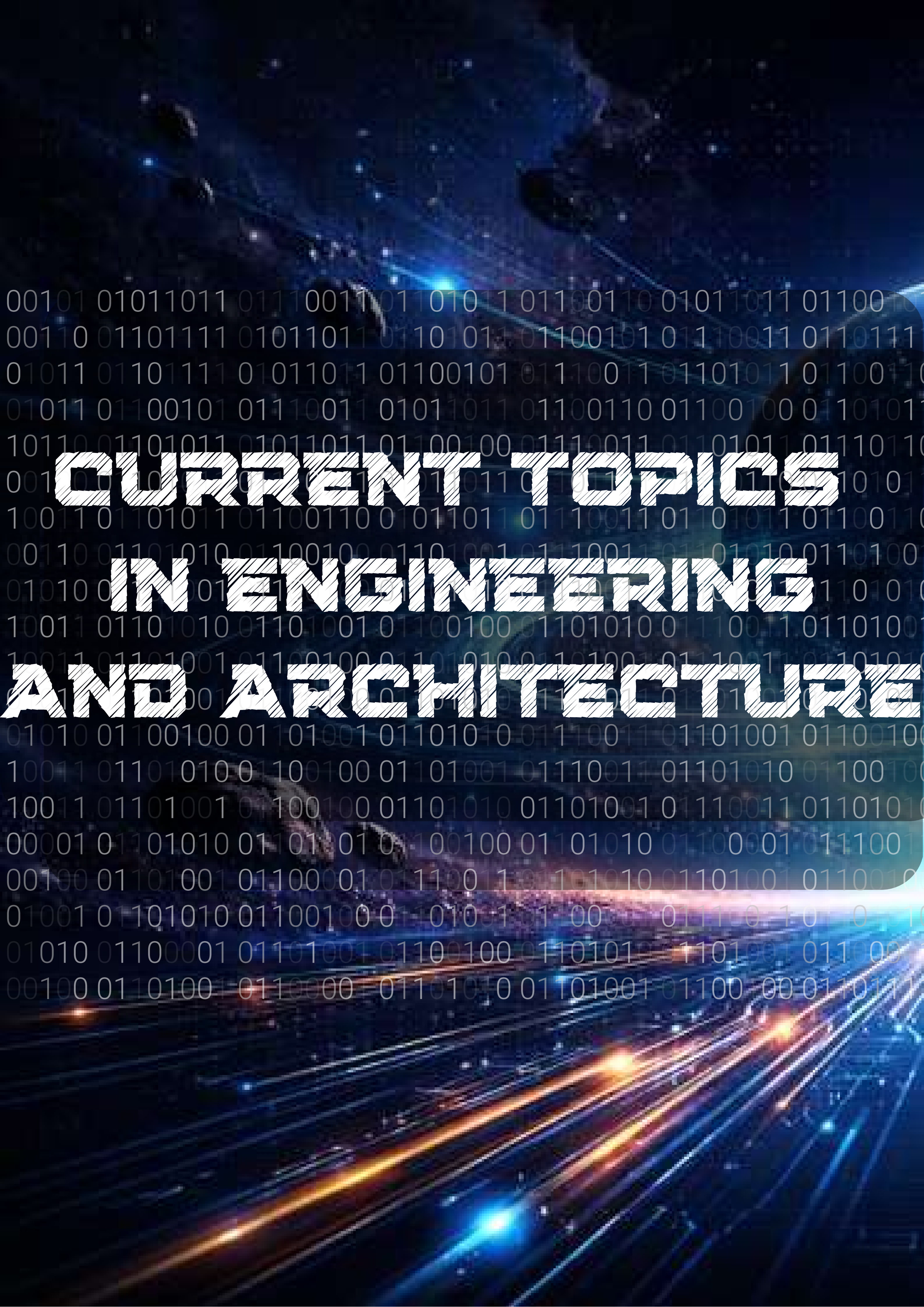
KONUŞMACI
Yüksek Mimar
Ömer Yeşildal

TARİH
20.05.2026

SAAT
14.00 – 15.30

YER
E Blok
Konferans Salonu





**CURRENT TOPICS
IN ENGINEERING
AND ARCHITECTURE**

COMPUTER ENGINEERING

Res. Asst. Hasan YILDIRIM

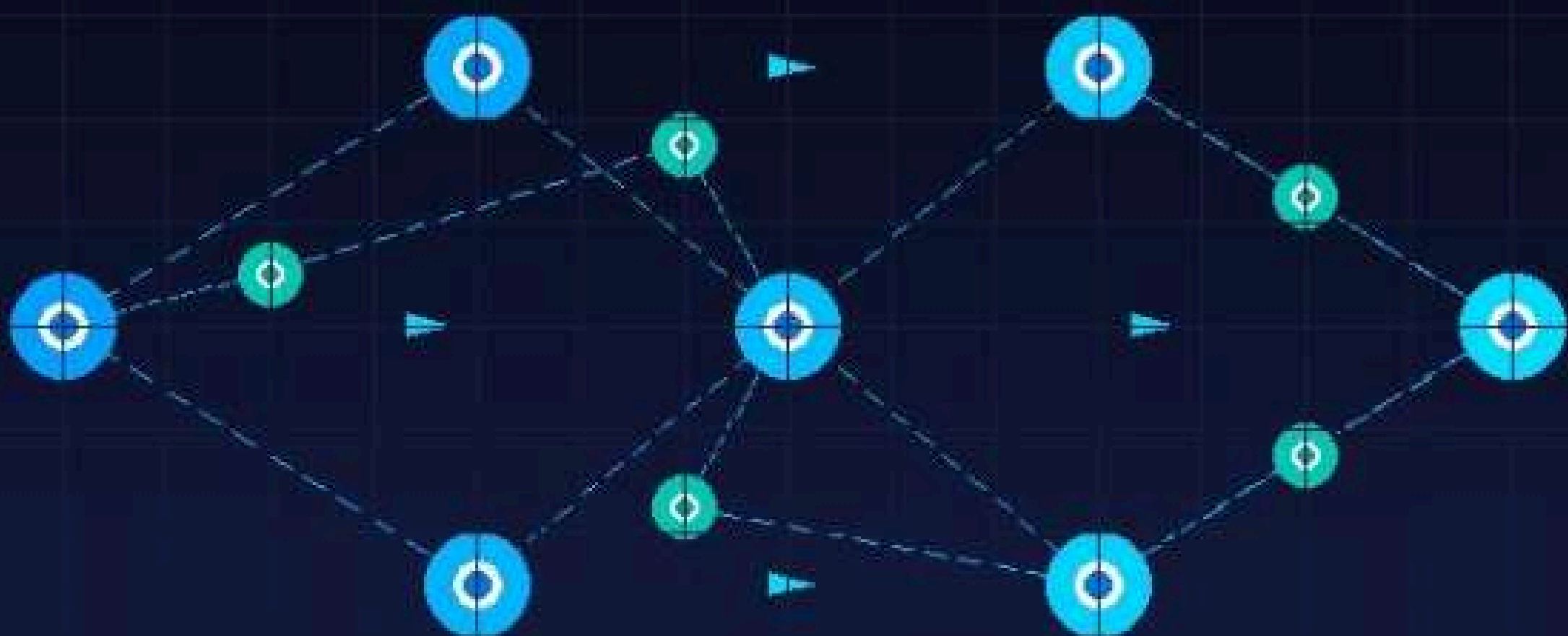
ARTIFICIAL INTELLIGENCE IS NO LONGER JUST TALKING—IT'S TAKING ACTION: AUTONOMOUS AGENT SYSTEMS ARE USHERING IN A NEW ERA

In computer engineering, a profound transformation is underway with the emergence of autonomous AI agents. These systems—which independently plan their objectives, operate machinery, and complete complex tasks with minimal human intervention—are redefining the role of engineering in software, science, and automation.

Experts emphasize that these agents have overcome the one-way query-response limitations of traditional large language models. An agent can execute multi-step workflows by integrating cameras, file systems, and web services. For example, a software agent can analyze source code, debug, and prepare documentation entirely without human intervention. This frees developers from routine coding tasks and redirects their focus toward architectural design.

“Multi-agent systems,” on the other hand, enable multiple agents—each specialized in different fields—to solve problems in parallel under the management of a coordinator. This structure, which resembles human teams, not only accelerates scientific research but also offers flexible solutions in healthcare. It appears that success in these applications depends more on data management and workflow design than on technical performance.

Additionally, small language models are democratizing artificial intelligence through their advantages of low latency, limited computational power, and data privacy. As a result, autonomous agents are transforming artificial intelligence from a mere response generator into an independently acting entity; this, in turn, is giving rise to a new engineering culture that designs algorithms to interact with the real world.



INDUSTRIAL ENGINEERING

Res. Asst. Duygu TÜYLÜ



DIGITAL TRANSFORMATION IN INDUSTRIAL ENGINEERING: FROM EFFICIENCY TO SMART SYSTEMS

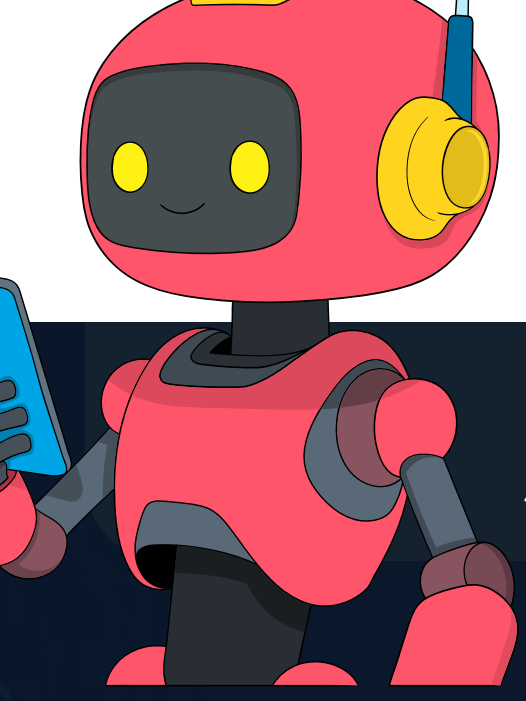
Today, it is of great importance for businesses to enhance their competitive edge, utilize their resources effectively, and adapt quickly to changing market conditions. In this context, Industrial Engineering stands out as a discipline that approaches systems from a holistic perspective, analyzes processes, and develops improvement-focused solutions.

Industrial Engineering aims to ensure the most efficient use of resources such as human labor, machinery, materials, information, energy, and capital. It has a broad scope of application, ranging from manufacturing to the service sector, logistics to healthcare systems, and quality management to data analysis. In this regard, it encompasses not only production processes but also decision-making, planning, organization, and performance improvement processes.

In recent years, digital transformation has added a new dimension to industrial engineering practices. Technologies such as artificial intelligence, machine learning, big data analytics, digital twins, the Internet of Things, and smart manufacturing systems are making business processes faster, more flexible, and more efficient. Industrial engineers, however, view these technologies not merely as technical tools but also as strategic elements that enhance system performance.

As a result, Industrial Engineering is a critical engineering discipline that makes today's complex systems more understandable, measurable, and improvable. With digital transformation, the importance of this field is growing even further; industrial engineers are playing a critical role in designing the smart, sustainable, and efficient systems of the future.





SOFTWARE ENGINEERING

Res. Asst. Enis ÖZBEK

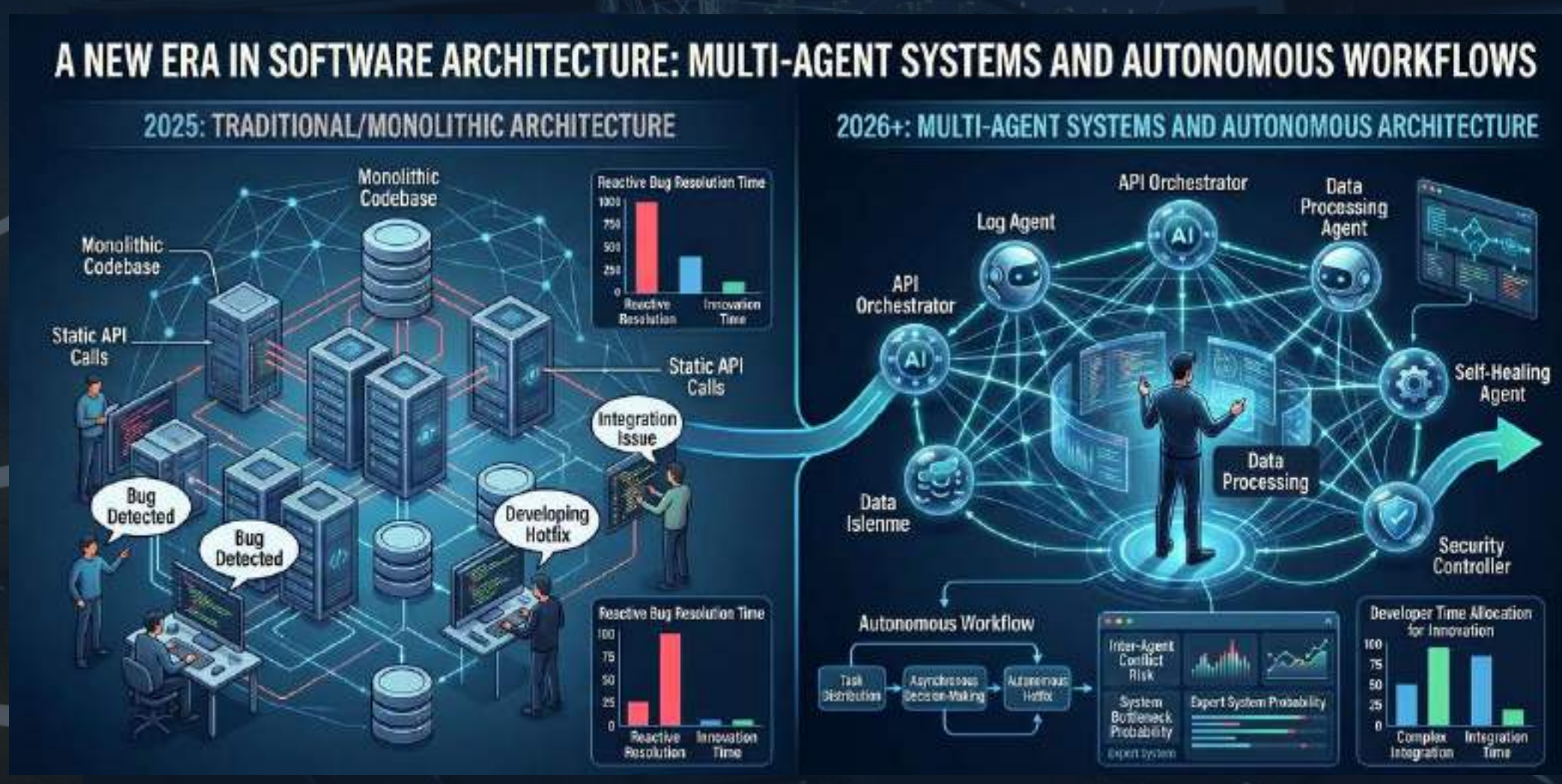
A NEW ERA IN SOFTWARE ARCHITECTURE: MULTI-AGENT SYSTEMS AND AUTONOMOUS WORKFLOWS

As of the last quarter of 2025 and into 2026, software engineering departments are experiencing a fundamental shift from the use of "monolithic AI" towards "Multi-Agent Systems" (MAS) capable of communicating independently with one another. Applications are no longer static blocks of code that simply call external AI APIs; they are transforming into dynamic ecosystems consisting of micro-agents that distribute tasks, make asynchronous decisions, and audit each other internally. This transformation represents the evolution of software architectures from reactive designs to proactive (agentic) designs that pursue their own objectives.

Industry reports demonstrate the transformative impact of this shift on software development life cycles (SDLC). According to Forrester's 2026 Developer Experience (DevEx) Report, enterprise teams transitioning from traditional software architectures to agent-centric architectures have seen the duration of complex integration processes shortened by 55%. In parallel, 2025 Global Software Architecture data indicates that 40% of engineering departments have completely offloaded tasks such as routine data processing, error logging, and API orchestration to these specialized agents. This autonomy allows engineers to focus directly on user-value-adding features and system architecture rather than infrastructure crises.

Despite the technological leap, agent-based architectures also bring a serious technical challenge: Inter-Agent Conflict. The attempt of AI agents with different optimization goals (e.g., one trying to maximize speed while another minimizes memory usage) to operate on the same system resources can lead to race conditions and unpredictable deadlocks. According to current 2026 analyses by MIT Technology Review, 25% of insufficiently isolated multi-agent networks create system bottlenecks purely due to their internal messaging traffic (communication overhead). This situation gives rise to the risk of "autonomous but unsynchronized" components.

In conclusion, 2026 is an era for software engineering departments where mere coding is decreasing, and architectural orchestration and system reliability are taking center stage. Current data shows that the role of the modern software engineer is evolving from a traditional programmer into an "AI Orchestrator" who designs the ecosystem among these digital agents, optimizes communication protocols, and establishes decision-making boundaries. The successful software teams of the future will be those capable of managing the flexibility offered by these multi-agent networks with the uncompromising system stability of engineering discipline.





**ACADEMIC AND
SCIENTIFIC
ACTIVITIES**

ELECTRICAL AND ELECTRONICS ENGINEERING

An Article by Prof. Dr. Bayram Ünal, Dean of the Istanbul Gelişim University Faculty of Engineering and Architecture, Has Been Published

The study titled “Deconvoluting Grain and Grain Boundary Responses in Ag-Substituted Co-Ni-Zn-Cu Nanospinel Ferrites: A Comprehensive Impedance Spectroscopy Analysis,” co-authored by Prof. Dr. Bayram Ünal, the Dean of the Faculty of Engineering and Architecture and a faculty member of the Department of Electrical and Electronics Engineering, has been published in the Arabian Journal for Science and Engineering, which is indexed in SCI and Scopus in the prestigious Q1 category. We congratulate Prof. Dr. Bayram Ünal, the Dean of the Faculty of Engineering and Architecture, and wish him continued success.

Arabian Journal for Science and Engineering
<https://doi.org/10.1007/s13369-026-11357-0>

RESEARCH ARTICLE-PHYSICS



Deconvoluting Grain and Grain Boundary Responses in Ag-Substituted Co-Ni-Zn-Cu Nanospinel Ferrites: A Comprehensive Impedance Spectroscopy Analysis

A. Mihmanli¹ · M. A. Almessiere^{2,3} · B. Ünal⁴ · A. Baykal⁵ · A. Korkmaz Demir⁶ · M. A. Gondal^{7,8} · E. Mojtahedi⁹ · S. E. Shirsath¹⁰

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ELECTRICAL AND ELECTRONICS ENGINEERING

Asst. Prof. Khalid Yahya Featured as a Keynote Speaker at the Conference Organized by IEEE

Asst. Prof. Khalid Yahya from the Department of Electrical and Electronics Engineering was invited as a Keynote Speaker at the International Conference on Integrated Intelligence and Cognitive Engineering (ICIICE 2026), held in Dubai in April 2026. Organized in cooperation with the IEEE UAE Section and Abu Dhabi University, the conference brought together researchers, academics, and sector representatives from different countries around the world in the fields of artificial intelligence, cognitive engineering, intelligent systems, and advanced technologies.

In his presentation delivered within the scope of the conference, Dr. Khalid Yahya shared his knowledge and experience regarding current research studies and engineering applications with the participants, making significant contributions to scientific discussions. His presentation, which attracted intense interest from international academic circles, received great acclaim from the conference attendees.

At the end of the conference, a certificate of appreciation was presented to Asst. Prof. Khalid Yahya by the organizing committee due to his contributions to scientific studies, his active role in knowledge sharing, and his outstanding performance as a Keynote Speaker. This significant achievement has both contributed to the international academic visibility of Istanbul Gelişim University and once again demonstrated the effectiveness of the Department of Electrical and Electronics Engineering in scientific activities on a global scale.



ELECTRICAL AND ELECTRONICS ENGINEERING

An Article by Asst. Prof. Khalid YAHYA Has Been Published

The research article titled "Multi-objective hybrid GA-PSO optimized PI control for grid-connected PV-fed cascaded H-bridge multilevel inverter," prepared as part of the collaborative research by Asst. Prof. Khalid YAHYA, a faculty member of the Department of Electrical and Electronics Engineering, and his research group, has been published in Nature Research - Scientific Reports, a journal indexed in SCIE, Scopus, and PubMed in the prestigious Q1 category. We congratulate Asst. Prof. Khalid YAHYA and wish him continued success.

Scientific Reports

<https://doi.org/10.1038/s41598-026-50178-x>

Article in Press

Multi-objective hybrid GA-PSO optimized PI control for grid-connected PV-fed cascaded H-bridge multilevel inverter

Received: 23 February 2026

Accepted: 20 April 2026

Bhupender Sharma, Vivek Saxena, Saibal Manna, Pandry Narendra Rao, Mohammed H. Alsharif, Khalid Yahya & Mun-Kyeom Kim



ELECTRICAL AND ELECTRONICS ENGINEERING

An Article by Asst. Prof. Khalid YAHYA Has Been Published

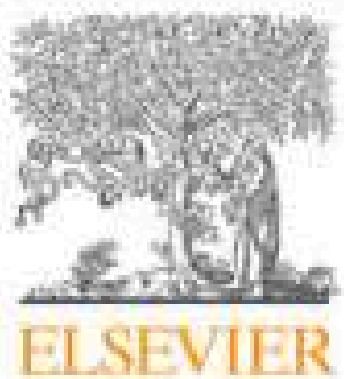
The article titled "A comprehensive survey on Handover Management Techniques towards seamless mobility in 5G and beyond Heterogeneous Networks," prepared as part of the collaborative research by Asst. Prof. Khalid YAHYA, a faculty member of the Department of Electrical and Electronics Engineering, and his research group, has been published in *Computer Networks*, a journal indexed in Scopus, WOS, and SJR in the prestigious Q1 category. We congratulate Asst. Prof. Khalid YAHYA and wish him continued success.

Computer Networks 284 (2026) 112346

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Computer Networks

journal homepage: www.elsevier.com/locate/comnet



Survey paper

A Comprehensive Survey on Handover Management Techniques Toward Seamless Mobility in 5G and Beyond Heterogeneous Networks

Sajjad Ahmad Khan ^{a,*,}, Waheeb Tashan ^{b,*}, Ibraheem Shayea ^{c,d,}, Kerem Küçük ^{a,}, Sultan Aldırmaz-Çolak ^{b,}, Shehzad Ashraf Chaudhry ^{e,f,}, Khalid Yahya ^g

^a Department of Software Engineering, Faculty of Engineering, Kocaeli University, İzmit, 41001, Kocaeli, Türkiye

^b Department of Electronics and Communication Engineering, Faculty of Engineering, Kocaeli University, İzmit, 41001, Kocaeli, Türkiye

^c Electrical Electronics and Communication Engineering, Istanbul Technical University, 34469, Istanbul, Türkiye

^d School of Cybersecurity, Astana IT University, Astana, 010000, Kazakhstan

^e Department of Computer Science and Information Technology, College of Engineering, Abu Dhabi University, Abu Dhabi, United Arab Emirates

^f Department of Software Engineering, Faculty of Engineering and Architecture, Nisantasi University, 34398, Istanbul, Türkiye

^g Department of Electrical and Electronics Engineering, Faculty of Engineering and Architecture, Istanbul Gelisim University, 34310, Istanbul, Türkiye



ELECTRICAL AND ELECTRONICS ENGINEERING

An Article by Asst. Prof. Khalid YAHYA Has Been Published

The article titled "Hybrid machine learning forecasting for resilient and sustainable pharmaceutical supply chains under regulatory and seasonal disruption," prepared as part of the collaborative research by Asst. Prof. Khalid YAHYA, a faculty member of the Department of Electrical and Electronics Engineering, and his research group, has been published in *Frontiers in Artificial Intelligence*, a journal indexed in Scopus in the prestigious Q1 category. We congratulate Asst. Prof. Khalid YAHYA and wish him continued success.



frontiers
in Artificial Intelligence

TYPE Original Research
PUBLISHED 20 May 2026
DOI 10.3389/frai.2026.1803863

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EDITED BY
Sujata Dash,
Nagaland University, India

REVIEWED BY
Musli Yanto,
Universitas Putra Indonesia, Indonesia
Arthit Apichottanakul,
Khon Kaen University, Thailand

*CORRESPONDENCE
Khalid Yahya
✉ hayahya@gelisim.edu.tr
Mehdi Safaei
✉ msafaei@gelisim.edu.tr
Saleh Al Dawsari
✉ aldawsarisa@cardiff.ac.uk

Hybrid machine learning forecasting for resilient and sustainable pharmaceutical supply chains under regulatory and seasonal disruption

Khalid Yahya^{1*}, Mehdi Safaei^{2*} and Saleh Al Dawsari^{3,4*}

¹Department of Electrical and Electronics Engineering, Faculty of Engineering and Architecture, Istanbul Gelisim University, Istanbul, Türkiye. ²Faculty of Economics, Administrative, and Social Sciences, Logistics Management Department, Istanbul Gelisim University, Istanbul, Türkiye. ³School of Engineering, Cardiff University, Cardiff, United Kingdom. ⁴Electrical Engineering Department, College of Engineering, Najran University, Najran, Saudi Arabia



ELECTRICAL AND ELECTRONICS ENGINEERING

An Article by Asst. Prof. Khalid YAHYA Has Been Published

The study titled “Performance Enhancement of Quadrotor UAVs via Gray Wolf Optimized Algorithm for Sliding Mode Control,” prepared by Asst. Prof. Khalid YAHYA, a faculty member of the Department of Electrical and Electronics Engineering, has been published in *Algorithms*, a journal indexed in ESCI in the prestigious Q1 category. We congratulate Asst. Prof. Khalid YAHYA and wish him continued success.



Article

Performance Enhancement of Quadrotor UAVs via Gray Wolf Optimized Algorithm for Sliding Mode Control

Mustafa B. Nidham ¹, Khalid Yahya ^{2,*}, Mehdi Safaei ^{3,*}, Nawal Rai ⁴ and Saleh Al Dawsari ^{5,6,*}



ELECTRICAL AND ELECTRONICS ENGINEERING

A Conference Paper by Asst. Prof. Nevzat Yağız TOMBAL Has Been Published

The full-text conference paper titled "Analysis of the Reuse Potential of Solid Wastes After HCl Leaching from a Circular Economy Perspective Using Microscope Images and Machine Learning," prepared by Asst. Prof. Nevzat Yağız TOMBAL, the Head of the Department of Electrical and Electronics Engineering, and his co-authors, was presented at the XX. Balkan Mineral Processing Congress.

The findings of the study provide significant data regarding the reusability of solid wastes and contain results that will contribute to sustainable production processes.

We congratulate Asst. Prof. Nevzat Yağız TOMBAL and the co-authors, and wish them continued success.

XX BALKAN MINERAL PROCESSING CONGRESS

9-11 APRIL 2026 ISTANBUL - TÜRKİYE

ANALYSIS OF THE REUSE POTENTIAL OF SOLID WASTES AFTER HCl LEACHING FROM A CIRCULAR ECONOMY PERSPECTIVE USING MICROSCOPE IMAGES AND MACHINE LEARNING

Tuğba Deniz TOMBAL KARA^{1,*}, Burçin KAYMAKOĞLU², Nevzat Yağız TOMBAL³

¹*Adana Alparslan Türkeş Science and Technology University, Faculty of Engineering, Mining Engineering Department, 01250, ADANA-TÜRKİYE*

²*Adana Alparslan Türkeş Science and Technology University, Faculty of Engineering, Materials Science and Engineering Department, 01250, ADANA-TÜRKİYE*

³*Istanbul Gelisim University, Faculty of Engineering and Architecture, Electrical and Electronics Engineering Department, 34310, ISTANBUL-TÜRKİYE*

**Corresponding author: ttombal@atu.edu.tr*



CIVIL ENGINEERING

A New Article in the Q1 Category by Asst. Prof. Sajedah Norozpour SIGAROODI Has Been Published


The article titled “Multiplicative Gradient Decomposition: A Hybrid Additive–Multiplicative Optimization Framework,” authored by Asst. Prof. Sajedah Norozpour SIGAROODI, one of our faculty members from the Department of Civil Engineering, has been published in *Mathematics*, a journal ranked in the Q1 category.

We congratulate Asst. Prof. Sajedah Norozpour SIGAROODI for this valuable scientific contribution and wish her continued success in her academic endeavors.



Article

Multiplicative Gradient Decomposition: A Hybrid Additive–Multiplicative Optimization Framework

Sajedah Norozpour 

Department of Basic Sciences, Faculty of Architecture and Engineering, Istanbul Gelisim University,
Istanbul 34310, Türkiye; snorozpour@gelisim.edu.tr



CIVIL ENGINEERING

The Department of Civil Engineering Participated in the I. Graduate Academic Studies Congress

Within the scope of the I. Graduate Academic Studies Congress organized by the Istanbul Gelişim University Institute of Graduate Studies, Assoc. Prof. Dr. Ahmad Reshad NOORI, the Head of the Department of Civil Engineering, and his students contributed to the event with their scientific research studies.

Under the framework of the congress program, research studies conducted under the supervision of our department head were presented by different research groups, addressing current topics in the field of engineering.

AI-Assisted Building Period Calculation In the study titled “Calculation of Building Period Using AI Generated Codes,” prepared by Assoc. Prof. Dr. Ahmad Reshad NOORI, Abdulrahman Salah Hameed, Myint Myat Thazin Khine, Abdiaziz Mohamed Abdi, and Chaimaa Sebbar, an innovative approach for calculating building periods using AI-assisted codes was presented.

Investigation of Seismic Behavior in U-Shaped Buildings In the conference paper titled “Seismic Location Effects on Structural Irregularity Response of a U-Shaped Building in Türkiye,” prepared by Assoc. Prof. Dr. Ahmad Reshad NOORI, Osamah Shareef Dhari, Youssef Hany Youssef, Mohammed Ali Kareem, Abdulaziz Faheem Abdulkareem, and Salih Taha Salih, the effects of location on the seismic behavior of U-shaped structures were evaluated.

Effect of Column Dimension Variation in Z-Shaped Buildings In the study titled “Effect of Column Dimension Variation on the Structure Behavior of a Z-shape Building: A Parametric Study Using SAP2000,” prepared by Assoc. Prof. Dr. Ahmad Reshad NOORI, Harith Talib Ibrahim, Ammar Yahya, Moustapha Omar Abdi, Nayef Munder Nayef, and Ahmed Isam Nayef, the effects of variations in column dimensions on the behavior of Z-shaped structures were parametrically analyzed.



CIVIL ENGINEERING

The Department of Civil Engineering Participated in the I. Graduate Academic Studies Congress

Effect of Story Number on Torsional Irregularity In the conference paper titled “Effect of Story Number on Torsional Irregularity of a T-Shaped RC Building,” presented by Assoc. Prof. Dr. Ahmad Reshad NOORI, Yasir Ammran Mahmood Al Abbas, Mohammad Imran Hofian, Faras Hamur Rashid, and Fahad Imad Ali Ali, the effects of the number of stories on the torsional irregularity of T-shaped reinforced concrete structures were investigated.

Effect of Different Soil Types on Seismic Behavior In the study titled “Effect of Different Soil Types on Seismic Behavior of L-Shaped Reinforced Concrete Buildings,” prepared by Assoc. Prof. Dr. Ahmad Reshad NOORI, Thulfiqar Khudhair Abbas Alenarah, Mohamad Alsaean, Aseel Hadi Munshi Alsimese, Ziad Id Draz, and Zaid Abdulstar Ahmed, the effects of different soil types on the seismic behavior of L-shaped reinforced concrete structures were evaluated.

These conducted studies demonstrate our students' scientific productivity and their competence in conducting research at an international level, while also reflecting the academic strength and research capacity of our Department of Civil Engineering.

We congratulate all our students who participated in the congress, as well as Assoc. Prof. Dr. Ahmad Reshad NOORI for his supportive mentorship, and wish them continued success.



Lisansüstü
Eğitim Enstitüsü



CIVIL ENGINEERING

A TÜBİTAK 2209-A Project from the Department of Civil Engineering Has Been Approved

The project under the TÜBİTAK 2209-A Research Project Support Programme for Undergraduate Students, led by our Department of Civil Engineering student Somayeh AZIMI and supervised by our Department Head Assoc. Prof. Dr. Ahmad Reshad NOORI, has been accepted for funding.

In the project titled “Buckling Analysis of Functionally Graded Circular and Annular Plates Using the Finite Element Method,” the buckling behaviors of circular and annular plates are investigated using the finite element method with functionally graded materials. Within the scope of the study, verification and analysis work will be conducted using the ANSYS software and SHELL208/209 elements under various boundary conditions, material gradient profiles, and mesh densities.

The project aims to expand the application areas of functionally graded materials in engineering practices and specifically contribute to studies in the field of advanced material technologies. Furthermore, the study is expected to contribute to the literature concerning high-engineering demand fields such as satellite panels, rocket fuselages, and thermal protection systems.

Entitled to receive TÜBİTAK 2209-A support, this project once again demonstrates our students' interest in research culture and the scientific productivity of our department.

Our department congratulates our student Somayeh AZIMI and her supervisor Assoc. Prof. Dr. Ahmad Reshad NOORI for their hard work on the project, and wishes them continued success.



TÜBİTAK

2209-A

Üniversite Öğrencileri Araştırma Projeleri
Destekleme Programı



ARCHITECTURE

An Article by Asst. Prof. Oluwagbemiga Paul Agboola Has Been Published

The study titled “User-centred smart building technologies for climate-resilient urban development: evidence from Istanbul,” co-authored by Asst. Prof. Oluwagbemiga Paul Agboola and Asst. Prof. Baby Ann, has been published as article number 1772855 in the 8th volume of the journal *Frontiers in Sustainable Cities*. The respective journal is indexed in the Emerging Sources Citation Index (ESCI) and Scopus, and is ranked in the Q1 category. We congratulate Asst. Prof. Oluwagbemiga Paul Agboola for this valuable scientific contribution and wish him continued success in his academic endeavors.



frontiers
in Sustainable Cities

TYPE Original Research
PUBLISHED 11 March 2026
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EDITED BY
Elisa Caracci,
University of Cassino, Italy

REVIEWED BY
Chinedu Oluigbo,
Niger Delta University, Nigeria
Balamaheshwaran Renganathan,
SRM University, India

*CORRESPONDENCE
Oluwagbemiga Paul Agboola
✉ opagboola@gelisim.edu.tr

User-centred smart building technologies for climate-resilient urban development: evidence from Istanbul

Oluwagbemiga Paul Agboola^{1*} and Ann Baby²

¹Department of Architecture, Faculty of Architecture and Engineering, Istanbul Gelisim University, Istanbul, Türkiye, ²Rajagiri College of Social Sciences, Kochi, India



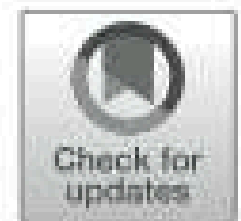
ARCHITECTURE

An Article by Asst. Prof. Oluwagbemiga Paul Agboola Has Been Published

The article titled "Integrating Circular Economy Principles into Strategic Urban Planning for Sustainable Built Environment Development," authored by Asst. Prof. Oluwagbemiga Paul Agboola, has been published in volume 6, issue 137 (pages 1-57) of the journal Circular Economy and Sustainability. The respective journal is indexed in the Emerging Sources Citation Index (ESCI) and Scopus, and is ranked in the Q1 category. We congratulate Asst. Prof. Oluwagbemiga Paul Agboola for this valuable scientific contribution and wish him continued success in his academic endeavors.

Circular Economy and Sustainability (2026) 6:137
<https://doi.org/10.1007/s43615-026-00834-1>

ORIGINAL PAPER



Integrating Circular Economy Principles into Strategic Urban Planning for Sustainable Built Environment Development

Oluwagbemiga Paul Agboola¹ 

Received: 7 September 2024 / Accepted: 26 August 2025

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BASIC SCIENCES

36 International Scientific Publications in 2026 by Our Faculty Member from the Department of Basic Sciences

Prof. Dr. Thabet Abdeljawad, a faculty member of the Department of Basic Sciences at the Faculty of Engineering and Architecture, Istanbul Gelisim University, has achieved a significant academic success with 36 scientific studies published in internationally indexed journals in 2026.

Prof. Dr. Abdeljawad's 2026 publications mainly focus on advanced areas of mathematics such as fractional and fractal-fractional differential equations, fixed point theory, stability analysis, boundary value problems, optimal control, nonlinear wave models, numerical solution methods, and artificial intelligence-supported mathematical modeling. In addition, these studies address applied topics including epidemiological models such as HIV, COVID-19, Ebola, shingles, and tick-borne encephalitis; prey-predator dynamics; global warming; CO₂ emissions; nanofluids; heat transfer; porous media; and engineering systems.

Published in prestigious international journals indexed in SCI-Expanded, ESCI, and Scopus, these studies strengthen the interdisciplinary connection between mathematical theory and engineering, health, environmental sciences, and computational sciences. Prof. Dr. Abdeljawad's research, which combines theoretical analysis with numerical methods and artificial intelligence approaches, makes significant contributions to our university's research-oriented and innovative academic vision.

As Istanbul Gelisim University, we congratulate Prof. Dr. T. Abdeljawad for his dedicated scientific productivity and international academic contributions throughout 2026 and wish him continued success in his future studies.



BASIC SCIENCES

36 International Scientific Publications in 2026 by Our Faculty Member from the Department of Basic Sciences

Prof. Dr. Thabet Abdeljawad's Publications in 2026

1. Analysis of nonlinear fractal-fractional differential equations with double discrete delays via Atangana-Baleanu-Caputo operator: theory and biological applications
2. New techniques for the existence and stability of solutions to fractional stochastic pantograph differential equations
3. Propagation of solitary waves for hydrodynamical nonlinear complex model in a fractional derivative setting
4. (α, ψ) -Morgan-Voyce optimization for solving high-dimensional ψ -tempered fractional optimal control problems
5. Reduction Analysis and Solitary Wave Solutions of the (2+1)-D Kadomtsev-Petviashvili-Benjamin-Bona-Mahony Equation
6. Existence theory for higher order hybrid fractional integro-differential systems
7. Hybrid moving least squares and neural network approach for solving nonlinear fractal-fractional optimal control problems
8. Modeling the propagation of fractional inequalities via generalized fractional operators with artificial neural networks
9. Fixed points and dynamic programming in complex-valued controlled metric spaces
10. On the solution structure of fractional integro-differential equations via a new-Caputo derivative with the modified generalized Mittag-Leffler kernel
11. Theoretical and computational analysis of a novel fractional-order mathematical model for HIV transmission dynamics
12. Spectral numerical method for fractional order partial differential equations using Katugampola derivative
13. Mathematical Analysis and Numerical Simulations of Ternary Hybrid Nanoparticles using Eyring Prandtl Model
14. Qualitative results and Lyapunov-type inequality for a new φ -ABC fractional boundary value problem
15. Using a finite difference scheme together with neural networks analysis for propagation of the long waves equation
16. Analytic Solutions of Fractional Zoomeron Equation via Power Index Approach and Stability Analysis of Traveling Wave Transformation
17. Study of Fractional Order Mathematical Model to Investigate Effect of Plantation on the Control of Atmospheric CO_2
18. Theoretical and Numerical Analysis of Piecewise Lotka-Volterra Prey-Predator Models with Stochastic Differential Operators
19. Existence and Approximate Controllability of Mild Solutions for Hadamard-Type Fractional Systems in Banach Spaces
20. The m th Level Fractional Derivatives with Respect to Another Function
21. The dynamics of prey-predator model with global warming on carrying capacity and wind flow on predation
22. Data-driven modeling and simulation of Caputo-Fabrizio fractional order shingles disease model
23. Deep Bernoulli optimisation for solving 2D/3D ψ -tempered fractional optimal control problems
24. On the finite delayed fractional differential equation via the weighted Riemann-Liouville derivative of variable order
25. Generalized Hermite-Hadamard and Ostrowski inequalities involving tempered fractional integrals
26. Solving time fractional diffusion-wave equation using hyperbolic polynomial B-splines: A uniform grid approach
27. On multiplicative fractional operators of Hadamard and Katugampola types in G-calculus and related Hermite-Hadamard inequalities
28. κ -Fractional Calculus Operators and Solution of Fractional Kinetic Equations Involving the Multivariate κ -Mittag-Leffler Matrix Functions
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DESIGN AND EDITING

Res. Asst. Beray İKİNCİ
Res. Asst. Sude Nur BOZİK

CONTACT

(+90) 212 422 70 00

www.mmf.gelisim.edu.tr/en/

