



FACULTY OF ENGINEERING AND ARCHITECTURE

BULLETIN

● **JANUARY 2025** ●

WHAT YOU WILL READ IN THIS ISSUE:

News from Faculty
Actual Topics in Engineering and Architecture
Academic and Scientific Activities

**FACULTY OF ENGINEERING AND
ARCHITECTURE**

**NEWS FROM
THE FACULTY**

**• MONTHLY •
BULLETIN •**

**JANUARY
2025**



HAPPY NEW YEAR

2025

NEWS FROM THE FACULTY

● INDUSTRIAL ENGINEERING ●

THE INDUSTRIAL ENGINEERING DEPARTMENT HELD AN EXTERNAL STAKEHOLDER MEETING!



The Industrial Engineering Department of Istanbul Gelisim University (IGU) successfully held its external stakeholder meeting to evaluate the strategic plans and collaboration opportunities for the year 2025. The meeting provided a platform for experts in the field to engage in a broad exchange of ideas.

Key topics discussed included the alignment of the department's curriculum with current industry needs and enhancing internship and career opportunities for students. The contributions of the stakeholders served as a guiding framework for the future projections of the Industrial Engineering Department.

At the conclusion of the event, gratitude was extended to all participants, and a shared commitment to ongoing collaboration was expressed.

It was emphasized that such meetings will continue to generate valuable outcomes for both students and industry stakeholders.

NEWS FROM THE FACULTY

● INDUSTRIAL ENGINEERING ●



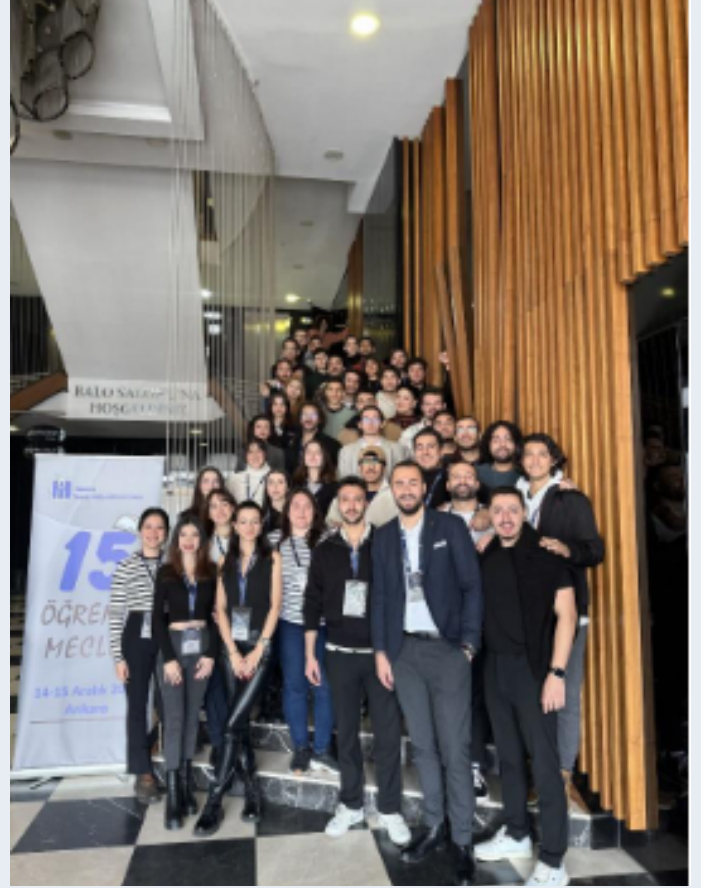
The patent of Assist. Prof. Dr. Mert Yildirim has been registered by TÜRK PATENT

The invention titled “Production method of smart composite materials with high-performance properties containing nanocellulose and nickel-titanium alloy”, with application number 2023/004775, owned by Assist. Prof. Dr. Mert Yildirim from the Department of Industrial Engineering, Faculty of Engineering and Architecture, Istanbul Gelisim University (IGU), has been registered as an “examined patent” by the Turkish Patent and Trademark Office (TÜRK PATENT) for a period of 20 years. The invention relates to a production method of a smart composite materials that contains microcapsules for stopping microcrack propagation and a shape-memory alloy with a self- healing mechanism.

NEWS FROM THE FACULTY

● CIVIL ENGINEERING ●

15TH GENÇ-İMO GENERAL ASSEMBLY



Beyza TAŞÇIOĞLU, a student of the Civil Engineering Department at Istanbul Gelisim University, participated in the 15th Genç-İMO General Assembly held in Ankara. During the meeting, presentations were made on the topics of "From Yesterday to Today: Genç-İMO," "Problems of University Students and Social Solutions," "The Power of Professional Solidarity: Genç-İMO Organization," "The Role of Artificial Intelligence and Technology in Engineering," "The Role of Women in Professional Organizations," "Genç-İMO's Social Activities, Solidarity, and Networking," "Engineering Ethics and Organizational Principles," and "Uncertainty and Challenges Faced by Young Engineers." Following the presentations, open-floor discussions were held on all topics.

NEWS FROM THE FACULTY

● CIVIL ENGINEERING ●



Assoc. Prof. Dr. Anıl Niş, a faculty member of the Civil Engineering Department, supervised his Ph.D. student Taha Salah Wahhab AL-ANTAKI, who successfully defended his dissertation titled “Pomza ikameli Geopolimer Harçların Dayanım ve Durabilite Performanslarının İncelenmesi” and graduated.

The dissertation investigated the mechanical strength and durability performance of alkali-activated mortars containing different proportions of basaltic pumice powder combined with fly ash and slag. The study evaluated the performance of these mortars under varying NaOH concentrations, curing durations, high temperatures, and acid-sulfate exposures. The findings revealed that while the addition of pumice improved the durability properties of the mortars, it could reduce their mechanical strength. Furthermore, an increase in NaOH concentration and extended curing durations were found to have a positive impact on the strength of the mortars.

We congratulate Assoc. Prof. Dr. Anıl Niş and Taha Salah Wahhab AL-ANTAKI on this achievement and wish them continued success in their academic endeavors.

NEWS FROM THE FACULTY

● ARCHITECTURE ●

The final submissions for the MİM313 Tarihi Çevre Koruma ve Restorasyon Course conducted by Assoc. Prof. İlke CIRITCI have been completed.

After the theoretical courses on concepts related to protection, statutes, regulations, survey-restitution and restoration, the students who conducted their analyses in Karaköy, which was selected as the study area, submitted their analyses at the neighborhood scale in the 8th week. The students, who were divided into groups of 5-6 people each, prepared the occupancy, void, number of floors, function, cultural asset, ownership status, usage status, construction technique, structural strength status and originality status analyses of the buildings in the given block. In the final submission, they also made the facade survey and deterioration analyses of a building they selected in this block. You can see some examples of the submissions below.

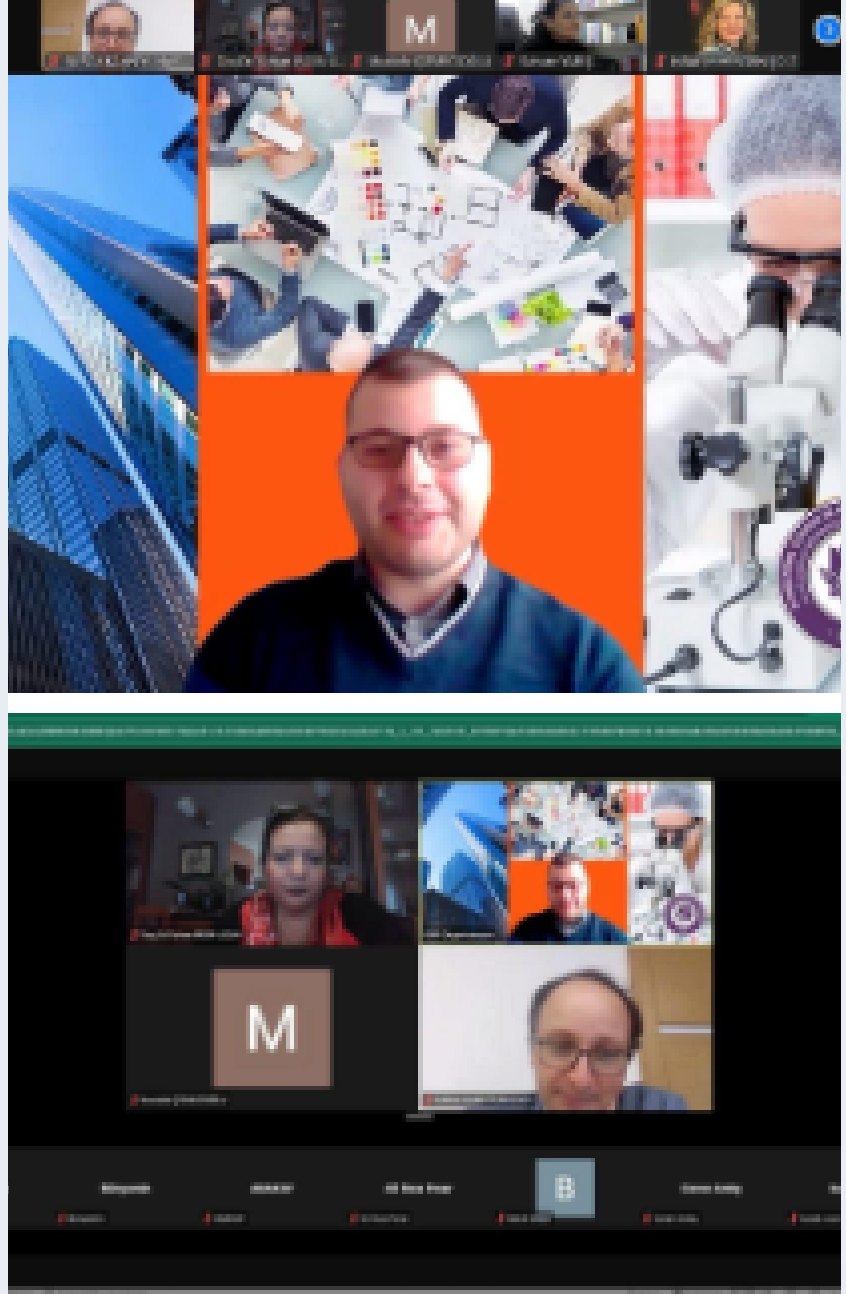
We congratulate our students who successfully passed the course.



NEWS FROM THE FACULTY

● ARCHITECTURE ●

14TH INTERNATIONAL ENGINEERING, ARCHITECTURE AND DESIGN CONGRESS



On 28.12.2024, Assoc. Prof. Türkan UZUN and Lecturer Burak Kaan YILMAZSOY made their presentations as invited speakers at the 14th International Engineering, Architecture and Design Congress.

NEWS FROM THE FACULTY

● ARCHITECTURE ●

On 26. 12. 2024, Dr. Erdal YILDIZ, Dr. Ayşe ÖZTÜRK and Architect Mine ÇİÇEK participated in the 2nd Jury of Architectural Design I and Architectural Design II projects under the leadership of Lecturer Burak Kaan YILMAZSOY and Lecturer Ömer YEŞİLDAL as invited jury members, the jury was held in the Chamber of Architects.



On 30. 12. 2024, it was held under the leadership of Lecturer Burak Kaan YILMAZSOY, with the participation of the third jury of the Introduction to Architectural Design I course, Architect Mine ÇİÇEK, and our graduate student Hümeysra ÖZKAN.



NEWS FROM THE FACULTY

● ARCHITECTURE ●

DESIGN WORKSHOP



On December 29, 2024, the Design Workshop of the Foreign Student Engineering Society, which is a group of people from different professions and chaired by our student Hasan SULTAN, was held in the Chamber of Architects and was conducted by Lecturer Burak Kaan Yılmazsoy and Dr. Ayşe ÖZTÜRK. The work was completed with a presentation on design and a two-hour workshop.

NEWS FROM THE FACULTY

● ARCHITECTURE ●



Istanbul, a city that has hosted numerous civilizations throughout history, stands as a captivating crossroads between East and West. This unique cultural heritage continues to inspire creativity and innovation. The Historic Peninsula Creative Approaches Studio, organized by the Istanbul Planning Agency, was a notable event designed to explore the potential of this extraordinary region and shape future design approaches. As part of the program, participants from various disciplines delved deeply into the historical and cultural layers of the area. Workshops, field visits, and creative discussions helped participants develop their individual visions while fostering a collective understanding of future design concepts. Experts in architecture, design, art, and urban planning guided the participants, enabling them to create innovative and sustainable projects. Third-year architecture students İrem Ceryan and Sümeyye Şahin successfully completed the studio and were awarded certificates of participation. Through their involvement, they contributed to the development of creative projects while gaining a deeper understanding of the region's rich historical and cultural context.

NEWS FROM THE FACULTY

● SOFTWARE ENGINEERING ●

The Importance of Basic Programming Courses in Software Engineering



Software engineering is a discipline at the heart of innovation in an era of rapidly advancing technology. To succeed in this field, having a strong foundation in programming is essential. Basic programming courses equip software engineering students with skills in algorithmic thinking, problem-solving, and coding, forming the first step in their professional development.

These courses are not limited to learning a specific programming language. They teach students concepts such as data structures, algorithms, and logical thinking, which are crucial in software development processes. Additionally, they provide a solid foundation before delving into advanced topics like software development and system design.

Fundamental programming knowledge enables students to collaborate on software projects, develop innovative solutions, and adapt to the ever-changing technological landscape. Therefore, basic programming courses hold an indispensable place in software engineering education and lay the groundwork for skills that will be used at every stage of their careers.

First-Year Students Successfully Presented Their First Projects!

First-year students of the Basic Programming I course in the Software Engineering Department at Istanbul Gelişim University successfully presented their first projects after an intense learning period. The young software developers showcased their innovative projects at a special event attended by their instructors and industry representatives.

Future Software Developers Take Their First Steps

Throughout the semester, students utilized the fundamental software engineering concepts they learned to develop creative solutions. The projects primarily featured web applications, mobile solutions, and small AI-based systems. Each team detailed the technical challenges they faced and how they addressed them in their presentations.

“These projects are significant in showcasing our students' potential and how quickly they can learn. We congratulate them all!”

**FACULTY OF ENGINEERING AND
ARCHITECTURE**

**ACTUEL TOPICS IN
ENGINEERING AND
ARCHITECTURE**

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ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● COMPUTER ENGINEERING ●

CHINESE DEEPSEEK DISRUPTS THE AI LANDSCAPE – RES. ASST. MUSTAFA YURDAKUL



Founded in 2023 in Hangzhou, China, the artificial intelligence startup DeepSeek has rapidly captured global attention and disrupted the technology landscape. Emerging as an open-source, cost-efficient, and high-performance AI model, DeepSeek-R1 poses a serious challenge to American tech giants and chip manufacturers.

Compared to its Western counterparts, DeepSeek stands out by performing the same tasks with significantly less data and computing power. Users can download DeepSeek for free and run it on their own systems or access it via mobile applications. Thanks to these advantages, DeepSeek skyrocketed to the top of app stores in 51 countries within just one day.

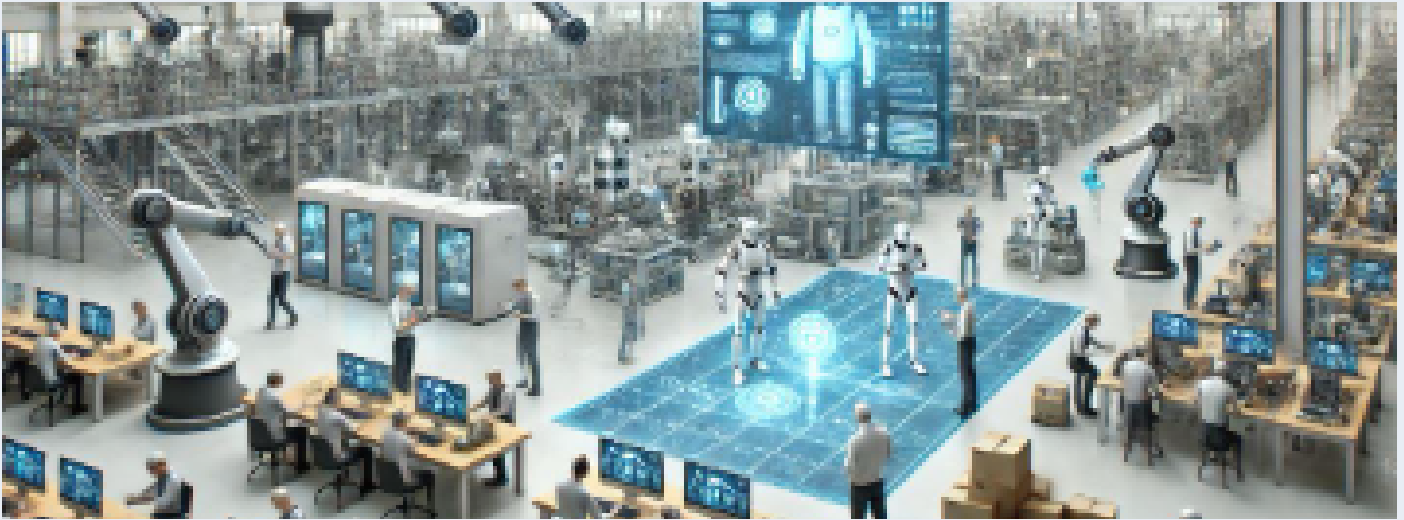
The key to DeepSeek's success lies in its innovative logic model, which processes only the most relevant data during queries. This approach significantly reduces energy consumption and costs. Additionally, by leveraging the Mixture of Experts (MoE) technique, DeepSeek has achieved results comparable to OpenAI's ChatGPT at a cost of only \$5.5 million, a fraction of OpenAI's expenses.

Moreover, this model is open-source and available for free, making it a major player in the AI revolution.

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● INDUSTRIAL ENGINEERING ●

INDUSTRY 5.0: THE FUTURE OF HUMAN-MACHINE INTERACTION – RES. ASST. DUYGU TÜYLÜ



Industry 5.0 is the next step in the industrial revolution. While the digital transformation process that started with Industry 4.0 transformed the workforce with technologies such as artificial intelligence, robotic systems and the internet of things, Industry 5.0 aims to integrate these changes more closely and meaningfully with humans.

Industry 5.0 aims to increase the interaction between humans and machines in particular. In this new era where humans work more efficiently with robots, artificial intelligence-supported systems and automation tools, production processes are shaped not only by efficiency but also by personalization and human-focusedness.

This process allows for the creation of more flexible production models in industrial processes, while also aiming to increase the skills of employees. The deepening of cooperation between humans and machines will help the workforce become more qualified and innovation accelerate.

As a result, Industry 5.0 brings a new understanding to industrial production by placing not only technology but also the human factor at the center. This transformation will shape the future of studies in the field of Industrial Engineering and ensure that production processes are more sustainable, efficient and respectful of humans.

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● ELECTRICAL AND ELECTRONICS ENGINEERING ●

CHINA'S DEEPSEEK AI DEVELOPER SHOCKS THE AI COMMUNITY – RES. ASST. ELİF ÖZTÜRK

DeepSeek, a Chinese AI software programme developer, is causing consternation in the AI community by saying it can train an industry leading programme at a cost of \$5.6 million compared to the \$100 million to \$1 billion cost cited by top US AI developers. Last week DeepSeek launched a programme called R1, for complex problem solving, that was trained on 2000 Nvidia GPUs compared to the 10s of thousands typically used by AI programme developers like OpenAI, Anthropic and Groq.



Besides R1, DeepSeek has a programme called V3. R1 and V3 together were rated in the top ten AI models on the University of California at Berkeley's AI rating service, Chatbot Arena, beating Anthropic's Claude and Grok from Elon Musk's xAI.

"DeepSeek-R1 is now live and open source, rivalling OpenAI's Model o1, available on web, app, and API," says DeepSeek's website, adding "V3 achieves a significant breakthrough in inference speed over previous models. It tops the leaderboard among open-source models and rivals the most advanced closed-source models globally."

V3 is free but companies that want to hook up their own applications to DeepSeek's model and computing infrastructure have to pay to do so.

It is designed for tasks like coding, mathematics, and reasoning. DeepSeek Coder uses neural networks to generate code in over 80 programming languages, using architectures like Transformer and Mixture-to-Expert.

The company is led by Liang Wenfeng, a former hedge fund manager who used AI techniques to run his fund called High-Flyer and then launched DeepSeek to spin off the AI technology.

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● MECHATRONICS ENGINEERING ●

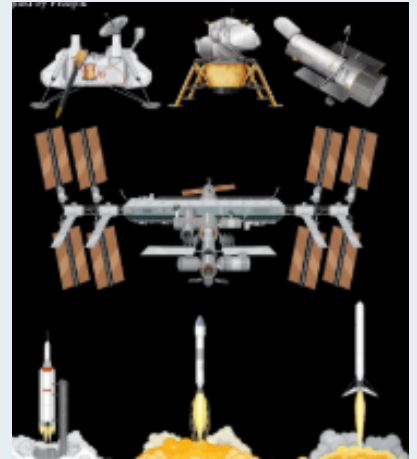
THE DISCIPLINE FORMING THE FUTURE OF SPACE TECHNOLOGIES – RES. ASST. UFAK ATEŞOĞLU

Space technologies are one of the areas where humanity's curiosity and desire to explore come to the fore. Advances in this field have been made possible by the combination of many engineering disciplines. Integrated approaches play a major role in the design, production and control of complex systems.

Space Vehicles and Precision Systems

The design and manufacture of spacecraft requires precision and durability. These systems provide integrated solutions to deliver the required performance. For example:

- **Robotic Arms:** Robotic arms used on the International Space Station (ISS) and space missions perform critical functions such as satellite repair and assembly. The design, control and mobility of these systems are developed very precisely.
- **Rocket Systems:** Technologies that optimize the electronics and control of mechanical structures play a vital role in launching, guiding and orbiting rockets.
- **Autonomous Space Vehicles:** Robots like Perseverance, which operate on the surface of Mars, are equipped with sensor-based control systems and artificial intelligence algorithms. These systems can survey interplanetary terrain without remote control.



Satellites and Integrated Systems

Satellites are used for various purposes, such as communication, surveillance and scientific research. Integrated productions optimize the design and operation of satellites.

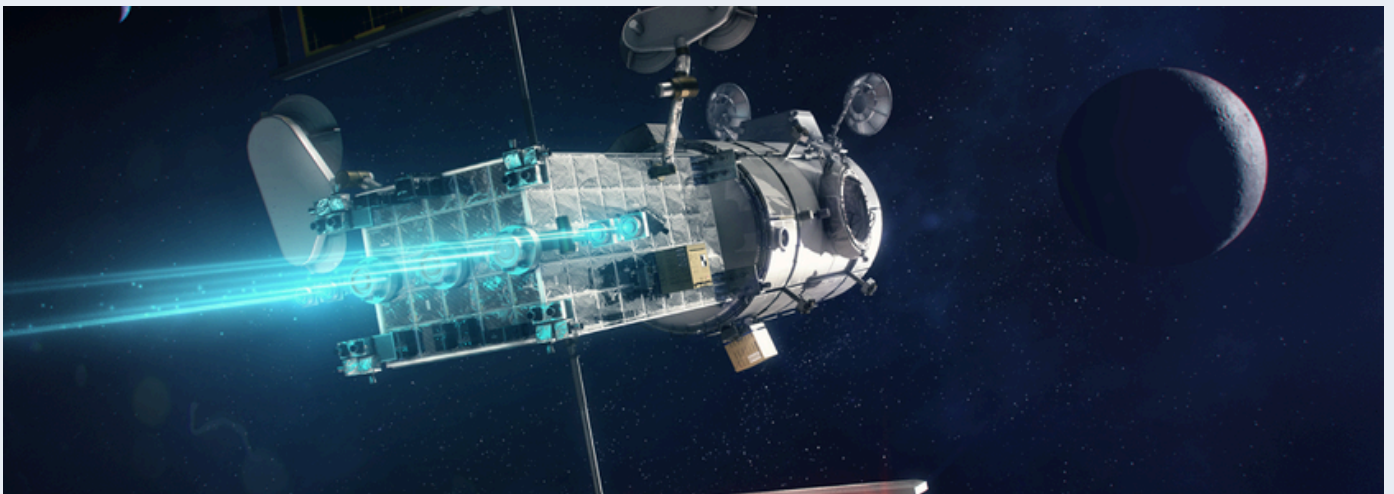
- **Orientation Control Systems:** These systems make it possible for satellites to stay in the targeted orbit and align accurately with the earth. Significant contributions are made by providing precise motion control.
- **Energy Systems:** Automatic monitoring mechanisms developed for the most efficient use of solar panels offer environmentally friendly solutions to meet the energy needs of satellites.



ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● MECHATRONICS ENGINEERING ●

THE DISCIPLINE FORMING THE FUTURE OF SPACE TECHNOLOGIES – RES. ASST. UFAK ATEŞOĞLU



Systems Supporting Human Life in Space

To support long-term human habitation in space, these technologies are used in the following areas:

- **Life Support Systems:** Air, water and food play a critical role in recycling. Intelligent control systems manage resources efficiently.
- **Robotic Assistants:** Robotic systems, which facilitate astronauts' missions, are used in many fields, from load transportation to precision equipment assembly.

Future Role

- **Colonies on the Moon and Mars:** It will make major contributions to improving living conditions on planets and designing systems to support continued human existence.
- **Space Mining:** The extraction of precious metals from asteroids and planets could be made possible by robotic systems and autonomous vehicles.
- **Production in Space:** Innovations such as 3D printing systems and automated assembly robots in a microgravity environment allow the development of manufacturing techniques suitable for the harsh conditions of space.

Integrated systems in this field are indispensable in the development and application of space technologies. Precision mechanisms, intelligent systems and autonomous robots will play a critical role not only in today's space travel, but also in tomorrow's space travel.

**FACULTY OF ENGINEERING AND
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**ACADEMIC AND
SCIENTIFIC
ACTIVITIES**

**• MONTHLY •
BULLETIN**

DECEMBER 2024

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

The authors are Assist. Prof. Semih G. Yıldırım (PhD), Assoc. Prof. İlke Ciritci (PhD), Assist. Prof. Meryem M. Findıkgil (PhD), and Assist. Prof. Hilay Atalay (PhD), all from the Department of Architecture at Istanbul Gelisim University. Their article, titled “Shipping containers as temporary shelters in post-disaster scenarios: flying factories” was published in the December 2024 issue of the “International Journal of Engineering Technologies”.

Access to the article;

<https://dergipark.org.tr/en/pub/ijet/issue/90137/1549659>



● COMPUTER ENGINEERING ●

One of the faculty members of the Computer Engineering Department at Istanbul Gelisim University, Prof. Dr. Abdulsamet HAŞILOĞLU, has been granted a patent for his innovative “Drone-Based Fishing System.” This cutting-edge system significantly contributes to the fishing industry by utilizing artificial intelligence-based technologies that enable the detection of fish schools and high-performance fishing. The system includes a drone with autonomous flight capability, sensors such as ultrasonic and radar, a camera that processes images of the water surface and underwater, AI modules, and innovative components that enhance environmental perception. Powered by solar energy, this system ensures the accurate detection of fish schools, analyzes data, and transmits the results to the fishing unit, offering a sustainable and efficient fishing method



ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

Architecture department faculty member Assoc. Prof. İlke CIRITCI was invited to Akbank Sanat as the guest of Architect Cem SORGUÇ on Wednesday, February 12, 2025, within the framework of the SEK SEK / A Beyoğlu Tab seminar program. Following the viewing of the documentary film about Beyoğlu's Stairs and Slopes, a talk will be held on the subject. We invite all our academic staff and architecture students to listen to the talk.

Architecture Seminars - SEK SEK
/ A Beyoğlu Tab
Stairs and Slopes

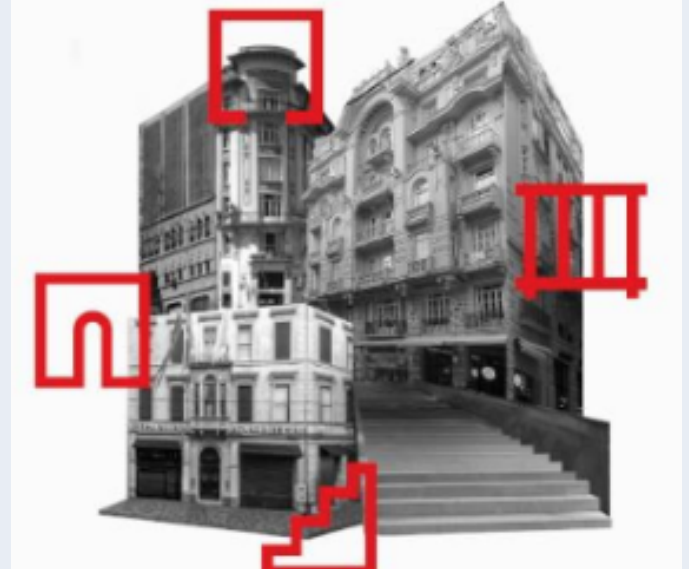
Day: February 12, 2025

Time: 18:30 - 20:30

Prepared and Presented by: Cem SORGUÇ

Guest: Assoc. Prof. İlke CIRITCI

Address: AKbank Sanat Beyoğlu
İstiklal Cad. No:8 34435 Beyoğlu-İstanbul.
Tel: 0 (212) 252 35 00 / 0 (212) 252 35 01



Please remember to make an online reservation. Online reservations are published on the Akbank Sanat website 5 days before the event day.

<https://www.akbanksanat.com/etkinlikler>

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●

NOHU Muh. Bilim. Derg. / NOHU J. Eng. Sci., 2025; 14(1), 209-217





Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi
Niğde Ömer Halisdemir University Journal of Engineering Sciences

Araştırma makalesi / Research article

www.dergipark.org.tr/tr/pub/ngumuh / www.dergipark.org.tr/en/pub/ngumuh



Tamamlayıcı fonksiyonlar yöntemi ile yanal yüklü kazıkların statik analizi **Static analysis of laterally loaded piles by complementary functions method**

Ahmad Reshad Noori¹ , Zahraa Razzaq Kareem Alhachami² , Bilge Sultan Demirtaş^{3*} ,
Suleiman Ali Suleiman Mohamed Khatrush⁴ 

Our Civil Engineering Department Head, Assist. Prof. Dr. Ahmad Reshad NOORI, faculty member Assist. Prof. Dr. Suleiman KHATRUSH, and research assistant Res. Assist. Bilge Sultan DEMİRTAŞ co-authored the article titled "Static Analysis of Laterally Loaded Piles by Complementary Functions Method", which has been published in the Niğde Ömer Halisdemir University Journal of Engineering Sciences.

In this study, the Complementary Functions Method (CFM) is applied for the static analysis of laterally loaded piles. The canonical equations governing the phenomenon are obtained according to the classic beam theory and simplified to an initial value problem by CFM. The material of the pile is assumed to be isotropic homogeneous, and the geometrical properties in the cross-section are considered uniform. The spring model representing the soil behavior is taken as linear and nonlinear. The effect of boundary conditions on displacements and internal forces is investigated by solving pile problems as free- and fixed-head. The effect of the values of the lateral bearing coefficient and the bearing constant for sandy soils on the flexural behavior of laterally loaded piles is presented parametrically. The obtained results are compared with the results of previous studies and found to be in agreement.

We congratulate Assist. Prof. Dr. Ahmad Reshad NOORI, Assist. Prof. Dr. Suleiman KHATRUSH, and Res. Assist. Bilge Sultan DEMİRTAŞ on their valuable contribution and wish them continued success.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●



Assist. Prof. Dr. Hamit ÖZTÜRK, a faculty member of the Civil Engineering Department, supervised his master's student Hazar İbrahim ÇULHACIOĞLU, who successfully defended his thesis titled "Farklı Oranlarda Nano Alüminyum İçerikli Geopolimer Harçların Mikro Yapı ve Mekanik Özelliklerinin İncelenmesi" and graduated.

The thesis focused on investigating the effects of 1% and 2% nano-aluminum additions on the mechanical properties of alkali-activated mortars produced with 50% ground granulated blast furnace slag (GGBFS) and 50% F-type fly ash. Sodium silicate and sodium hydroxide were used as alkali activators, with a sodium silicate-to-hydroxide ratio of 2.5 and a molarity of 14M. Mechanical properties such as compressive strength, flexural strength, and ultrasonic pulse velocity (UPV) were examined at 28, 56, and 90 days. The results showed that nano-aluminum additions improved compressive and flexural strength and increased compactness, as indicated by UPV values.

We congratulate Assist. Prof. Dr. Hamit ÖZTÜRK and Hazar İbrahim ÇULHACIOĞLU on this achievement and wish them continued success in their academic endeavors.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●



Assist. Prof. Dr. İbrahim Rasin DÜZCEER, a faculty member of the Civil Engineering Department, visited TRNC President Mr. Ersin TATAR alongside Prof. Dr. Cavit ATALAR, Head of the Earthquake and Soil Research and Evaluation Center at Near East University. During the visit, updates on earthquake studies and ongoing projects were shared.

Additionally, they discussed the “6th International Conference on New Developments in Soil Mechanics and Geotechnical Engineering (6 ICNDSMGE)”, which will be organized by the Soil Mechanics and Geotechnical Engineering Society (ZMGM) in collaboration with Near East University. The conference aims to bring together international experts in the field of earthquake and soil mechanics, contributing significantly to the discipline.

We congratulate Assist. Prof. Dr. İbrahim Rasin DÜZCEER on his valuable contributions and efforts

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●

Assist. Prof. Dr. İbrahim Rasin DÜZCEER, a faculty member of the Civil Engineering Department, participated as an invited speaker at the “3rd National Civil Engineering Symposium” and



the “3rd International Nature-Inspired Solutions for Structures” conference organized by the Cyprus Chamber of Civil Engineers on December 4-6, 2024. He delivered a presentation titled “Current Practices in Geotechnical Engineering.” We congratulate Assist. Prof. Dr. İbrahim Rasin DÜZCEER on his valuable contributions and efforts

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●



With contributions from one of our faculty members in the Civil Engineering Department and the President of TMD, Assist. Prof. Dr. İbrahim Rasin DÜZCEER, the seminar titled "Instrumental Measurement Systems as a Guiding Tool in Geotechnical Design and Applications" was successfully held at METU Civil Engineering Department, organized by Geodestek. The seminar commenced with an opening speech by Assist. Prof. Dr. İbrahim Rasin DÜZCEER, followed by a presentation by Prof. Dr. Kemal Önder ÇETİN on "Geotechnical Seismic Base Isolation." Subsequently, Dr. Anıl YUNATÇI delivered a presentation titled "Performance-Based Decision-Making Mechanisms in Geotechnical Engineering," and Dr. Tolga BİLGE shared a case study on "The Assessment of the Behavior of Asphalt-Core Rockfill Dam Under Earthquake Loads." Additionally, Dr. Anıl YUNATÇI provided up-to-date insights on "EFFC Carbon Emission Reduction and Sustainability Guidelines," and the seminar concluded with an informative presentation by Öykü ÖZCAN, a member of the International Association of Civil Engineering Students (IACES) - METU LC and President of the General Executive Board, about IACES activities. We would like to thank all the speakers who contributed to the organization, especially our faculty member Assist. Prof. Dr. İbrahim Rasin DÜZCEER, and wish them continued success.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● CIVIL ENGINEERING ●

Assist. Prof. Dr. Metin MEHMETOĞLU, a faculty member of the Civil Engineering Department, has successfully earned the title of Associate Professor. We congratulate him on this significant academic achievement and wish him continued success.

Res. Assist. Bilge Sultan DEMİRTAŞ, a faculty member of the Civil Engineering Department, has successfully passed her PhD qualification in the Department of Earthquake Engineering at Boğaziçi University Kandilli Observatory and Earthquake Research Institute. We congratulate her and wish her success in her academic journey.



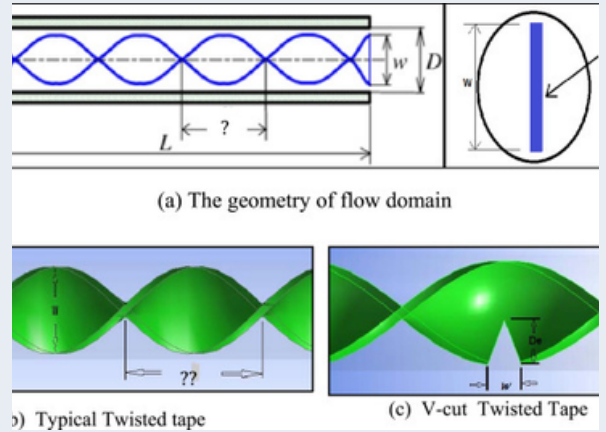
● MECHATRONICS ENGINEERING ●

Project presentations were made on 15.01.2025 within the scope of Mechatronic System Design course. The students presented the studies they had prepared in the 30-minute time allocated to them in front of the juries consisting of faculty members of the department. Project topics include Modular Drone – Plug & Fly, Household Multifunctional Production Device, Modular Solution for CNC, Laser and PCB Cutting, 4 Axis Robot, Auto Spare Parts Vending Machine, Advanced Traffic Violations System, Laser CNC Engraving and Cutting Machine, CNC Router Machine, Arduino Based CNC Router, 3D Printer Design, IoT Based Smart Shower System, 3 Axis Memory Robot Arm Design Project, Bluetooth Controlled 5 Axis Robot Arm.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● MECHATRONICS ENGINEERING ●

Mechatronics Engineering faculty member Asst. Prof. Haydar Kepekçi verbally presented his paper titled "CFD Analysis of the Influence of Twisted Tape Width and Thickness on Flow Characteristics in Pipe Flow" at the 1st National Energy Transformation and Sustainability Conference organized by Istanbul Gedik University on January 9–10, 2025.



● AERONAUTICAL ENGINEERING ●

A New Publication from the Department of Aeronautical Engineering at Gelişim University!

The book titled "Advances in Physics Research", edited by Dr. Murat Metehan Türkoğlu, an Assistant Professor at the Department of Aeronautical Engineering, Faculty of Engineering and Architecture at Gelişim University, has been published. This book brings together contemporary research in physics, integrating modern theoretical and experimental approaches. It covers a wide range of topics, including coherent elastic neutrino-nucleus scattering and spectroscopic analysis of neurodegenerative diseases.



Additionally, the book provides an in-depth examination of innovative subjects such as magnetic field generation methods, random laser systems, and the application areas of low-temperature superconductors.

Dr. Murat Metehan Türkoğlu's valuable contribution significantly advances interdisciplinary studies in physics. With its innovative perspective and rigorous approach, this work is expected to serve as a crucial resource for researchers in the field. We sincerely congratulate our esteemed professor on this achievement and wish him continued success in his future endeavors.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● AERONAUTICAL ENGINEERING ●

A New Publication from the Department of Aeronautical Engineering at Gelişim University!

The article titled "A Monte Carlo-based approach to determine effective atomic numbers of low-Z explosives in landmines", co-authored by Research Assistant Melis Özşahin Toker from the Department of Aeronautical Engineering, Faculty of Engineering and Architecture at Gelişim University, has been published in the journal Radiation Effects and Defects in Solids.

This study presents a Monte Carlo-based approach to determine the effective atomic numbers of low atomic number (low-Z) explosives found in landmines. The method, developed based on Rayleigh and Compton scattering ratios, was tested using the MCNP (Monte Carlo N-Particle) simulation program. The data obtained using a Ge(Li) detector at a scattering angle of 115° demonstrated a strong agreement between the proposed method and experimental results.

The article contributes to nuclear-based detection techniques by providing a more precise and reliable method for analyzing explosives in landmines. This approach has potential applications in various fields, including the defense industry, radiation safety, and medical applications, making a significant contribution to scientific literature.

We sincerely congratulate Research Assistant Melis Özşahin Toker and her team on this successful study and wish them continued success in their future academic endeavors.

Doi Numarası: [10.1080/10420150.2024.2448107](https://doi.org/10.1080/10420150.2024.2448107)

• TAG •

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