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ENGINEERING FACULTY

e - Newsletter

APRIL / 2026

Issue: 43

**LATEST ACADEMIC PAPERS****Articles published in internationally indexed peer-reviewed journals (SCI-SCIE-ESCI and Scopus)**

Hamzah, H., Zontul, H., & Sahin, B. (2026). Exploring homogeneous and discrete models for predicting hydrothermal flow and entropy generation. *Heat Transfer Engineering*, 47(10), 920-942.

Slimani, Y., Baykal, A., Almessiere, M. A., Shirsath, S. E., Gondal, M. A., Altuntaş, M. Y., & Akhtar, S. (2026). Tailored structural and magnetic traits of hard/soft ferrite nanocomposites: Effect of cerium substitution. *Nano-Structures & Nano-Objects*, 46, 101686.

Ünal, B., Almessiere, M. A., Baykal, A., Korkmaz, A. D., & Altıntaş, Y. M. (2026). Electrical transport & dielectric properties of hard/soft $\text{CoFe}_2\text{O}_4@ \text{NiAl}_x\text{Fe}_{2-x}\text{O}_4$ ($x \leq 0.20$) nanocomposites. *Nano-Structures & Nano-Objects*, 46, 101700.

Mihmanli, A. H. M. E. T., Almessiere, M. A., Ünal, B. A. Y. R. A. M., Baykal, A., Demir, A. K., Gondal, M. A., ... & Shirsath, S. E. (2026). Deconvoluting Grain and Grain Boundary Responses in Ag-Substituted Co-Ni-Zn-Cu Nanospinel Ferrites: A Comprehensive Impedance Spectroscopy Analysis. *Arabian Journal for Science and Engineering*, 1-33.

Dwikat, A., & Aslan, Z. (2026). Enhancing Climate Variable Prediction through Wavelet-Machine Learning Integration and Remote Sensing Data. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 48, 379-385.

Aslan, Z., İşler, B., Müftüoğlu, G. M., & Feoli, E. (2026). Correction: Hybrid wavelet-ANN modelling for LAI forecasting under climatic variability: comparative case studies from the mediterranean basin. *Acta Geophysica*, 74(1), 62.

Koysha, A. F., Güneş, A., Şener, S., & Sönmez, F. (2026). Long-Term Production-Scale Empirical Characterization of SRT Transport Metrics for Reinforcement Learning-Based Adaptive Streaming Control. *Journal of Communications*, 21(2).

Haghighatpour, P., Aliha, M., Lahiji, O & Choupani, N. (2026). Designing an efficient mix policy in road transport for the transition to low-carbon mobility and urban health improvement in the metropolis of Tehran. *Healthcare Engineering*, 2(3), 119-128.



Atabay, E., Oral, H. V., Godina, R., Öz, K., Erceg, A., Al-Rub, F. A., & Al-Rub, S. A. (2026). Industrial Symbiosis Readiness of Small-and Medium-Sized Enterprises: A Cross-Country Comparative Analysis and a Digital Waste-to-Resource Network Model. *Sustainability*.

Akbulut, M., Teke, I. T., & Ertas, A. H. (2026). Natural frequency optimization of composite plates with cutouts. *Journal of Low Frequency Noise, Vibration and Active Control*, 14613484261443572.

Akbulut, M., Teke, I. T., & Ertas, A. H. (2026). Fatigue behavior and vibration-based integrity management of advanced composite structures: A comprehensive review. *Journal of Low Frequency Noise, Vibration and Active Control*, 14613484261447237.

Dinc, B. K., Dehghanian, K., & Etminan, E. (2026). Improving the behaviour of sand with ceramic additives for sustainable ground engineering. *Environmental Geotechnics*, 1-19.

Dehghanian, K. (2026). A Semi-Empirical Model for the Stress Reduction Factor Incorporating Soil Plasticity and Random Vibration Theory. *Mathematics*, 14(10), 1603.

Dehghanian, K., & Badv, K. (2026). A Performance-Based Numerical Assessment of Compacted and Geosynthetic Clay Liners under Diffusion-Controlled Leachate Transport. *Next Research*, 101865.

Demir, N., Demircioglu, P., & Bogrekci, I. (2026). Design, implementation, and performance optimization of a ROS-based autonomous mobile robot for intralogistics in manufacturing facilities. *Journal of Automation, Mobile Robotics and Intelligent Systems*, 20(1), in press. Doi: 10.14313/jamris-2026-010

Demirci, S., & Sahiner, N. (2026). Enzymatic-oxidative polymerization of 2-naphthol via horse-radish peroxidase entrapped p (HEMA) cryogel reactor and its antioxidant properties. *Biochemical Engineering Journal*, 110251.



Ari, B., Demirci, S., & Sahiner, N. (2026). Superporous cellulose-derived cryogels for tissue engineering applications. *Cellulose*, 1-18.

Yıldırım, P., Erdem, S., & Uysal, M. (2026). Development of sustainable and thermally activated nano cementitious composites containing graphene oxide and phase change materials: Tensile, pore structure and microstructural evaluation. *Sustainable Chemistry and Pharmacy*, 51, 102393.

Papers presented at international scientific meetings and published in proceedings books.

Akgul, C.M, Tamer, T., Toklu, Y.C., (2026) "Machine Learning-Based Evaluation of Regolith Simulants for In-Situ Construction Applications in Extraterrestrial Environments". ASCE Earth & Space Conference 2026. April 13-16, Texas, USA.

Dehghanian K., A Unified Framework For Estimation Of Maximum Siismic Shear Strain Using PGA–PGV Parameters Within Random Vibration Theory, 10. International Mediterranean Scientific Research and Innovation Congress 11-12 Nisan 2026

Dehghanian K, A Spectral-Based Model For Estimation Of Maximum Seismic Shear Strain Using PSA–PSV Within Random Vibration Theory, 10. International Mediterranean Scientific Research and Innovation Congress 11-12 Nisan 2026

Ergin, M.E, Karimi, T., Comparative Analysis Of Accident Type Statistics In Urban Traffic Crashes: Ankara And Izmir ,10. International Mediterranean Scientific Research and Innovation Congress 11-12 APRIL 2026

Cakir Elif, Aydin Gözde, Zöhre Basak; The use of local Banana starch in gluten-free Turkish Noodle Production-Oral Presentation', 9th International Food, Agriculture and Veterinary Sciences Congress, April 03-05, 2026 / organised by Konya Food and Agriculture University, & IKSAD Institute & Iakob Gogebashvili Telavi State University

Niğdelioğlu, A., Değer, Z. T., & Taciroğlu, E. (2026, May). Regional Earthquake Risk Assessment of Bornova District, İzmir. In *Turkish Conference on Earthquake Engineering* (pp. 116-125). Cham: Springer Nature Switzerland.



MEETING

A meeting was held between Istanbul Aydın University and Al-Mustaqbal University to enhance academic collaboration between the two institutions. During the meeting, research ideas, article writing, joint project activities, the organization of a conference on renewable energy hosted by Istanbul Aydın University, and opportunities to strengthen collaboration among the academics of both universities were discussed.

The meeting was attended by Prof. Dr. Hasan SAYGIN, Prof. Dr. Behiye YÜKSEL, Prof. Dr. Raheleh MİRZAEİ, and Asst. Prof. Dr. Arif KARABUĞA from Istanbul Aydın University. Academics from Al-Mustaqbal University also participated in the meeting under the leadership of Prof. Dr. Azher MUHSON.

During the meeting, views were exchanged on initiatives aimed at supporting scientific productivity, strengthening joint academic activities, and enhancing institutional cooperation between the two universities.





WEBINAR

A Zoom webinar titled “A Conversation on Software, Artificial Intelligence, and Professional Development in the Industry” was held by the Faculty of Engineering at Istanbul Aydın University on April 29, 2026. The guest speaker of the event was Mustafa DURAN, a Senior Computer Engineer serving as Technology Leader – Python & Agentic AI at Sysco Foods, Texas/USA. The session was moderated by Assoc. Prof. Dr. Faruk BULUT, a faculty member of the Department of Software Engineering at Istanbul Aydın University. The webinar addressed the software industry, artificial intelligence applications, agentic AI approaches, and professional development processes for engineering students.

A Zoom webinar titled “Career Conversation on Machine Learning and Computer Vision: Engineering Experience in the Global Technology Ecosystem” was held by the Faculty of Engineering at Istanbul Aydın University on April 20, 2026. The guest speaker of the event was Mustafa ERDOĞAN, who works as a Machine Learning and Computer Vision Engineer at Woven by Toyota in Tokyo, Japan. The session was moderated by Assoc. Prof. Dr. Faruk BULUT, a faculty member of the Department of Software Engineering at Istanbul Aydın University. The webinar covered machine learning, computer vision, engineering experience in the global technology ecosystem, and career development processes.



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FAKÜLTESİ

Sektörde Yazılım, Yapay Zeka ve Mesleki Gelişim Söyleşisi

Konuşmacı



Mustafa DURAN
Yüksek Bilgisayar Mühendisi
Technology Leader - Python & Agentic AI
Sysco Foods, Texas, USA

Moderatör



Doç. Dr. Faruk BULUT
Istanbul Aydın Üniversitesi
Yazılım Mühendisliği Bölümü (İngilizce)

Zoom Webinar
Zoom ID 89667470870



<https://us06web.zoom.us/j/89667470870>

Başlangıç: 29.04.2026 20:00 | Bitiş: 29.04.2026 22:00

29 Nisan 2026
20.00 - 22.00



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Makine Öğrenmesi ve Bilgisayarlı Görü Üzerine Kariyer Söyleşisi: Küresel Teknoloji Ekosisteminde Mühendislik Deneyimi

Konuşmacı



Mustafa ERDOĞAN
Machine Learning and
Computer Vision Engineer
Woven by Toyota – Tokyo / Japonya

Moderatör



Doç. Dr. Faruk BULUT
Istanbul Aydın Üniversitesi,
Yazılım Mühendisliği Bölümü (İngilizce)

Zoom Webinar
Zoom ID 886 1796 7430



<https://us06web.zoom.us/j/88617967430>

Başlangıç: 20.04.2026 20:00 | Bitiş: 20.04.2026 22:00

20 Nisan 2026
20.00 - 22.00



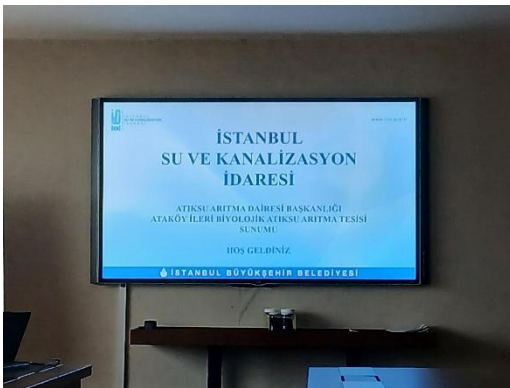
WORKSHOP

An event titled “Writing for Publication Workshop” was organized on May 22 for the academic staff of the Faculty of Engineering at Istanbul Aydın University. During the event, Dr. Heather Camp, a faculty member at Minnesota State University and Fulbright Specialist, delivered an informative presentation on the academic publication preparation process, scientific writing, publication language, article structure, and international publication standards.



FIELD STUDY

Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member of the Department of Civil Engineering, conducted a field study with his students as part of the Environmental Geotechnics course.





CONGRESS ACCEPTANCE LETTER

The study by Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member of the Department of Civil Engineering, has been accepted for presentation at BAU-IRSC 2026 – Interdisciplinary Regional Studies Conference: Middle East.

BAU-IRSC'2026

Disiplinler Arası Bölgesel Çalışmalar Konferansı: Orta Doğu
Interdisciplinary Regional Studies Conference: Middle East

ACTIVITIES

- Prof. Dr. Ferdi SÖNMEZ carried out Project Monitoring and Project Commercial Monitoring duties within the scope of TÜBİTAK.
- Prof. Dr. Ferdi SÖNMEZ attended the “Digital Europe Programme EdTech Accelerator Call” meeting on behalf of Istanbul Aydın University. Following the meeting, a partnership agreement was reached with an organization from Northern Europe; additionally, agreement processes with three different organizations are ongoing.
- Metebot, which participates in the TeknoFest Robolig category under the leadership of a student from the Department of Software Engineering (English), successfully completed the PDR stage with high achievement.
- The Department of Software Engineering (English) has initiated the bilateral agreement process with Felician University (USA), covering student exchange and double degree studies, and the process is ongoing.
- The Department of Software Engineering (English) held meetings with the managers and technical teams of İGA IST Systems, BIS Çözüm, Halkbank IT, DİA Yazılım, Istanbul Metropolitan Municipality, ArchisAcademy, Futorex, and Algopoly within the scope of external stakeholder collaborations.



- A seminar titled “IAU Workshop on Improving Research Ecosystems and Scientific Productivity” was organized within the scope of IAU Research Desk No. 2. Prof. Dr. Giuseppe BORRUSO, Assoc. Prof. Dr. Ginevra BALLETTTO, and Dr. Salvatore DORO from the University of Trieste participated as speakers in the event, which was held under the theme “Sustainable Cities Through Innovation and Co-Creation.”
- The event, organized by Prof. Dr. Zafer ASLAN, Dr. Ezgi YILMAZ, and Res. Asst. Berfin YILMAZ, was held on April 8, 2026, in the Meeting Hall of the Faculty of Engineering at Istanbul Aydın University.
- Prof. Dr. Zafer ASLAN participated in the General Assembly voting and conference sessions of the European University Association on behalf of our university. The event was held at Yeditepe University on April 16–17, 2026.
- The 3rd International Conference on Sustainable Water Management in a Changing Climate (ICCW), organized in collaboration with Istanbul Aydın University and Riphah University, will be held in Islamabad, Pakistan, on November 20–25, 2026.

