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ENGINEERING FACULTY

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LATEST ACADEMIC PAPERS

Articles published in internationally indexed peer-reviewed journals (SCI, SCIE, ESCI, and Scopus)

Alkhaldi, R. S., Adebunmi, M. A., Gondal, M. A., Mohamed, M. J. S., Almessiere, M. A., Baykal, A., & Alsayoud, A. (2025). Synergistic electronic tuning and active site optimization in bimetallic Pt-Pd-Doped ZnCo₂O₄ spinel nanoelectrocatalyst for boosted electrocatalytic green hydrogen evolution supported by DFT. *Journal of Colloid and Interface Science*, 139249.

Adebunmi, M. A., Alkhaldi, R. S., Gondal, M. A., Alsayoud, A., Mohamed, M. J. S., Almessiere, M. A., & Baykal, A. (2025). Palladium-doped bimetallic sulfide spinel nano-electrocatalyst grown on nickel foam for efficient green hydrogen production validated by first principal DFT study. *Renewable Energy*, 124279.

Al-Shuayfani, S. A., Gunday, S. T., Cevik, E., Almessiere, M. A., & Baykal, A. (2025). Fabrication of high-performance symmetric supercapacitor using hybrid cobalt spinel ferrite-decorated MoS₂ nanosheets. *Journal of Alloys and Compounds*, 184960.

Slimani, Y., Ünal, B. A. Y. R. A. M., Baykal, A., Almessiere, M. A., Korkmaz, A. D., & Caliskan, S. (2025). Conduction mechanisms, relaxation dynamics, and magnetic properties of Se-substituted Sr nanohexaferrites. *Materials Chemistry and Physics*, 131349.

Almessiere, M. A., Baykal, A., Shirsath, S. E., Gondal, M. A., Amir, M., & Slimani, Y. (2025). Role of Al³⁺ ion substitution in modulating conductivity and interfacial polarization in CoNiCuZn spinel ferrite: Cation distribution study. *Nano-Structures & Nano-Objects*, 44, 101566.

Jamal, S., Alkhabbaz, A., Hamzah, H., & Sahin, B. (2026). Thermal analysis of a solar panel unit using PCM and various fin arrangements. *International Journal of Heat and Fluid Flow*, 117, 110108.

Kara, Y., Özdemir, E. T., & Aslan, Z. (2025). Lifecycle dynamics of a multicell hailstorm simulated with the WRF model: A wavelet-based diagnostic approach. *Atmospheric Research*, 108515.

Özcan, Oktay, Kenan Kaya. Correlations for Mean Properties of Turbulent Supersonic Flow over an Insulated Flat Plate. *Journal of Aircraft*, 6 Nov. 2025, doi:10.2514/1.C038472.



Kouchaki, H. G., Aliha, M. R. M., Marsavina, L., Linul, E., Choupani, N., Mirsayar, M. M., & Sadowski, T. (2025). Mixed-mode tensile and in-plane shear fracture analysis for PUR foams using two sub-sized short bend beam configurations. *Theoretical and Applied Fracture Mechanics*, 105282.

Katipoğlu, O. M., Kartal, V., Aktürk, G., Kilinc, H. C., Elshaboury, N., Yamany, M. S., & Pande, C. B. (2025). Beyond Conventional Methods: Predicting Novel Modified Groundwater Drought Indices with Advanced Computing Paradigms. *Pure and Applied Geophysics*, 1-32.

Demir, A., Subaşı, S., Dehgan, H., Ramazanoğlu, D., Maraşlı, M., Aksu, M., ... & Subaşı, A. (2025). A novel lanthanum hexaboride-modified cementitious composites: evolution and microstructural architecture of LaB₆-integrated GFRC systems with enhanced dielectric response. *Materials Chemistry and Physics*, 131855. <https://doi.org/10.1016/j.matchemphys.2025.131855>

Dehghanpour, H., Marasli, M., Subasi, S., & Ozdal, V. (2025). 3D electrothermal analysis of electrically conductive concrete slabs: Finite element (FE) method. *Computers and Concrete*, 36(6), 727–741. DOI: <https://doi.org/10.12989/cac.2025.36.6.727>

Khujiev A, Uğurenver A. Centralized controller-based on optimal power flow (OPF) algorithm for power management in microgrid systems. *Sigma Journal of Engineering and Natural Sciences* 2025 ;43(6):2279-2293. doi: 10.14744/sigma.2025.00027.

Mehboob, H., Uğurenver, A. (2025). Performance evaluation of P&O, ANN and ANFIS based MPPT controllers of PV array under partial shading effect in South Pole and leading solar sites. *Journal of Electrical Systems*, 21(1). <https://doi.org/10.52783/jes.9240>

Kadıköylü, S., Kızıllkan Demir, Z. B., Gül, A. Y., Şahin, G., Caliskan Demir, M., & Tekin, A. T., (2025). Proportional Intuitionistic Fuzzy AHP&VIKOR Methodology for Evaluating Telecommunications Service Providers in Post-Disaster Situations. *Journal of Multiple-Valued Logic and Soft Computing*, Vol. 46, No. 2- 4, pp. 165-198.

Articles published in other indexed international peer-reviewed journals

Abubakar, M. A., & Cerşit, Y. Ç. (2025). Optimizing the impact of Chinese railway investment on industrial development: A comparative study of Nigeria and global best practices. *AURUM – Journal of Engineering Systems and Architecture*, 9(2), 197–216. <https://doi.org/10.53600/ajesa.1506889>



BOOK CHAPTER


A book chapter entitled “Artificial Intelligence Applications in Workplace Safety: A Bibliometric Overview of Trends in Machine Learning, Deep Learning, and Computer Vision,” authored by Assist. Prof. Dr. Süleyman ŞİMŞEK, a faculty member of the Department of Mechanical Engineering, was published in December in a book released by Çizgi Publishing House, ISBN 978-625-396-758-1.

| YAPAY ZEKA ÇALIŞMALARI |


BÖLÜM 5

İŞYERİ GÜVENLİĞİNDE YAPAY ZEKA UYGULAMALARI: MAKİNE
ÖĞRENİMİ, DERİN ÖĞRENME VE BİLGİSAYAR GÖRME TRENDLERİNE
BİBLİYOMETRİK BİR BAKIŞ

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PAPER PRESENTATION

Assist. Prof. Dr. Mahmut Esad ERGİN, a faculty member of the Department of Civil Engineering, participated in the 10th International Conference on Health, Engineering and Applied Sciences (ICHEAS), held in Dubai from November 1–3, 2025, with a paper entitled “A Lane-Based Data Cleaning Framework for Eliminating Outliers, Missing Data, and Inconsistencies in RTMS Measurements: Istanbul Case.” In addition, he also served as the session chair for the session in which the presentation was delivered.





PAPER PRESENTATION

Assist. Prof. Dr. Süleyman ŞİMŞEK, a faculty member of the Department of Mechanical Engineering, delivered one paper as an oral presentation at the 16th International Congress on Engineering, Architecture, and Design, held in December.



PAPERS PRESENTATION

Assist. Prof. Dr. Süleyman ŞİMŞEK, a faculty member of the Department of Mechanical Engineering, delivered four different papers as oral presentations at the 12th International Congress on Occupational Safety and Employee Health, held in December.





PAPER PRESENTATION

Res. Assist. Sümeyya AYÇA, a research assistant in the Department of Aerospace Engineering, participated in The World Energy Storage Conference, held in Istanbul from December 7–10, 2025, and the 16th International Exergy, Energy and Environment Symposium (IEEES-16), held in Craiova, Romania, from December 14–18, 2025. She delivered her papers as oral presentations at both international scientific events.



TECHNICAL VISIT

Within the scope of the INM377 Geographic Information Systems course taught by Assoc. Prof. Dr. Hasan Volkan ORAL, a technical visit was organized on December 24 to the Istanbul Metropolitan Municipality Geographic Information Systems (IMM GIS) Building, together with the students enrolled in the course.





TECHNICAL VISIT

As part of a technical visit organized by the Industrial Engineering Club, a visit was conducted on December 9 to Ersel Heavy Machinery Inc..



PANEL

A panel titled “Environmental Disasters and the Effects of Climate Change on Public Health” was organized on December 23 through the collaboration of Istanbul Aydın University Vocational School of Health Services and the Yeşil Vatan Platformu. At the panel, Prof. Dr. H. Aysel ALTAN from the Department of Anesthesiology delivered a presentation entitled “Environmental Disasters,” while Assoc. Prof. Dr. Volkan ORAL, a faculty member of the Department of Civil Engineering, presented “Climate Change and Its Relationship with Public Health.”





MEETING

On December 16, at the Sustainable Future Meetings organized by the Sakarya University Social Contribution and Sustainability Coordination Office, Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member of the Department of Civil Engineering, evaluated the concepts of climate change and sustainability within the context of the environment–human relationship.



MEETING

A delegation from Uzbekistan visited the Department of Electrical and Electronics Engineering on December 10 and participated in a project ideas meeting.





ALUMNI SPEAK ON CAMPUS

Between December 23–26, a series of events titled “Alumni Speak on Campus” were organized by the Faculty of Engineering and the Alumni Association.





SEMINAR

Dr. Serhat YILMAZ from the Istanbul Aydın University Disaster Education and Research Center delivered a seminar presentation within the scope of the Disaster Management course conducted as part of the faculty elective courses.



CERTIFICATION CEREMONY

On November 24, a certificate ceremony was held for the training program entitled “Seismology and Engineering, Seismic Resistance of Buildings and Structures”, organized within the scope of the UZB Delegation Training Program.





INVITED SPEAKER

On November 25, Prof. Dr. Ferdi SÖNMEZ, Head of the Department of Software Engineering, participated as an invited speaker and panelist in the panel titled “New Horizons in Aviation Meteorology with Artificial Intelligence and Big Data,” held within the scope of the Aviation Meteorology 360° Symposium and Workshop organized by Istanbul Technical University.



PANEL

On December 24, 2025, Prof. Dr. Ferdi SÖNMEZ, Head of the Department of Software Engineering, served as a moderator at the panel titled “Startup/Entrepreneurship & Innovation in the Digital Age,” held within the scope of the “Digital Transformation and Entrepreneurship Summit in Technology,” organized under the coordination of Istanbul Aydın University TEKMER.





PROJECT ACCEPTANCE

The IAU CODEVERSE Club, founded and managed by students of the Department of Software Engineering, has been entitled to receive support within the scope of the 5th Term of the “UNIDES – University Student Clubs Cooperation and Support Program” of the Ministry of Youth and Sports.



ACTIVITIES

-Prof. Dr. Ferdi SÖNMEZ, Head of the Department of Software Engineering, was reappointed as an Advisor to the EU Framework Programmes within the TÜBİTAK International Cooperation Department.

-Prof. Dr. Ferdi SÖNMEZ was appointed as an Expert Evaluator for six EIC projects by the COST Association.

-In December, Prof. Dr. Ferdi SÖNMEZ carried out six TÜBİTAK TEYDEB referee/monitoring assignments.

-Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member of the Department of Civil Engineering, participated as a panelist in the KOSGEB Entrepreneur Application Evaluation Panel on January 2.