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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)**

Almessiere, M. A., Ünal, B. A. Y. R. A. M., Baykal, A., Mojtahedi, E., Mihmanlı, A., & Kahraman, S. (2026). Defect-engineered charge transport and dielectric relaxation in In/Se co-substituted CoNi spinel ferrite nanoparticles by sonochemical route. *Materials Science and Engineering: B*, 325, 119138.

Ünal, B., Almessiere, M. A., Baykal, A., Korkmaz, A. D., Gondal, M. A., Shirsath, S. E., ... & Slimani, Y. (2025). Correlating Microstructure and Electrical Properties: The Role of Lanthanum Doping in Mn-Ni Nanospinel Ferrites. *Materials Chemistry and Physics*, 131929.

Aldakheel, R. K., Algarou, N. A., Almessiere, M. A., Baykal, A., Caliskan, S., Mojtahedi, E., ... & Ali, S. (2026). Influence of nonmagnetic In³⁺ and Sc³⁺ ions co-substitution on the structure, cation distribution and magnetic features of Ni_{0.6}Cu_{0.2}Zn_{0.2}Fe₂O₄ nanoparticles. *Materials Science and Engineering: B*, 326, 119183.

Al-Shuayfani, S. A., Gunday, S. T., Cevik, E., Almessiere, M. A., Caliskan, S., & Baykal, A. (2026). Dual-Window Electrochemical Application of a MoS₂@ NiFe₂O₄ Spinel Hybrid Heterostructure: High-Performance Asymmetric and Symmetric Supercapacitors. *Chemistry—An Asian Journal*, 21(2), e70575.

Alghofaili, F., Tombuloglu, H., Almessiere, M. A., Tombuloglu, G., Alsaeed, M., Akhtar, S., ... & Turumtay, H. (2025). Manganese-doped Cerium Oxide (MnCeO₂) Nanoparticles Mitigate Manganese Deficiency and Improve Growth and Physiological Parameters in Barley (*Hordeum vulgare* L.). *Journal of Soil Science and Plant Nutrition*, 1-16.

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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.



Eser Aydemir, M. (2026). Inelastic Displacement Ratio and Residual Displacement Estimation of Self-Centering Systems Under Pulse-Like Ground Motions. *Structural Engineering International*, 1-17.

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.

Ahmadianfar, I., Yaseen, Z.M., Marhoon, H.A., Kılinc H.C. et al. Towards intelligent air quality forecasting using integrated machine learning framework with variational mode decomposition and catboost feature selection. *Sci Rep* (2026). <https://doi.org/10.1038/s41598-025-33785-y>

Duygu Kirkik, Faruk Bulut, (2026) Unraveling Gene Interaction Networks in Colorectal Cancer and Inflammatory Bowel Disease via a Novel Hybrid Radial Basis Function Network, *SPRINGER Scientific Reports*, pp 1-17, DOI:10.1038/s41598-025-33847-1

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Şimşek, S., & Güler, K. (2026). A green alternative: Engine performance and emission effect analysis of linalool-derived biodiesel with B₄C nanoparticles for sustainable fuel solutions. *Fuel Processing Technology*, 282, 108401.

Demirci, S., Salih, B., & Sahiner, N. (2026). Modification of cyclodextrin-based microgels with 2-hydroxymethyl-12-crown ether-4 for higher and selective Li⁺ ion adsorption from aqueous medium. *Journal of Macromolecular Science, Part A*, 1-15.

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Valipour, F. M., Atakay, M., Demirci, S., Sahiner, N., & Salih, B. (2026). Characterization of branched and linear polyethyleneimine by trapped ion mobility-time of flight-mass spectrometry. *Analytica chimica acta*, 345107.

Yildirim-Yalcin, M., Ceyhan, T., Olcay, H. S., Ozmen, D., & Toker, O. S. (2026). Characterization of the properties of modified avocado seed starches by heat-moisture treatment, cross-linking and oxidation and their applications in packaging film. *International Journal of Biological Macromolecules*, 150100.

Yildirim-Yalcin, M., Kemerli-Kalbaran, T., Ceyhan, T., Mojtahedi, E., Olcay, H. S., Sahin, S., ... & Toker, O. S. (2026). A review of the use of natural pigments in multilayer and composite films for intelligent biodegradable food packaging. *Progress in Organic Coatings*, 213, 109955.

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Aksoy, M. H., Ispir, M., Malazi, M. T., & Okbaz, A. (2025). Machine learning based flow simulator: Flow around an airfoil with vortex generators. *European Journal of Mechanics-B/Fluids*, 204417.

Behgouy, P., & Ugurenver, A. (2025). Hybrid Microgrid Power Management via a CNN–LSTM Centralized Controller Tuned with Imperialist Competitive Algorithm. *Mathematics*, 13(24), 4030.

Alabdali, A., & Ugurenver, A. (2025). Design and Simulation of a Standalone Solar Photovoltaic System for Water Pumping Using Induction Motor Drive. *International Journal of Electrical and Electronics Research*, 13(4), 722-729.

Uğurenver, A.; Khudhur, A.I.K. Zone-Based Simplification of Fuzzy Logic Controllers for Switched Reluctance Motor Drives. *Electronics* 2025, 14, 4248. <https://doi.org/10.3390/electronics14214248>



Celik, S., Asgarova, K., Cakir, E., Ozkok, F., Er, A., Ozel, A. E., ... & Onul, N. (2025). Computational and Experimental Insights into the Antibacterial and Antimicrobial Potential of Newly Synthesized Anthraquinone Derivatives. *Russian Journal of General Chemistry*, 95(12), 3852-3864.

Dilber, S., & Dahil, L. (2026). Effect of 20 wt% Glass Fiber Reinforcement on the Mechanical Properties and Microstructure of Injection-Molded PA6 and PA66. *Polymers*, 18(3), 357.

Soori, M. & Arezoo, B. (2025). Sustainable Manufacturing in Industry 4.0 by Artificial Intelligent and Internet of Things, A Review. *Logistics, Supply Chain, Sustainability and Global Challenges*, 16(2), 2025. 19-40. <https://doi.org/10.2478/jlst-2025-0007>

Ayca, S., & Dincer, I. (2026). Green hydrogen production by an improved photoelectrochemical process with Ga-DOPED ZnO photoanodes on stainless steel substrates. *Surface and Coatings Technology*, 133180.

Papers presented at international scientific meetings and published in proceedings

S. T. Yaseen and A. Uğurenver, "Comparative Performance Analysis of Artificial Neural Network-Based Maximum Power Point Tracking Techniques for PV Systems," 2025 3rd International Conference on Cyber Resilience (ICCR), Dubai, United Arab Emirates, 2025, pp. 1-8, doi: 10.1109/ICCR67387.2025.11292081.

L. Abdulkareem and A. Uğurenver, "Deep Learning Algorithm-Based Maximum Power Tracking Technique For Pv System," 2025 3rd International Conference on Cyber Resilience (ICCR), Dubai, United Arab Emirates, 2025, pp. 1-8, doi: 10.1109/ICCR67387.2025.11292438.

S. M. Qezan and A. Uğurenver, "Artificial Neural Networks for Optimizing Energy Use and Solar Power Distribution in Hybrid Microgrids," 2025 3rd International Conference on Cyber Resilience (ICCR), Dubai, United Arab Emirates, 2025, pp. 1-8, doi: 10.1109/ICCR67387.2025.11292332.

Caliskan Demir, M., & Akyuz, S. Optimizing Ensemble of CNNs: A Semi-infinite Solution for Efficient Model Selection. In *International Conference on Modelling, Computation and Optimization in Information Systems and Management Sciences* (pp. 249-260). Cham: Springer Nature Switzerland.



ASSOCIATE PROFESSORSHIP TITLE

Engineering Faculty Vice Dean Dr. Dilşad AKGÜMÜŞ GÖK and Civil Engineering Department faculty member Dr. Mahmut SEZER have been awarded the title of Associate Professor.

Congratulations!

PROCEEDINGS BOOK

The International Conference Proceedings Abstract Book titled “Role of Climate Change on Water Resources Management for a Sustainable Future (ICCW2025)” has been published by Istanbul Aydın University (IAU). The publication process for the full conference proceedings book and its subsections/volumes has also been initiated by SPRINGER Publishing House.





PATENT APPROVALS

The patent study titled “Photocatalyst for the Degradation of Methyl Orange Dye”, involving Food Engineering Department Head Prof. Dr. Abdülhadi BAYKAL, has been approved and officially registered by the United States Patent and Trademark Office (USPTO).

The study titled “Piperazine-substituted quinone compound with antibacterial and antifungal activity, its synthesis method and molecular modeling”, involving Food Engineering Department faculty member Assist. Prof. Dr. Elif ÇAKIR, has been granted patent approval by the Turkish Patent and Trademark Office.



CONFERENCE PAPER

Food Engineering Department faculty member Assist. Prof. Dr. Elif ÇAKIR presented her study titled “Possibilities for Use of Olive Oil Waste and By-Products as Sustainable and Functional Components in Food” as an oral presentation within the scope of the 12th National Agriculture Congress. The full text of the study has been published in the conference proceedings book.





SCHOLARSHIP ACCEPTANCE

Industrial Engineering Department Research Assistant Melisa ÇALIŞKAN DEMİR has been awarded support under the TÜBİTAK 2214-A International Research Fellowship Programme for PhD Students for her doctoral research titled “Anomaly Detection in Multivariate Time Series”, conducted at the University of Bristol.



ACTIVITIES

Software Engineering Department faculty member Assoc. Prof. Dr. Faruk BULUT has served as a reviewer for two separate projects within the scope of TÜBİTAK TEYDEB 1501 and 1507 programs.