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ENGINEERING FACULTY

e - Newsletter

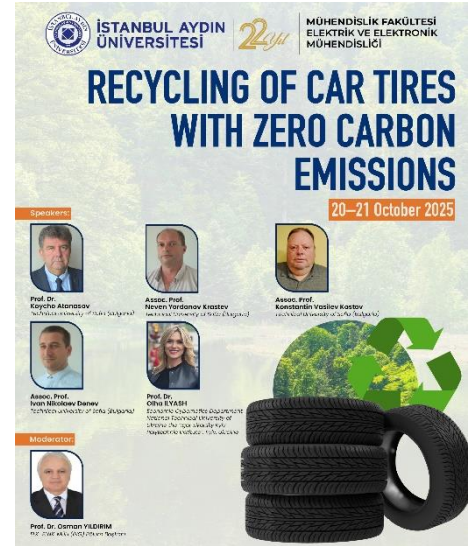
OCTOBER / 2025

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WORKSHOP

As part of the Erasmus+ project preparation process, a productive workshop session was held focusing on strengthening international collaborations, developing sustainable education strategies, and sharing innovative project ideas.



VISITING

Assoc. Prof. Dr. Camelia Badulescu and Assoc. Prof. Dr. Clementina Moldovan from the Faculty of Mining, Department of Environmental Engineering and Geology at the University of Petroșani visited our Department of Civil Engineering and presented their academic studies to our students within the scope of Assoc. Prof. Dr. Hasan Volkan Oral's "Disaster Management" course.





SYMPOSIUM

Prof. Dr. Osman Yıldırım from our Department of Electrical and Electronics Engineering chaired a session at the 13th International Vocational Schools Symposium (UMYOS 2025), held at Bursa Uludağ University from October 13 to 17, 2025. Prof. Dr. Kamil Kaygusuz from the Department of Mechanical Engineering and Asst. Prof. Dr. Tevfik Denizhan Müftüoğlu from the Department of Civil Engineering also participated in the symposium and presented their research studies.



WORKSHOP

Research Assistant Gamze Maden Müftüoğlu participated in the İzmir Genome Workshop, organized under the supervision of her Ph.D. advisor, Assoc. Prof. Dr. Mehmet Baysan. The event brought together Turkey's leading academics, researchers, clinicians, and industry representatives to discuss the future of genome technologies through case studies. Additionally, Research Assistant Gamze Maden Müftüoğlu attended the opening ceremony of the Multi-Omics Design and Analysis Studio (MODAS) held at Istanbul Medipol University on October 10, 2025.





TUBITAK PROJECT ACCEPTANCES

The project titled “Investigation of the Use of Modified Orange and Mandarin Peels as Sustainable Packaging Materials” has been approved under the leadership of Assoc. Prof. Dr. Meral Yıldırım Yalçın as the project coordinator, with Dr. Hatice Sena Olcay serving as the researcher.

In addition, the project titled “Production and Optimization of Thermal Non-Pretreated Dried Functional Artichoke Snacks”, with Research Assistant Tuğçe Ceyhan from the Department of Food Engineering participating as a researcher, has also been accepted under the TÜBİTAK 1002-A Rapid Support Program. Congratulations to our esteemed faculty members.



CONFERENCE PRESENTATION

Research Assistant Abdullah Niğdelioğlu from the Department of Civil Engineering presented his paper titled “Regional Risk Assessment in Bornova, İzmir” at the 10th National Conference on Earthquake Engineering of Turkey (10TCEE), held at Istanbul Technical University on October 8, 2025.

DEPREM VAKFI
MÜHÜR MÜHÜR BİRLİĞİ
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10th NATIONAL CONFERENCE ON EARTHQUAKE ENGINEERING OF TURKEY
TCEE 2025

THE TURKISH CHAMBER OF CIVIL ENGINEERS

REGIONAL RISK ASSESSMENT IN BORNOVA, IZMIR

RES. ASSIST. ABDULLAH NIGDELIOGLU (ITU-IAU)
ASSOC. PROF. DR. ZEYNEP TUNA DEGER (ITU)
PROF. DR. ERTUGRUL TACIROGLU (UCLA)

Abdullah NİĞDELİOĞLU



ACTIVITIES

Assoc. Prof. Dr. Hasan Volkan Oral was among the few experts from Turkey invited to serve as a reviewer for the Water4All projects under the Horizon Europe Programme.

Representing DOSUDER, which he founded, Dr. Oral also held a project meeting with the Northern Marmara Motorway Operation.

In addition, Dr. Oral attended the COST Action LiAISE Meeting held in Poland between October 6–8, 2025.



Assist. Prof. Dr. Neslihan Demir's paper titled "Towards Smart Factories: The Development of Autonomous Mobile Robots for Intralogistics 4.0" was accepted for presentation at the 36th DAAAM International Symposium – Virtual Online Edition, hosted by the Vienna University of Technology (Austria, EU).

In addition, Dr. Demir served as an invited lecturer at the 13th DAAAM Doctoral School, where she delivered an online lecture titled "From Industry 4.0 to Intralogistics 4.0: Towards Autonomous Mobile Robots in Smart Factories" on Friday, October 31.

Moreover, throughout October 2025, Dr. Demir served as a reviewer for several TÜBİTAK TEYDEB projects and conducted various company visits within this scope.



LATEST ACADEMIC PUBLICATIONS

Publications in Internationally Indexed Refereed Journals (SCI-SCIE-ESCI and Scopus)

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.

Ersin Arslan, Fatma Songur Demirtas, and Burak Dikici, (2025) Enhanced Corrosion Resistance of Ti6Al4V-ELI via TiO₂ and TiO₂/Hydroxyapatite Nanocomposite Coatings Grown by High Frequency Plasma Electrolytic Oxidation, *Journal of Materials Engineering and Performance*, ASM International.

Aziz İlyas Ozturk, Osman Yıldırım, (2025). A comparative analysis of HOG and LBP feature extraction techniques in AdaBoost for image recognition, *International Journal of Innovative Research and Scientific Studies (IJIRSS)*, <https://doi.org/10.53894/ijirss.v8i2.5290>

Alper Turan, Aziz İlyas Öztürk, Osman Yıldırım , (2025). Detection of arachnoid cysts in the brain using machine learning, *International Journal of Innovative Research and Scientific Studies (IJIRSS)*, <https://www.ijirss.com/index.php/ijirss/article/view/10593>

Katipoğlu, O. M., Elshaboury, N., Kartal, V., Ertugay, N., Kilinc, H. C., Şenocak, S., & Pande, C. B. (2025). Application of Time Series Methodologies for Robust Forecasting of Atmospheric Pollutant Concentrations: PM₁₀, SO₂, NO₂, NO_x, and O₃ in an Urban Environment. *Environmental Quality Management*, 35(2), e70206.

Demir, V., Fu, M., Abba, S. I., Halder, B., Ahmadianfar, I., Heddam, S., ... & Yaseen, Z. M. (2025). Performance assessment of advanced data-intelligence models for solar radiation forecasting: a case study in a high solar potential region. *Climatic Change*, 178(10), 1-24.

Z. M. Al-Sulttani, A. O., Khaleefah, H. K., Ahmadianfar, I., Halder, B., Al-Areeq, A. M., Demir, V., Kılınc, H. C., Abba, S. I., Tan, M. L., Oudah, A. Y., & Yaseen. (2025). Predicting Potential Salinity in River Water for Irrigation Water Purposes using Integrative Machine Learning Models, *Irrigation and Drainage*.

Ince, I. F., Shehu, H. A., Osmani, S., & Bulut, F. (2025). A Novel Transformer Using Dynamic Range-Enhanced Discrete Cosine Transform (DRE-DCT) for Detecting Bean Leaf Diseases. *Frontiers in Plant Science*, 16, 1624373.



Cobanoglu, H. C., Ay, B., Bulut, F., & Samli, R. (2025). Towards Efficient Video Stream Analysis: A Distributed Deep Learning Framework: The DiVA Approach. *Traitement du Signal*, 42(3).

Vrachioli, M., Mellios, N., Alp, E., Borchard, N., Calheiros, C. S. C., Castelli, G., ... & Laspidou, C. (2025). WEFEnexus unveiled: a comprehensive review of monitoring and modelling methods in the water-energy-food-ecosystems nexus. *Environmental Research Letters*.

Tanyildizi, H., ZIADA, M., Açık, V., Uysal, M., & Coşkun, A. (2026). Autonomous and Autogenous Self-Healing of Freeze–Thaw Cracks of Geopolymer Concrete Containing Colemanite/Red Mud. *Journal of Materials in Civil Engineering*, 38(1), 04025508.

Geotechnical Considerations for Climate-Resilient Buildings and Nature-Based Solutions: Implementing Sustainable Approaches, Dehghanian, K.; Müftüoğlu, T.; Oral, H.

Dehghanian, K., & Dinc, B. K. (2025). Sustainable soil improvement using waste coffee powder for ecofriendly engineering solutions. *Discover Civil Engineering*, 2(1). <https://doi.org/10.1007/s44290-025-00352-3>

Papers Presented at International Conferences and Published in the Proceedings

Enhancing Climate Variable Prediction through Wavelet-Machine Learning Integration and Remote Sensing Data Dwikat, Abdallah; Aslan, Zafer, *Earth Observation for Climate Dynamics and Environmental Sustainability*

Osman YILDIRIM, "From Ambition to Action: The EU Climate Law, Green Deal, and Pathways to CarbonNeutrality under SDG 13 (SDG 13 – Climate Action)" (2025, Bildiri, , 13. Uluslararası Meslek Yüksekokulları (UMYOS 2025) Sempozyumu, <https://uludag.edu.tr/umyos2025>

Kaya, Y., Bay, İ., Toklu, Y. C. "Effects of Quakes on Earth and Mars on a Tensegric Structure (Dünyada ve Marsta oluşan depremlerin bir çekme-tümleşik yapı üzerindeki etkileri)" 10. Türkiye Deprem Mühendisliği Konferansı, İstanbul, 8-10 Ekim 2025



5th GLOBAL CONFERENCE ON ENGINEERING RESEARCH-(GLOB CER'25)- 24-27 September 2025
Numerical Study of Heat Transfer and Flow Characteristics in the Tube with Longitudinal Rectangular Fins.
MAHDI TABATABAEI MALAZI

ŞAHİN, Muhammed Faruk; US, Emine; OKUR, Fatma Betül; ÖZCAN, Ahmet “Quantum Imaging for Remote Sensing and Defence: A Mini-Review on Challenges and Opportunities” International Defense Industry Symposium and Exhibition

Taskin, A., Sagirolu, A., Seker, E. Z., Caliskan Demir, M., & Dandis, K. (2024, November). Integrating Machine Learning with Optimization to Solve Time-Dependent Cash in Transit Vehicle Routing Problem with Time Windows. In International Conference on Optimization and Data Science in Industrial Engineering (pp. 245-264). Cham: Springer Nature Switzerland.