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ENGINEERING FACULTY

e - Newsletter

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LATEST ACADEMIC PUBLICATIONS

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

Sirous, A.A.; Ayatollahi, M.R.; Choupani, N.; Torabi, A.R. Fracture behavior of notched 3D-printed ABS specimens with quasi-isotropic raster orientation: Mode I test results versus theoretical predictions. *International Journal of Solids and Structures* 2026, 339, 114194

Haddadi, E., Oskui, A. E. H., Ebrahimi, M., Gode, C., Attarilar, S., Khabaz-Aghdam, A., & Choupani, N. (2026). Impact behaviour of 6061 aluminum alloy prepared by friction stir processing under extreme temperature conditions. *Canadian Metallurgical Quarterly*, 1-19.

Al-Shuayfani, S. A., Gunday, S. T., Cevik, E., Almessiere, M. A., & Baykal, A. (2026). Quasi-solid-state polymer electrolyte for a high-stability, low-temperature Ni-Co phosphide supercapacitor. *Journal of Power Sources*, 685, 240429.

Sahin, B., Yayla, S., Canpolat, C., Akilli, H., & Tasci, M. O. (2026). Control of vortex breakdown over the non-slender lambda wing. *Aerospace Science and Technology*, 113372.

Akgümüş D. (2026). Experimental and Statistical Evaluation of Infill Density Effects on the Mechanical Properties of FDM-Printed PLA, ABS, PC, and PETG Engineering Materials, *Polymers*, 18(16), 1998-2015. (DOI: 10.3390/polym18161998).

Karakiraz, N. G., Kilinc, H. C., Ozkan, F., Çalışgan, D., & Yurtsever, A. (2026). Streamflow Forecasting in the Eastern Black Sea Basin Using a Contrastive PSO-Optimized Transformer-LSTM Framework. *Hydrological Sciences Journal*.

Kilinc, H. C., Dalkilic, H. Y., Yurtsever, A., Ates, S., & Yeşilyurt, S. N. (2026). Adaptive Weighting Ensemble Approach for High-Fidelity PM10 Forecasting via Evolutionary TCN and Bidirectional GRU. *Advanced Theory and Simulations*, 9(8), e70516.



Karimi, T., & Ergin, M. E. (2026). Investigating Traffic Crash-Type Determinants in Different Urban Environments: A City-Specific Random Parameter Multinomial Logit Approach. *Mathematics*, 14(15), 2762.

Yeşilot, G., & Özel Ay, E. (2026). Square-Difference Factor Absorbing Primary Hyperideals of Multiplicative Hyperrings. *Mathematics*, 14(15), 2784.

Ozel Ay, E., & Yesilot, G. (2026). On $(2, n)$ -Hyperideals of Commutative Multiplicative Hyperrings. *Journal of Algebra and its Applications*.

ZA Alrowaili, Awatif Alshamari, Jamila S Alzahrani, IO Olarinoye, Mine Kirkbınar, MS Al-Buriahi, B Alshahrani, "Structure properties and radiation shielding performance of CRT waste glass doped with tungsten trioxide", *Radiation Physics and Chemistry*, 250 , 2027.

Alican Bahadır Semerci, Erhan Ibrahimoğlu, Mine Kirkbınar, Yiğit Suyun, Tuğba Ongun Sevindik, Fatih Çalışkan, From nature to high-tech: Boron-doped biosourced silica as a multifunctional material for advanced radiation shielding and optical applications, *Annals of Nuclear Energy*, 239, 2026

Kurt, H., Uğurenver, A., Behgouy, P., Alkrunz, M., & Nazlı, H. (2026). Zone-reduced six-rule fuzzy speed control approach for field-oriented induction motor drives. *Scientific Reports*.

Soori, M. (2026). Cutting Tool Wear Minimization in Machining Operations: A Review. *Lubricants*, 14(8), 300.

International Book Chapter

Oral, H. V., & Saygin, H. (2026). Artificial Intelligence in Critical Metal Bio-circularity: A New Paradigm for Sustainable Resource Recovery. In *Recovery and Recycling of Critical Metals from Electronic Waste for Environmental Sustainability* (pp. 319-329). Cham: Springer Nature Switzerland.

Papers presented at international scientific meetings and published in proceedings books

Mine Kirkbınar, Zeynep Gül BAŞKAYA, "Karbon nanotüp (cnt) katkısının zno nanomalzemelerin optik davranışına etkisinin araştırılması", MUNZUR 10th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, sayfa 133-143



Mine Kırkbınar, Yunus Helva, "The effect of tantalum oxide addition on the structural, physical, and radiation shielding properties of waste borosilicate glass , 6-8 Haziran, ICHMR 1st INTERNATIONAL CONFERENCE ON HEALTH, ENGINEERING, ARCHITECTURE and MATHEMATICS, sayfa 277-285

Alkrunz, M., An Intent-Aware Hybrid RAG Architecture for Academic Advising Systems, International Conference on Educational Technology and Online Learning (ICETOL 2026)

İlayda Kaya, Eda Çetin, Özlem Sönmez, Kübra Erat, Pınar Onay Durdu and Sevinç İlhan Omurca, Channel Optimization for EEG-Based Emotion Recognition 16th International Conference on Advanced Computer Information Technologies (ACIT'2026) (Kabul edildi).

Baki Sezgin, E., Javani, N., Tabatabaeimalazı, M. (2026). Numerical investigation of streamlined geometry on the melting performace of phase change materials for thermal energy storage. The World Energy Storage Conference (WESC-2026), 9–12 August 2026, Istanbul, Türkiye.

Ayca, S., & Dincer, I. (2026). Integrated process simulation and safety assessment of high-pressure hydrogen storage systems. The World Energy Storage Conference (WESC-2026), 9–12 August 2026, Istanbul, Türkiye.



TÜBİTAK PROJECT APPROVALS

The project titled “Design and Software Development of a Hybrid CFD–PINN Solver to Reduce Computational Load and Accelerate Flow Prediction,” led by Prof. Dr. Beşir ŞAHİN, Head of the Department of Aeronautical and Aerospace Engineering, has been awarded funding under the TÜBİTAK 1001 – Scientific and Technological Research Projects Funding Program.

The project titled “Advanced Surface Engineering of Mg Alloys: Multifunctional Coatings for Controlled Degradation, Drug Release, and Osseointegration,” led by Prof. Dr. Behiye YÜKSEL, Head of the Department of Mechanical Engineering, has been awarded funding under the TÜBİTAK 1001 Program.

The project titled “Society, Culture, and Robotics: An Investigation of Attitudes Toward Domestic Robots,” led by Assist. Prof. Dr. Rıza İLHAN, a faculty member in the Department of Mechanical Engineering, has been awarded funding under the TÜBİTAK 1002-A Rapid Support Program.

**İSTANBUL AYDIN
ÜNİVERSİTESİ**

TÜBİTAK 1001
Başarısı!

Istanbul Aydın Üniversitesi Mühendislik Fakültesi
Havacılık ve Uzay Mühendisliği Bölümü Öğretim Üyesi

Prof. Dr. Beşir ŞAHİN

"Bilgisayar Yükünü Azaltmak ve Akış Tahminini Hızlandırmak İçin Hibrit Bir CFD-PINN Çözücü Tasarımı ve Yazılımı" başlıklı projesi, TÜBİTAK 1001 – Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı kapsamında desteklenmeye hak kazanmıştır.

Prof. Dr. Beşir Şahin'i bu önemli başarısından dolayı tebrik ediyor, başarılarının devamını diliyoruz.

**İSTANBUL AYDIN
ÜNİVERSİTESİ**

TÜBİTAK 1001
Başarısı!

Istanbul Aydın Üniversitesi Mühendislik Fakültesi
Makine Mühendisliği Bölümü Öğretim Üyesi

Prof. Dr. Behiye YÜKSEL

"Mg Alaşımları Üzerine İleri Düzey Yüzey Mühendisliği: Kontrollü Bozunma, İlaç Salımı ve Osteointegrasyon İçin Çok İşlevli Kaplamalar" başlıklı projesi, TÜBİTAK 1001 – Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı kapsamında desteklenmeye hak kazanmıştır.

Prof. Dr. Behiye Yüksel'i bu önemli başarısından dolayı tebrik ediyor, başarılarının devamını diliyoruz.

**İSTANBUL AYDIN
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TÜBİTAK

TÜBİTAK 1002-A
PROJE BAŞARISI

Dr. Öğr. Üyesi Rıza İLHAN
Yürütücü

Dr. Öğr. Üyesi Tuğba GÜLAL
Danışman

Toplum, Kültür ve Robotik:
Ev Robotlarına Yönelik Tutumların İncelenmesi



PEER REVIEW

Prof. Dr. Hasan SAYGIN, Dean of the Faculty of Engineering at Istanbul Aydın University, served as a reviewer for the MDPI Coatings journal.



coatings

CONFERENCE CHAIR

Prof. Dr. Yusuf Cengiz TOKLU, a faculty member in the Department of Civil Engineering at the Faculty of Engineering, Istanbul Aydın University, served as the Conference Chair of the 17th International Conference on Computational Methods, held online from August 16 to 19, 2026.

The 17th International Conference on Computational Methods

Virtual Conference

August 16th-19th, 2026

Chairman: Y. Cengiz Toklu, Istanbul Aydın University, Türkiye
Honorary Chairman: Guirong Liu, University of Cincinnati, USA



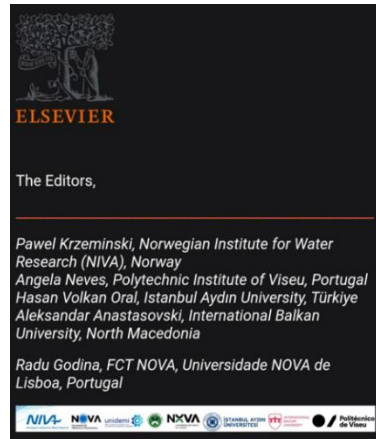
WEBINAR

Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member in the Department of Civil Engineering at Istanbul Aydın University, participated as a speaker in the webinar titled “Fundamentals of the Circular Economy within the Framework of Sustainability,” organized by Istanbul Esenyurt University on August 12, 2026.



BOOK AND EXTERNAL EXPERTISE

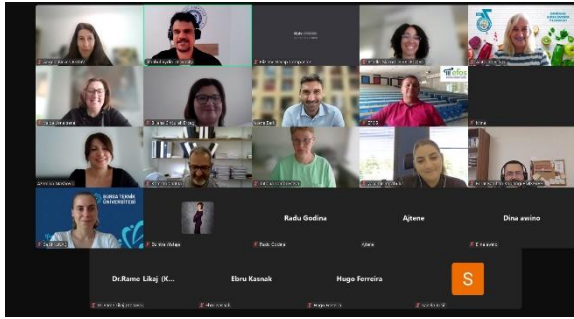
The book titled Insights and Strategies for the Implementation of Industrial Symbiosis, prepared by the COST LIAISE team, including Assoc. Prof. Dr. Hasan Volkan ORAL of the Department of Civil Engineering, Faculty of Engineering, has been approved by Elsevier, and the process of inviting prospective authors to contribute has commenced. In addition, Assoc. Prof. Dr. Hasan Volkan ORAL has been appointed by TÜBİTAK as an external expert to evaluate project proposals submitted from Poland and Albania under the UPAG Program.





ACTIVITY

Assoc. Prof. Dr. Hasan Volkan ORAL, a faculty member in the Department of Civil Engineering, organized and chaired the event held within the scope of COST Action LIAISE, in which he serves as the WG2 Leader.



SUMMER SCHOOL

Res. Assist. Dr. Sümeyya AYÇA from the Department of Aeronautical and Aerospace Engineering was accepted to and participated in the “2026 Artificial Intelligence and Energy Summer School,” held in Konya from August 23 to 30, 2026, in cooperation with the Turkish Academy of Sciences (TÜBA) and Selçuk University.





CONFERENCE

Assist. Prof. Dr. Mahdi TABATABAEIMALAZI, Res. Assist. Elanur BAKİ SEZGİN, and Res. Assist. Dr. Sümeyya AYÇA from the Faculty of Engineering at Istanbul Aydın University participated in the World Energy Storage Conference (WESC 2026), held from August 9 to 12, 2026, and presented their respective research studies as oral presentations.

