

23 - 25

OCTOBER

ABDULLAH GÜL UNIVERSITY
KAYSERİ, TÜRKİYE

ETMS 2025

INTERNATIONAL ENGINEERING
AND TECHNOLOGY
MANAGEMENT SUMMIT 2025



Theme: Engineering and
Technology Management
Tomorrow: AI, Humanity, and
Sustainability in Harmony



PROF. DR. EVREN MUTLUGÜN
ABDULLAH GÜL UNIVERSITY



PROF. DR. FERHAN ÇEBİ
İSTANBUL TECHNICAL UNIVERSITY



PROF. DR. TUNÇ BOZBURA
BAHÇEŞEHİR UNIVERSITY

Day 0

October 22, 2025 (Wednesday)

AGÜ Conference Hall

WORKSHOPS

Trainer: Assoc. Prof. Syed Haider Ali Shah

Time	Session
19:30 – 20:15	Workshop 1: <i>How to Publish in High Impact Journals?</i>
20:30 – 21:15	Workshop 2: <i>How to Select a Research Topic with the Help of AI with a Focus on SDGs?</i>

Day 1

October 23, 2025 (Thursday)

AGÜ Conference Hall

Time	Session
09:00 – 09:45	Opening Speeches
09:45 – 10:15	Welcome by Congress Co-Chair – Prof. Evren Mutlugün
10:15 – 11:00	Keynote Speaker: <i>Prof. Tuğrul U. Daim</i> “Roadmapping Cybersecurity Technology Solutions” Professor and Director of the Technology Management Doctoral Program Maseeh College of Engineering and Computer Science, Portland State University (USA) *Note: This keynote will be delivered in English.*
11:00 – 11:30	Coffee Break

Sponsored by



11:30 – 12:45

Parallel Sessions I

Conference Hall § Seminar Rooms A, B, C (Hybrid)

12:45 – 14:00

Lunch Break

14:00 – 15:00

Panel I: Stronger Together: How European University Alliances (EELISA and Qⁿ) Shape Engineering and Technology Management?

Moderator: Assoc. Prof. Nihan Yıldırım

Department of Management Engineering, Istanbul Technical University (İTÜ)

Panelists:

- *Assoc. Prof. Emrah ACAR*
Department of Architecture, Istanbul Technical University (İTÜ)
EELISA European ITU Project Manager
Director, ITU Centre of Excellence in Education
- *Prof. Yudith Cardinale*
Valencia International University (VIU)
Director of ESenCIA Center
- *Asst. Prof. Ömer Devrim Aksoyak*
Department of Architecture, Abdullah Gül University (AGÜ)

Note: This panel will be held in English.

15:00 – 16:00

Parallel Sessions II

Conference Hall § Seminar Rooms A, B, C (Hybrid)

16:00 – 16:30

Coffee Break

16:30 – 17:15

Keynote Speaker: Cemal Atakan Parlak

“The Story of an AI Entrepreneur”

Puzzle Growth, Co-founder

Note: This keynote will be delivered in Turkish.

19:00

Gala Dinner (Kapris Park)

Sponsored by



Day 2

October 24, 2025 (Friday)

AGÜ Conference Hall

Time	Session
09:15 – 10:15	Parallel Sessions III <i>Seminar Rooms A, B, C (Hybrid)</i>
10:15 – 11:00	Keynote Speaker: Prof. Vehbi Çağrı Güngör <i>“New Horizons in Digital Transformation: Smart and Sustainable Networks”</i> Chief Technologies Officer (CTO), Turkcell *Note: This keynote will be delivered in Turkish.*
11:00 – 11:30	Coffee Break
11:30 – 12:30	Panel II: Emerging Entrepreneurship Ecosystem Moderator: Assoc. Prof. Adil Oran Department of Business Administration, Abdullah Gül University (AGÜ) Panelists: • Assoc. Prof. Pınar Büyükbacı Department of Business Administration, Yıldız Technical University International Entrepreneurship and Ecosystem Researcher • Dr. A. Mete Çakmakcı Innovation Strategist, Tech Finance Expert, Ecosystem Builder • Kıvılcım Çaylı Private Equity & Venture Capital Expert, Consultant, Investor, Published Author *Note: This panel will be held in Turkish.*

Sponsored by



12:30 – 14:00

Lunch Break

14:00 – 15:00

Panel III: *Managing Tomorrow: Industry Perspectives on AI and Sustainable Growth*

Moderator: *Prof. Evren Mutlugün*

Vice Rector (Research), Dean of Faculty of Engineering, Department of Electrical – Electronics Engineering, Abdullah Gül University (AGÜ)

Panelists:

- *Ali Ünlütürk*
Deputy General Manager – Production & Technology, Mega Metal
- *Elif Rosemarie Karaçalı*
Strategy & Business Development Director, Executive Committee Member, Head of Sustainability, Sersim
- *Mehmet Emre Kara*
Strategy & Operations Director, KPMG Turkey

Note: This panel will be held in Turkish.

15:00 – 16:00

Parallel Sessions IV

Conference Hall & Seminar Rooms A, B, C (Hybrid)

16:00 – 16:30

Coffee Break

16:30 – 17:45

Parallel Sessions V

Seminar Rooms A, B, C (Hybrid)

17:45 – 18:15

Closing Ceremony

Sponsored by



Day 3

October 25, 2025 (Saturday)

SOCIAL PROGRAM

Time	Session
08:00 – 18:30	Cappadocia Tour



Sponsored by



Parallel Sessions – Presentations

October 23, 2025 (Thursday)

PARALLEL SESSIONS I

11:30 – 12:45

Smart Manufacturing and Industry 4.0

Conference
Hall

Session Chair: **Asst. Prof. Betül Kayışoğlu**

Session Link: [Teams](#)

9

Integrated Forecast-Based Production, Distribution, and Inventory Planning for a Multi-Product Supply Chain: A Case Study in the Ceramic Industry

Authors: **Yusuf Ziya Erdoğan, Betül Kayışoğlu**

11

Asymmetric Parallel Merging Assembly Line Balancing Problem Type-2 (APMALBP-2) with Machine Requirement: A Case Study

Authors: **Ayça Yayla, Betül Kayışoğlu**

25

Optimizing Assembly Line and Workforce Scheduling, a Case Study at a Tractor Factory

Authors: **Ibraheem Alogaidi, Adnan Fadel, Bilge Meltem Erol, Merve Örsel, Şükriye Torosoğlu, Uğur Satıcı**

Sponsored by



42

Smart Factories in Modern Manufacturing: A Bibliometric Analysis for Their RiseAuthors: **Zeynep Tuğçe Kalender, Ufuk Dereci, Özalp Vayvay**

111

Analyzing Industry 4.0 Barriers in an Emerging Economy Context Using the SWARA MethodAuthors: **Zeynep Binnur Avunduk, Tuğrul Daim, Eyüp Kahveci****Sustainable Design and Innovation in Textile and Fashion**Seminar
Room ASession Chair: **Assoc. Prof. Fatma Selen Madenoğlu**Session Link: [Teams](#)

50

Jet 200 Fully Automatic Fast Fabrc Cutting, Winding and Packaging Machine with Double StationAuthors: **Umut Kutlu, Altay Şamil Kutlu, Bora Akince, İpek Kutlu**

62

Sawgin Feeding Unit Prototype Production ProjectAuthors: **Aslı Tehmen, Evren Tehmen, Bora Akince**

69

Modular and Transformable Bag Design for a Sustainable Environment: Functional and CustomizableAuthors: **Esin Begüm Kaya, Sıla Erdoğan**

Sponsored by



Healthcare and Early Diagnosis Systems

Seminar
Room B

Session Chair: **Assoc. Prof. Rıfat Kurban**

Session Link: [Teams](#)

10 Shift Scheduling in Healthcare: Considering Legal Regulations and Fairness for Radiology Technician

Authors: **Bengisu Şenbaş, Eylül Şener, Betül Kayışoğlu**

40 Comparative Evaluation of Convolutional Neural Network (CNN) Models for Multi-Class Skin Disease Classification

Authors: **Miktad Tahir Durak, Pembegül Özşaraç, Ali Durmuş, Rıfat Kurban**

81 Exploring AI as an Alternative for Animal Testing in the Cosmetic Industry

Authors: **Selçuk Tuzcuoğlu, Neda Alali**

88 An AI-Integrated Framework for Early Diagnosis of Frontotemporal Dementia Using Neuroimaging and Genomic Profiling

Authors: **Aseel Sadiq Mohammed Khamis, Fadilah Syed Imam, Arifa Chowdhury**

Sponsored by



AI and Machine Learning Applications

Seminar
Room C

Session Chair: **Assoc. Prof. Burcu Güngör**

Session Link: [Teams](#)

82 Customer Churn Prediction: Data Augmentation Approach

Authors: **Efe Ömer Güler, Ahmet Tezcan Tekin**

91 Predicting Classification Performance from Dataset Complexity: An Initial Empirical Study Using Class Overlap Metrics

Authors: **Sami Kaya, Ramazan Ünlü**

92 GNSS-Denied Navigation: Autoencoder-Based Deep Neural Network for UAV Localization

Authors: **Ahmet Ertuğrul Arık**

PARALLEL SESSIONS II

15:00 – 16:00

Forecasting, Data Mining, and Econometric Analysis

Conference
Hall

Session Chair: **Assoc. Prof. Umut Türk**

Session Link: [Teams](#)

Sponsored by



53**Cryptocurrency Value Estimation with Automatic Programming-Based Approach**

Authors: **Fatma Selen Madenoğlu, Mümin Emre Şenol, Lale Özbakır, Adil Baykasoğlu**

63**Machine Learning Approaches for Cotton Price Forecasting**

Authors: **Feyzanur Yılmaz, Elif Akpancar, Ferhan Çebi**

87**Integrating Fuzzy Regression Functions with Attention-Based Deep Neural Networks for Multivariate Time Series Forecasting**

Authors: **Aybüke Koçak, Adem Göleç**

Circular Economy and Waste Management

Seminar
Room A

Session Chair: **Assoc. Prof. Adil Oran**

Session Link: [Teams](#)

47**Cybele: Designing a Circular Business Model for Low-Carbon Breast Milk Delivery in an Urban Context**

Authors: **Nilay Çatlı, Nimet Aylin Rassad**

Sponsored by



83

A Business Model Proposed for Campus-Based Upcycling Activities on Textile Waste

Authors: **Umut Yüksel, Emir Sevim, Hür Bersam Sidal, Tuğba Yasemin Karagöz**

95

A Multi-Criteria Decision-Making Approach for Identifying the Best Sustainable Textile Waste Management Solution in Retail Stores

Authors: **Alara Ülkü Kadem, Dilara Tutku Kadem, Zeynep Kılıç, Gül T. Temur**

Yapay Zekâ ve Veri Odaklı Karar Verme

Seminar
Room B

Session Chair: **Assoc. Prof. İlkay Turan**

Session Link: [Teams](#)

33

Yapay Sinir Ağı ile Gerçek Zamanlı Ağ Trafik Anomali Tespiti

Authors: **Cankat Göktürk Çifçi, Samet Tonyalı**

84

Ağ Tabanlı Saldırı Tespit Sistemi

Authors: **Gülşen Çintuğlu, Samet Tonyalı**

43

Yapay Zekâ Destekli Yeşil Pazarlama: Dönüşen Stratejiler ve Gelecek Perspektifleri

Authors: **Mehmet Nurettin Alabay**

Sponsored by



86

Forecasting-Based Decision-Making Approach in Investment Plans: An Application on BIST-30 SharesAuthors: **Yağmur Şan, Ercan Şenyiğit****Smart Technologies, Deep Learning, and Advanced Materials**Seminar
Room CSession Chair: **Asst. Prof. Uğur Satıç**Session Link: [Teams](#)

93

A Vision-Based Deep Learning Approach to UAV Altitude EstimationAuthors: **Ahmet Ertuğrul Arık**

117

The photocatalytic performance of Li doped nano-porous spinel oxide gallate (MGa₂O₄) thick filmsAuthors: **Fatima Huseynzade**

Sponsored by



October 24, 2025 (Friday)

PARALLEL SESSIONS III

09:15– 10:15

Endüstriyel Sürdürülebilirlik ve ESG Uygulamaları

Seminar
Room A

Session Chair: **Assoc. Prof. Kübra Şimşek**

Session Link: [Teams](#)

31 Beyaz Eşya Sektöründe ESG Uyumlu Çok Katmanlı Yönetişim Modeli

Authors: **Mustafa Kaymak, Metin Gür, Elif Rosemarie Karaçalı, Fatma Şener Fidan**

32 Sürdürülebilir Üretim İçin Hurda Azaltımına Yönelik Yalın Süreç Tasarımı

Authors: **Gözde Katırcıoğlu İşgüç, Mustafa Kaymak**

45 Beyaz Eşya Sektöründe ESG Önemlilik Değerlendirmesi Modeli

Authors: **Neslihan Hançer, İrem Ünlü, Ahmet Sezer Alaca, Mustafa Kaymak**

116 Türkiye KOBİ'lerinin Verimliliklerini Sürdürülebilirlik ve Dijitalleşme Odağında Artırmak için bir Stratejik Yol Haritalama Uygulaması

Authors: **Nihan Yıldırım, Özgür M. Kayalıcı, Mehmet Ali Aloğlu**

Sponsored by



Digital Transformation and Change Management

Seminar
Room B

Session Chair: **Asst. Prof. Serap Sarp**

Session Link: [Teams](#)

99 **Change Management in Architectural Design Firms in the Digital Era:
The Road to Success**

Authors: **Aslıhan Ergin Asal, Emrah Acar**

102 **Assessing Digital Transformation Capability of Organization Cultures:
A Scoring Approach by Multi-Criteria Decision-Making**

Authors: **Gül T. Temur, Cihangir Gümüştas**

106 **Integrating Big Data Practices and Knowledge Management with
Digitalization Capability: Unlocking Innovation, Performance, and
Competitive Advantage in the Hospitality Sector**

Authors: **Syed Haider Ali Shah, Kübra Şimşek**

108 **Understanding AI Adoption Among Employees: Drivers and Barriers**

Authors: **Oğuz Can İldeniz, Elif Karaosmanoğlu**

Sponsored by



Digital Intelligence and Decision Systems

Seminar
Room C

Session Chair: **Prof. Eyüp Doğan**

Session Link: [Teams](#)

24**Development, UX Evaluation and Implementation of a Web-based Educational Tool for Revised NIOSH Lifting Equation (RNLE) Method**

Authors: **Beyza Albayrak, Doğa Akgünlü, Elif Berfin Deniz, Güney Atalmış, İrem Akgün, Öykü Muslu, Özge Yücel Kasap, Oğuzhan Erdinç**

30**Information Accessibility and Market Power in the Airbnb Market: Multilevel and Quantile Evidence from Istanbul**

Authors: **Mustafa Semih Peker, Umut Türk**

61**Discrete-Event Simulation-Based Bottleneck Analysis in a Polypropylene Yarn Production System**

Authors: **Oğuz Kaan Çiçek, Serap Ulusam Seçkiner, Pınar Kocabey Çiftçi**

66**A data envelopment analysis model for the efficiency measurement of call center agents in logistics industry**

Authors: **Veysel Azat Büyüktaş, Egemen Eroğlu, Berna Şimşek, Tuncay Özcan**

Sponsored by



PARALLEL SESSIONS IV

15:00 – 16:00

Sürdürülebilir Üretim ve Enerji YönetimiConference
HallSession Chair: **Asst. Prof. Fatma Şener Fidan**Session Link: [Teams](#)**34****Kurumsal Karbon Ayak İzi Hesaplaması ve Emisyon Azaltım Stratejileri: Sersim Beyaz Eşya Fabrikası Uygulaması**Authors: **Hayriye Sinop, Mustafa Kaymak, Fatma Şener Fidan****94****Sanayi Tesislerinde Çatı Tipi Güneş Enerjisi Sistemlerinin Teknik ve Ekonomik Fizibilite Analizi: Sersim Fabrikası Örneği**Authors: **Sevil Aydemir, Veysel Kalın****96****Kompresörlerde İzlenebilirlik ve Atık Isı Geri Kazanımı**Authors: **Can Aydemir, Sevil Aydemir, Mehmet Akif Soyuslu****115****Beyaz Eşya Üretiminde Su ve Enerjinin Akıllı Kullanımı: Kapalı Devre Su Geri Kazanımı ve Atık Isıdan Enerji Kazanımı Sistemi Tasarımı**Authors: **Ahmed Çağrı Sayın, Ecem Bulut Özgür**

Sponsored by



Energy Systems and Sustainable Optimization

Seminar
Room A

Session Chair: **Assoc. Prof. Adnan Çorum**

Session Link: [Teams](#)

64

Cost Optimization in Battery Component Procurement Using Mathematical Programming

Authors: **Feyzanur Yılmaz, Ferhan Çebi**

41

Cost-Optimized Predictive Maintenance by Use of Normal Behavior Model for Wind Turbines

Authors: **Kübra Erol, Selda Kapan Ulusoy, Banu Soylu**

85

Cilos, Marcos and Hierarchical Clustering Integration Approach In Regional Energy Potential Assessment

Authors: **Yağmur Şan, Ercan Şenyiğit**

90

ANN-Based Early Warning System and Strategic Decision-Making for Agricultural Land

Authors: **Hakan Talan, Enes Hakan Altas, Eren Boz, Emirhan Güzeş, Ecem Özge Coşar**

Sponsored by



Social Sustainability and Organizations

Seminar
Room B

Session Chair: **Asst. Prof. Burak Kağan Demirtaş**

Session Link: [Teams](#)

5

The Psychosocial Determinants of Satisfaction in Sustainable Entrepreneurship and Their Link to Productivity

Authors: **Melodi Buket Kanhoğlu Peker, Selçuk Koç**

56

Using SDGs in Youth Work

Authors: **Elif Özkoç, Bora Akince**

12

Big Data in Industrial Management: Balancing Efficiency, Privacy, and Market Power in the Age of AI-Driven Sustainability

Authors: **Kamila Yessenkulova**

Sponsored by



Industrial Sustainability and Energy Systems

Seminar
Room C

Session Chair: **Prof. Ömür Yaşar Saatçioğlu**

Session Link: [Teams](#)

28**Sustainable Supplier Selection through a Multi-Criteria Decision-Making Approach in Consumer Goods Manufacturing**

Authors: **Rukiye Çalık, Fatma Şener Fidan**

89**Benchmarking Water in Construction Industry: Decoupling Analysis for Technology Roadmapping for Sustainability in Türkiye**

Authors: **Ceren Şahin**

119**Unseen Barriers to the Circular Economy: Cybersecurity Challenges of Sustainable Startups**

Authors: **Nihan Yıldırım, Tuğrul Daim, Kübra Şimşek**

PARALLEL SESSIONS V

16:30 – 17:45

Cybersecurity and Digital TransformationSeminar
Room ASession Chair: **Assoc. Prof. Nihan Yıldırım**Session Link: [Teams](#)**57****Intrusion Detection in Smart Grids: Impact of Data Sampling and Positive Class Definition**Authors: **Elif Rosemarie Karaçalı****59****Cyber-Resilient Process Innovation in Energy Infrastructure: Comparative Case Studies of Digital Transformation and Circular Business Models**Authors: **Elif Rosemarie Karaçalı, Mehmet Özgür Kayalıcı, Nihan Yıldırım, Kübra Şimşek****60****Sustainable Entrepreneurship and Cybersecurity Innovation in Smart Grids: A Thematic Bibliometric Review Aligned with SDG 7 and SDG 9**Authors: **Elif Rosemarie Karaçalı, Mehmet Özgür Kayalıcı, Nihan Yıldırım, Kübra Şimşek****73****Gümrük Statü Belgesi (TPS) Başvuru Sürecinin Robotik Süreç Otomasyonu (RPA) ile Dijitalleştirilmesi**

Sponsored by



Authors: **Ömür Yaşar Saatçioğlu, Yavuz Sancar, İkra Selin Has, Sevim Kocalar, Cansu Lal Civelek, Ali Dengiz**

77

Global Şirketlerde RPA (Robotik Süreç Otomasyonu) ve IPA (Akıllı Süreç Otomasyonu) Uygulaması

Authors: **Murat Tasar, Adnan Çorum**

Smart Cities and Sustainable Urban Mobility

Seminar
Room B

Session Chair: **Asst. Prof. Selçuk Tuzcuoğlu**

Session Link: [Teams](#)

4

Selection of Key Factors for Urban Air Pollution Mitigation Strategies

Authors: **Betül Yıldırım, Ertuğrul Ayyıldız, Melike Cari**

6

Enhancing Bike-Sharing Demand Forecasting with Spatio-Temporal Learning: A Comparative Study on a Local Dataset

Authors: **Melike Aygün Çakıroğlu, Suat Özdemir**

15

Feasibility of Autonomous Taxi Systems in Turkey: A Techno-Managerial Assessment

Authors: **Banu Sarıbay, Samet Yavuz**

101

Marketing and Sales Strategies of Electric Vehicles

Sponsored by



Authors: **Sina Dürüstkan, Kazım Selçuk Tuzcuoğlu**

52 Digital Product Passports: Enabling Circularity Amid Practical Barriers

Authors: **Tuğba Danacı**

98 Technostress and Employee Well-Being in Times of Turbulence: The Mediating Roles of Work-Family Conflict and Success Enablers

Authors: **Burçin Tekin, Ekrem Tatoğlu, Zehra Binnur Avunduk, Selim Zaim**

Digital Transformation for Sustainable and Intelligent Futures

Seminar
Room C

Session Chair: **Asst. Prof. Abdulkadir Köse**

Session Link: [Teams](#)

16 Internal Technology Transfer Strategies: A Synthesis of Academic Frameworks and Industry Practices

Authors: **Oğuz Tarık Muratlar**

48 Carbon Neutral Digitalization

Authors: **Bora Akince**

Sponsored by



97

Digitalization-Enhanced Ergonomic Facility Planning for Smart Home Fitness Equipment

Authors:

Hasan Can Yılmaz, Berkin Yıldırım, Yağmur Duru Çılbır, Yağmur Cığırli, Sıla Cansın Mustan, Yasemin Alhan, Serenay Kahraman, Ashı Dilara Şen

105

Reconstructing Global Digital Competitiveness Rankings Using Multi-Criteria Decision-Making Methods: An Entropy and TOPSIS-Based Analysis

Authors:

Hatice Özkurt Çokgüngör

103

A Comparative Analysis of GSP and PrefixSpan for Sequential Pattern Mining using Real-World Data

Authors:

Vahit Feryad, Mirza Özer, İlhan Recep Turhan, Tuncay Özcan