

INTERNATIONAL ENGINEERING AND TECHNOLOGY MANAGEMENT SUMMIT 2023

"ROLE of ENGINEERING and TECHNOLOGY MANAGEMENT in TIMES of EXTREME UNCERTAINTY"

ISTANBUL TECHNICAL UNIVERSITY AND BAĞÇEŞEHİR UNIVERSITY
etms.itu.edu.tr/2023/



19 - 21 OCTOBER 2023 ISTANBUL/TÜRKİYE

Welcome

The 5th INTERNATIONAL ENGINEERING AND TECHNOLOGY MANAGEMENT SUMMIT, organized jointly by Istanbul Technical University and Bahçeşehir University will be held in Istanbul, Turkey during October 19-21, 2023. Virtual participation will also be available via Zoom.

- Disaster Governance and Policy-making
- Data Science and Artificial Intelligence for Disaster Management
- Risk Assessment and Disaster Preparedness Planning
- Engineering Management Profession
- Engineering Management Education and Training
- International Engineering Management Issues
- Entrepreneurship in High-Tech Environments
- Science and Technology Policy
- Management of Innovation
- Disruptive Technologies
- Emerging Technologies
- Knowledge and R&D Management
- Intellectual Property Rights
- Technology Transfer
- Technological Innovations
- Technology Assimilation
- Technology Alliances
- Technology Assessment
- Technology Diffusion
- Technological Foresight
- Manufacturing and Supply Chain Systems
- Lean Six Sigma in High-Tech Organizations
- Healthcare Innovation
- Management Information Systems
- Sustainability in Agile Systems
- Engineering Teams and Work Groups
- Engineering Economics
- Entrepreneurial Finance
- Marketing of Technology
- Program / Project Management
- Strategic Management of Technology
- Change Management in Technological Environments
- Management of Digital Transformation
- Business Analytics
- Disaster Resilience
- Social Media and Disaster Management
- Disaster Logistics

Honorary Chair:

Prof. Dr. Sıtkı Gözlü

On behalf of organization committee

Prof. Dr. Ferhan Çebi & Prof. Dr. Tunç Bozbura

Submissions:

Invited Speakers from the World of Science and Business Authors can submit their abstracts or conference papers either in English or Turkish using the online system to be accessed by the link:

• <https://cmt3.research.microsoft.com/ETMS2023>

Important Dates:

Abstract Submission Deadline:

AUGUST 10TH, 2023

Notification of Acceptance:

AUGUST 17TH, 2023

Full Paper Submission Deadline:

SEPTEMBER 10TH, 2023



Çırağan Caddesi, No: 4, 34353 Beşiktaş - İstanbul · 444 28 64 · bau.edu.tr

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19 Ekim / October 19, 2023

Fazıl Say Conference Hall (Hybrid)

Zoom Link: <https://itu-edu-tr.zoom.us/j/95988346962?pwd=TTVvcTN2QXFveDNxOUFwb2xFTHUrUT09>

10.00-10.15	Açılış (Opening)- Prof. Dr. Sıtkı Gözlü, Prof. Dr. Ferhan Çebi, Prof. Dr. Tunç Bozbura	
10.15-11.00	Opening Keynote Speech: Prof. Dr. Stefan Brunnhuber – The World Academy of Art and Science (WAAS) – <i>The Impact of AI on Our Knowledge, Society and Consciousness in the Twenty-First Century</i>	
11.00-11.30	Çay Kahve Molası (Coffee Break)	
11.30-12.30	Keynote Speech: Raşit Yücel Gür – Arçelik -- <i>Üretimde Dijital Dönüşüm ve Teknoloji Yönetimi</i>	
12.30-14.00	Öğle Yemeği (Lunch Break)	
14.00-15.15	PANEL: Dijital Çağda Mühendislik Yönetimi Uygulamaları Moderatör: Prof. Dr. Tunç Bozbura , Öğr. Üyesi, Bahçeşehir Üniversitesi Dr. İffet İyigün Meydanlı , Kurucu ortak, M2I Consultancy Dr. Halefşan Sümen , Öğr. Görevlisi, Arz&Tedarik Zinciri Uzmanı Dr. Metin Örnek , BTECH Ar-Ge Merkezi Dir., Ar-Ge Projeleri Koordinasyon PMO İşbirliği Ofisi Md	
	15.15-16.00	Keynote Speech: Samet Ensar Sarı – Adecco Döngüsel Ekonomi ve Teknolojideki Dönüşümü
	16.00-16.30	Çay Kahve Molası (Coffee Break)
	16.30-18.00	Panel: Dijital Çağda Teknoloji Yönetimi Eğitimi Moderatör: Prof. Dr. Sıtkı Gözlü , Emekli Öğr. Üyesi, İstanbul Teknik Üniversitesi Prof. Dr. Nuri Başoğlu – Öğr. Üyesi, İzmir Yüksek Teknoloji Enstitüsü Prof. Dr. Hakkı Okan Yeloğlu – Öğr. Üyesi, Başkent Üniversitesi Doç. Dr. Nihan Yıldırım – Öğr. Üyesi, İstanbul Teknik Üniversitesi
18.00-20.00		Welcome Reception – BAU C Teras (BAU C Terrace)

20 Ekim / October 20, 2023

Fazıl Say Conference Hall (Hybrid)

Zoom Link: <https://itu-edu-tr.zoom.us/j/97166724729?pwd=bWJwcnJZSytxbEM0RmVlcmtdqafZHQQT09>

09.30-10.15	Keynote Speech: Prof. Dr. Hatice Camgöz Akdağ – İTÜ- <i>Sustainability in Times of Extreme Uncertainty</i>	
10.15-11.15	Keynote Speech: Prof. Dr. Alexander Brem – University of Stuttgart- <i>Can Engineering and Technology Management Save the world? A view on climate technologies</i>	
11.15-11.30	Çay Kahve Molası (Coffee Break)	
11.30-13.00	Panel: Multidisciplinary Synergy: Paving the Way for Future Disaster Risk Management Initiatives Moderator: Prof. Dr. Seda Kundak , İstanbul Technical University Assoc. Prof. Dr. Emrah Acar – BeeNOME/ Disaster Project, İstanbul Technical University Prof. Dr.Seda Kundak , RiskIST Life Laboratory, İstanbul Technical University Prof. Dr. Ceas van Westen – PARATUS Project (Horizon 2021), University of Twente Assoc. Prof. Dr. Muammer Tün (ETU) – Disaster & Resilience Congress, Eskişehir Technical University	
	13.00-14.00	Öğle Yemeği (Lunch Break)
	14.00-14.45	Keynote Speech: Emre Kurtoğlu – Teknosa Teknolojinin Perakendeciliği, Perakendeciliğin Teknolojisi
	14.45-15.30	Editor’s Session: Prof. Dr. Asghar Afshar Hahanshahi – IPADE Business School- Associate Editor in IEEE Engineering Management Review (EMR)
15.30-16.00	Çay Kahve Molası (Coffee Break)	
16.00-19.00	Paralel Oturumlar – Bildiri Sunumları/ Parallel Sessions- Paper Presentations	

21 Ekim / October 21, 2023 (Online)

10.00-15.00- Paralel Oturumlar- Bildiri Sunumları/ Parallel Sessions- Paper Presentations

Parallel Oturumlar- Bildiri Sunumları/ Parallel Sessions- Paper Presentations

20 Ekim / October 20

16.00-17.00- Engineering Application of Technology

Room: D305

Zoom Link: <https://itu-edu-tr.zoom.us/j/96930440921?pwd=RG45bHRXYU5rTytPamNEZVNYYnpOdz09>

Session Chair: Sait Gül

Paper ID	Authors	Title
1	Ramla Gheith	Enhancing Stirling Engine Efficiency through Multi Sub-Regenerators Design: A Numerical Investigation based on MVCEF Method
2	Ramla Gheith	Comparative study of thermal performance of a Stirling engine: Conventional cooling fluid versus nanofluids
3	Zakaria Solaani, Fethi Aloui, Enim Monastir, Emna Berrich, Houda Hachem	Study of an internal combustion engine fuelled partially with green hydrogen via the recovery of its exhaust gases
13	Berna Çalışkan	Reflections on the Effects of Spatial Planning from the perspective of disaster prevention and control planning
55	Osman Ulusu	Öğütölmüş Yüksek Fırın Cürufu İkameli ve Uçucu Kül Bağlayıcı Geopolimer Harçlarda Eğilme Dayanımı Özellikleri

16.00-17.00- Uncertainty

Room: D308

Zoom Link: <https://itu-edu-tr.zoom.us/j/95517182086?pwd=S0swdm5wRHhDM1pUWWFqdDZpc2c3QT09>

Session Chair: Ahmet Tezcan Tekin

Paper ID	Authors	Title
62	Ahmet Beşkese, Gonca Turna	Radiotherapy Device Selection for a Hospital Using the Hesitant Fuzzy AHP Method
49	Minacyrial Makin	The role of culture in the implementation of strategic leadership in technological innovation in the Egyptian National Railway
18	Ahmet Tezcan Tekin, Cem Sarı	Earthquake Prediction for Turkey: Ensemble Learning Approach
28	Anıl Özcan; Ömer Zeybek	A hybrid system that detects abnormal drops in availability of product groups
22	Ahmet Tezcan Tekin	Customer Retention Prediction: Fuzzy Pythagorean Clustering Approach

17.00-18.00- Digital Age

Room: D305

Zoom Link: <https://itu-edu-tr.zoom.us/j/96930440921?pwd=RG45bHRXYU5rTytPamNEZVNYYnpOdz09>

Session Chair: Yaşar Ömür Saatçioğlu

Paper ID	Authors	Title
7	Yaşar Ömür Saatçioğlu	Smart Agricultural Practices: Case of Kasaplar Village
41	Alper Camcı, Dana Jouda	How Knowledge of Web 3.0 Technologies and Complex Thinking Impact Entrepreneurship Drive
47	Chaymae Jebari, Adnan Çorum	Digitalization Maturity Assessment and Industry 5.0 Practices: Case of global logistics company
60	Özlen Erkal Sönmez	Trends in Workflow Management Using Process Mining
56	Rula Wedaa, Gülin İdil Sönmeztürk Bolatan	Sustainability in the Digital Age: Impact of Digital Transformation on Sustainability

17.00-18.00- ML Applications in Industry

Room: D308

Zoom Link: <https://itu-edu-tr.zoom.us/j/95517182086?pwd=S0swdm5wRHhDM1pUWWFqdDZpc2c3QT09>

Session Chair: Tankut Atan

Paper ID	Authors	Title
38	Mehmet Emre Ayar, Beyza Çokkeçeci	Customer Segmentation for Small Apps with Irregular Users
43	İbrahim Yılmaz	A Hybrid Machine Learning Approach for Predicting Flight Delays
48	Uğur Özveren, Derya Ozan Kaya, Yağmur Dalbudak, Servet İlayda Serin, İrem Yiğit, Burçe Peker, Kübra Binay	The Use of Random Forest Algorithms in Machine Learning to Evaluate the Efficacy of CMC-PEG300-LA@ZIF-8 Composite in Pb(II) Remediation
52	Uğur Özveren	Optimizing Support Vector Regression through Genetic Algorithms for Advanced Agricultural Methane Emissions Modelling

18.00-19.00- OM Applications

Room: D305

Zoom Link: <https://itu-edu-tr.zoom.us/j/96930440921?pwd=RG45bHRXYU5rTytPamNEZVNYYnpOdz09>

Session Chair: Adnan Çorum

Paper ID	Authors	Title
17	Mustafa Akdemir, İbrahim Küçükkoç, Gülşen Aydın Keskin	Energy-Efficient Scheduling of Parallel Additive Manufacturing Machines
23	Mertcan Özçelik, Merve Kadan, Kevser Sinem Şimşek, Mehmet Erdem Çorapçioğlu	Kaynakların Sınırlı Olduğu ve Hızla Gelişen Teknoloji Ortamında Teknoloji Yol Haritası Önceliklendirme Metodolojisi Havacılık Sektörü Uygulaması
31	Ferhan Çebi, Mevlüde Sezer	Probabilistic models for forecasting of intermittent demand: A comparative study for automotive spare parts

65	Hossein Pourghaemi, Hatice Camgöz Akdağ	A Mobile Application Design of Cancer Follow-Up Care for Breast Cancer Survivors
69	Dilay Çelebi, Levent Özlü	Battery Electric Vehicles in Freight Transportation

18.00-19.00- Sustainability

Room: D308

Zoom Link: <https://itu-edu-tr.zoom.us/j/95517182086?pwd=S0swdm5wRHhDM1pUWWFqdDZpc2c3QT09>

Session Chair: Emel Gelmez

Paper ID	Authors	Title
15	Sheida Faraji, Recep İşçi, Aybüke Tavaslı, Leszek Majewski, Abdou Karim Diallo, Turan Öztürk	Towards sustainable, environment-friendly and low-waste gas and photoactivated sensors for low-power health and air monitoring and medical diagnostics
45	Büşra Çiçekalan, Aycan Pekpazar, Ferhan Çebi	Optimizing Waste-to-Energy Facility Locations: A Multi-Objective Mixed Integer Programming Approach for Municipal Waste Management
51	Uğur Özveren, Ayserin Pelin Yılmaz, Merve Ayebe, Perizat Kyzy Bagytbek, Ezgi Deniz Yıldız	Investigating Socio-Economic Influences on CO2 Emissions Using Random Forest Algorithms
68	Hasan Kürşat Güleş, Emel Gelmez, Vural Çağlıyan	The Mediating Role of Competitive Advantage in the Effect of Green Supply Chain Management Practices on Supply Chain Performance

21 Ekim / October 21

10.00-11.00- ML Applications in Industry

Zoom Link: <https://itu-edu-tr.zoom.us/j/98256043532?pwd=VytOWmpORWNvS0dwalZJWFZUdmV4Zz09>

Session Chair: Yaman Ömer Erzurumlu

Paper ID	Authors	Title
4	Helin Öykü Demircioğlu, Berna Şimşek, Gökberk Berat, Tuncay Özcan	Sentiment Classification of Customer Reviews Using Machine Learning Algorithms in Express Delivery Industry
5	Pınar Kırmanlıoğlu, Begüm Erol, Hasibe Berfu Öztürk	Customer Churn Prediction on E-Commerce Using Deep Learning
6	Görkem Erdem	An Anomaly Detection Decision Support System for Inventory Stock Management: Machine Learning Approach
8	Ahmet Eren Tomurcuk, Elif Bozcalı, Furkan Doğançan Baytemur, Çağlar Sivri, Ece Gelal Soyak	A Reinforcement Learning-Inspired Estimation of Antibiotic Resistance in Poultry Environments

10.00-11.30- Sustainability

Zoom Link: <https://itu-edu-tr.zoom.us/j/98984197257?pwd=VHhTclRNMTFBdjQ4bDJNVStXVHZxUT09>

Session Chair: Hakkı Okan Yeloğlu

Paper ID	Authors	Title
25	Zafer Yıldırım, Mustafa Deste	A Work Study Application to Improve Processes in A Business Manufacturing Panel Doors
26	Melisa Özbiltekin Pala, Yeşim Deniz Özkan Özen,	Emerging Digital Technology Selection in Renewable Energy Sector
27	Gizem Kaplan, Nuri Başoğlu, Eda Çorbacıoğlu	Segmentation of Society Based on Attitude Toward Environmental Issues
29	Ayşegül Arısoy, Ecesu Bekki, Melike Kapısuz, Dilara Yiğit, Gül Tekin Temur, Alper Camcı	Corporate Sustainability Maturity Model Development
24	Mehmet Karahan, Zafer Yıldırım, Turgay Yıldırım	Çevre Performans Endeksi Kapsamında Türkiye'nin Doğu Avrupa Ülkeleriyle Karşılaştırılmasına Yönelik Bir Araştırma
67	Selin Efe Kayabaşı, Ramazan Ferik, Murat Yazıcı	Strut Tip Amortisörün Koruyucu Gövde Kapağında Hafifletme Çalışması

11.30-12.30- ML Applications in Industry

Zoom Link: <https://itu-edu-tr.zoom.us/j/98256043532?pwd=VytOWmpORWNvS0dwalZJWFZUdmV4Zz09>

Session Chair: Buğra Ayan

Paper ID	Authors	Title
9	Süheyla Uygur, Zeynep Öztürk, Murat Emeç Mehmet Hilal Özcanhan	Detecting Gait Disorders Using Machine Learning
10	Beyzanur Cayir	A Literature Review on Data Analytics: Tabular and Graphical Analysis
14	Beyza Gavcar	SWOT Analysis for Machine Learning Methods in Additive Manufacturing
16	İlhan Turhan, Adil Soydal, Tuncay Özcan	Perakendecilikte Sipariş Gruplama ve Sipariş Toplama Problemlerine Kümeleme Algoritmaları ve Genetik Algoritma Esaslı Bir Yaklaşım

11.30-12.30- Supply Chain Management

Zoom Link: <https://itu-edu-tr.zoom.us/j/98984197257?pwd=VHhTclRNMTFBdjQ4bDJNVStXVHZxUT09>

Session Chair: Hakkı Okan Yeloğlu

Paper ID	Authors	Title
19	Büşra Buran	PESTLE Analysis for Public Transportation: A Fuzzy Approach
21	Derya Dereci, Ece Gül Çarıkçı, Kerem Şahin, Adnan Çorum	Remanufacturing in Automotive Industry
42	Oğuzhan Erdiñç	Exoskeletons in Manufacturing Ergonomics: Acceptance and a Research Agenda
20	Serkan Genç, Hilmi Yüksel	Blokzincir Teknolojisi, Tedarik Zinciri Yönetimi ve Endüstri 4.0 Kavramları Üzerine Yapılan Çalışmaların VOSviewer ile Bibliyometrik Analizi

11.30-12.30- Innovation Management and Uncertainty

Zoom Link: <https://itu-edu-tr.zoom.us/j/99799803547?pwd=NWV5VlVNd24yNzJlNjY93QmV5ejB0UT09>

Session Chair: Yaman Ömer Erzurumlu

Paper ID	Authors	Title
35	Duygu Aktay Kantaroğlu, Merve Kocaman, Betül Altuntaş, Onur Jane, Eyüp Çalık	A New Model of Innovation: TA FLAPERON
36	İrem Büyükhan	Competency Management in Innovation Management
39	Semiha Bal	The Use of Engineering and Technology Management to Improve Early Recovery Outcomes after Disasters: A Literature Review of the Early Recovery Interventions Following the 2023 Dual Earthquakes in Türkiye
40	Yaman Ömer Erzurumlu, Melis Türkkkan, Giray Gözgör	Economic Policy Uncertainty and Corporate ESG Performance

13.30-15.00- Performance Management

Zoom Link: <https://itu-edu-tr.zoom.us/j/98256043532?pwd=VytOWmpORWNvS0dwalZlWFZUdmV4Zz09>

Session Chair: Serhat Çakır

Paper ID	Authors	Title
30	Zeynep Topaloğlu Çalkan, Hande Nur Akkoç, Kadim Taşdemir	Enhancing Operational Efficiency through Digital Twinning: A Case Study of a Tractor Factory's Paint Shop
32	Mehmet Karahan, Solunay Duran	Comparison of Academic Performances of Research Universities in Turkey within the Scope of URAP 2014-2023 Data
33	Omar Al-Kaff, Zeynep Gergin	Performance Under Unforeseen Crisis: The Impact of Covid-19 Pandemic on The Engineers' Performance
34	Safa Marbou, Adnan Çorum	Advancing Additive Manufacturing Efficiency Heuristic Part Decomposition and Algorithmic Parameter Calculation
67	Ayşe Nisa Akgün ; Hatice Camgöz Akdağ	Suggestions for Developing Impact Focused Startup Investments in Turkey
61	Mürüvvet Türesoy	Paydaş yönetiminde çatışma ve çatışma yönetimine bir bakış

13.30-15.00- Industry 4.0

Zoom Link: <https://itu-edu-tr.zoom.us/j/98984197257?pwd=VHhTclRNMTFBdjQ4bDJNVStxVHZxUT09>

Session Chair: Ahmet Tezcan Tekin

Paper ID	Authors	Title
44	Hakan Bacanak, Enes Öztürk, Emir Alanyalıoğlu, Hakan Erdem, Başar Öztayşi	Comparison of image processing models for digital signage interactive experience
64	Houda Hachem	Modeling of the exhaust gas-pressurized nitrogen exchanger equipped with a Stirling engine as a cogeneration device:

46	Ahmet Can Ataman, Bilge Varol, Gül Tekin Temur	A Novel Model for Assessment of Industry 4.0 Maturity in Defense Industry
50	Ercan Öztemel, Yasemin Tuncer	Research Topics In AI Based Project Management
53	Gülper Basmacı, Onur Özveri	Endüstri 4.0 Çağında Ayrık Olay Simülasyonu (DES), Dijital İkizler ve İş Süreçleri Yönetimi (BPM) Araştırma Temalarının Bibliyometrik Analizi
54	İbrahim Sapaloğlu, Işık Çiçek	Culture of Change and Digitalization

13.30-15.00- Quantitative Approaches

Zoom Link: <https://itu-edu-tr.zoom.us/j/99799803547?pwd=NWV5VlVNd24yNzJlJN93QmV5ejB0UT09>

Session Chair: Jason T Owen

Paper ID	Authors	Title
37	Jason T Owen	An Unconventional Application of the AI Search Agent in Uncertain Times
63	Ayşe Yazıcı, Erik Persson	Capturing Small Space Debris: Inspired by the Frog's Tongue's Strategy for Catching Its Prey
57	Bengisu Karakelle, Semih Özel	Determination of Criteria Affecting Crypto Asset Investment Decision and Evaluation of Alternatives with Fuzzy-Based Multi-Criteria Decision Making Method
58	Betül Ulu, Deniz Efendioğlu	An Evaluation of Fire Evacuation Simulation Models: Research of Literature
59	Necip Fazıl Karakurt, Ecem Cem, Selçuk Çebi	Prioritizing Mobile Phone Features Using the Best Worst Method