



ATACONF'25

Aviation Technologies and Applications Conference

– PROGRAM AT A GLANCE –



DAY 1 – November 21, 2025

Opening & Parallel Sessions

Time Event

08:00 – 09:00 Registration

Main Hall - Yunus Emre Conference Hall

09:00 – 10:00 Opening Ceremony & Welcome Speeches

10:00 – 11:00 Panel 1 – *A new era of defense aviation with artificial intelligence*

Chair: Yalçın YILMAZKAYA (ACA)

Dr. Özgür ÖZUĞUR (HAVELSAN - R&D and Engineering Director)

Dr. Seyit TUNÇ (ROKETSAN Advanced Systems Manager)

Dr. Şener YILMAZ (ASELSAN - Avionics Design Manager)

11:00 – 11:30 Coffee Break

11:30 – 12:30 Panel 2 – *Sustainable Aviation Fuels and Decarbonization*

DB Tarımsal Enerji Special Panel

Chair: Dr. Bülent DEMİR

Assoc. Prof. Dr. Alptekin Yıldız (ITU Aviation Institute - Vice Director)

Selçuk BOROVALI (DB TARIMSAL ENERJİ – Chairman)

12:30 – 13:45 Lunch Break

13:45 – 14:45 | Parallel Sessions (Round 1)

Main Hall: Session 1 – Aerodynamics and Flow Analyses

Hall 1: Session 2 – Communication, Language, and Education in Aviation

Hall 2: Session 3 – Unmanned Aerial Vehicle (UAV) Technologies and Applications I

Hall 3: Session 4 – Maintenance, MRO, and Digital Transformation

14:45 – 15:15 Coffee Break

15:15 – 16:30 | Parallel Sessions (Round 2)

Main Hall: Session 5 – Firefighting, Risk and Safety Systems

Hall 1: Session 6 – Thermal Analyses and Material Behavior

Hall 2: Session 7 – Legal, Social, and Ethical Dimensions

Hall 3: Session 8 – Human–Machine Interaction and Artificial Intelligence



ATACONF'25

Aviation Technologies and Applications Conference



– PROGRAM AT A GLANCE –

DAY 2 – November 22, 2025

Panels & Final Sessions

Time Event

Main Hall - Yunus Emre Conference Hall

09:00– 10:30 Panel 3 –A new era of civil aviation with artificial intelligence

Chair: Dr. Alper ÖREN

Çimen Başak ÖZDEMİR (İGA Istanbul Airport - Stakeholder Audit and Coordination Manager)

Ekrem Tarık KARAN (Turkish Technic - Innovation Engineer)

Serap MÜNGAN TANHAN (Turkish Airlines Technology - Expert Data Scientist)

10:30– 11:00 Coffee Break

11:00– 12:30 Panel 4 –100th Anniversary of Turkish Aviation with Vecihi Hürkuş

Chair: Prof. Dr. Hasan MERT

Dr. Emin KURT (Aviation History Enthusiast and Researcher)

Murat ÖZPALA (TAI - CAT-1 Experimental Test Pilot)

12:30 – 13:45 Lunch Break

13:45 – 15:00 | Parallel Sessions (Round 3)

Hall 1: Session 9- Next-Generation Fighter Aircraft and Advanced Propulsion Systems

Hall 2: Session 10 – UAV Automation, Control and Artificial Intelligence Approaches II

Hall 3: Session 11 – Logistics, Efficiency, and Sustainability

13:45 – 15:15 | Parallel Online Sessions

Online A | Online Session 1– Unmanned Aerial Vehicles and Air Operations

Online B | Online Session 2– Structural, Composite and Thermal Analyses

Online C | Online Session 3– Advanced Aerodynamics and Avionic Systems

Online D | Online Session 4– Energy Systems, Sustainability and Digital Transformation in Aviation

15:00 – 15:30 Coffee Break

15:30 Closing Ceremony

ATAConf'25 – SESSION SCHEDULE

DAY 1 – November 21, 2025

13:45 – 14:45 | Parallel Sessions (Round 1)

Session 1 – Aerodynamics and Flow Analyses

Moderator: Cem Tahsin YÜCER

MAIN HALL

Quantification of Boundary Layer Characteristics for Bleed Mass Flow Rate Prediction in a Supersonic Compression Intake

Muhammed Enes ÖZCAN, Nilay Sezer UZOL

A Queueing Theory-Based Approach to Aircraft Landing Sequencing and Scheduling for Enhanced Efficiency

Alper ÖREN

Effects of Several Parameters of Micro Turbojet Engine on Fuel Efficiency on Design Point

Mehmet KIRMIZI, Hakan AYGÜN

A Comparative CFD Study on Pressure Drop Measurement Methodologies for Perforated Plates: The Bellmouth Intake vs. In-Pipe Section Approach

Muhammed Enes ÖZCAN, Ayşegül KERESTECİ

Session 2– Communication, Language, and Education in Aviation

Moderator: Öyküm ÜLKE

HALL 1

The Role of Automatic Speech Recognition (ASR) in Aviation English Speaking Skills

Emre SOBACI

Analysis of New Generation Fighter Aircraft Models with Artificial Intelligence and Multi-Criteria Selection Methods

Elif ÇİÇEK

The Importance of Physics Education in Aviation

Mehmet Alper SÜZER

The Multi-Crew Pilot Licence (MPL) as a Competency-Based Pilot Training Model: Pedagogical Strength, Operational Reality, and Implementation Challenges

Ayberk TUTKUN, Hakkı BAĞAN

Session 3 – Unmanned Aerial Vehicle (UAV) Technologies and Applications I

Moderator: Gürcan LOKMAN

HALL 2

A Cost-Effective and Portable Solution for Flight Training: An Independent Sensor-Based Real-Time ILS/VOR Approach Simulator

Berk AKARCALIOĞLU, Berker VERGİ, Ömer ÇETİN, Uğur ARSLAN

Practical Issues of Flight Control System Design for UAV

Hüseyin AKTAN

Comparative Analysis of UAV Test Configurations

Meryem DENİZ, Erman SELİM, Enver TATLICIOĞLU

The Impact of Radar Visibility and Performance Parameters on UAV Design

Muharrem ER, Mikail BAYRAM

DAY 1 – November 21, 2025

13:45 – 14:45 | Parallel Sessions (Round 1)

Session 4 – Maintenance, MRO, and Digital Transformation

Moderator: Volkan YAVAŞ

HALL 3

Transformation of Aircraft MRO Documentation Using Large Language Models

Furkan İŞBİLEN

Artificial Intelligence-Based Carbon Management in Airport Terminal Operations: Forecasting, Monitoring and Optimization Approaches

Armağan MACİT, Deniz MACİT

Airline-Destination Integration in Türkiye Amidst Digital Transformation: A Model Proposal for a Personalized Dynamic Travel Package

Gülbeniz AKDUMAN, Merve ÖKSÜZ, Mustafa Egemen TANER

Comparison of Average and Actual Taxi Times on Aircraft Fuel Consumption: A Case Study at Istanbul Airport

Ramazan Kürşat ÇEÇEN

14:45 – 15:15 | Coffee Break

DAY 1 – November 21, 2025

15:15 – 16:30 | Parallel Sessions (Round 2)

Session 5 – Firefighting, Risk and Safety Systems

Moderator: Yenal KARAASLAN

MAIN HALL

Risk-Based, Multi-Agent Fire Suppression: International Lessons and a Reference Architecture for Turkey

Burak GÜLER, Busenur POLAT, Muhammed Mahmut YILDIZ

Transforming the Bayraktar TB2 UAV into an Unmanned Aerial Firefighting Platform for Advanced Wildfire Suppression

Burak GÜLER, Habip BATTAL, Faruk TOY

Enhancing Aircraft Safety through Predictive Monitoring of Engine Health

Mehmet DENİZ

Integrating Human Factors and AI-Supported Maintenance Systems in Aviation

Mikail BAYRAM

Session 6 – Thermal Analyses and Material Behavior

Moderator: Muharrem ER

HALL 1

Design and Integration of a Reusable Mid-Altitude Rocket System within Teknofest Competition Framework

Neslihan ATEŞOĞLU, Arda KIRBAŞ, Mete ÖZER, Batuhan URUL, Alperen DOĞRU

Spectroscopic Identification of Musk Ambrette as a VOC and Phototoxicity Marker in Aircraft Cabin Materials

Cahit BILGI

The Effect of Prepreg Shelf Life on the Mechanical Performance of Composites Used in the Aviation Industry

Ferhat GÜL, Hüseyin SOYAL, Mehmet Fatih ÇUKUR, Melike GEDİK, Yasin YEŞİLYURT, Burak MERT

Comparative Analysis of Infrared and Pulsed Thermography for Subsurface Defect Detection in CFRP Laminates

Cahit BILGI

DAY 1 – November 21, 2025

15:15 – 16:30 | Parallel Sessions (Round 2)

Session 7 – Legal, Social, and Ethical Dimensions

Moderator: Müjdat KARAGÜLMEZ

HALL 2

Social, Legal and Ethical Barriers on the Use of UAVs for Disaster Relief

Öncü ÜSTÜNDAĞ, Rüstem Barış YEŞİLAY

A Theoretical Review of Professionalism in Aircraft Maintenance Technicians

Ramazan ÇOBAN

The Six-Day War (1967) and the Yom Kippur War (1973): The Struggle for Air Superiority in the Middle East

İsa YAPAR, Müjdat KARAGÜLMEZ

Intellectual and Social Structure of Explainable Artificial Intelligence (XAI) Research in Aviation: A Bibliometric and Systematic Analysis

ŞAHİN GAFUROĞLU

Session 8 – Human–Machine Interaction and Artificial Intelligence

Moderator: İbrahim SAT

HALL 3

Human-Machine Interaction in Automation of Avionic Systems: An Accident Analysis

Tayfun AYDOĞDU

The Evolution of Pilot Watches from Mechanical to Artificial Intelligence: Their Emerging Role in Flight Safety

Mete CANTEKİN

AI-Enhanced Adaptive Simulation: A Conceptual Framework for Future Cabin Crew Emergency Training

Gozen Ayten PALAZ

The Effect of DC Plasma on Time-Dependent Flame Oscillation in Diffusion Methane Flames

Serdar ÇETİNTAŞ, Murat TAŞTAN



DAY 2 – November 22, 2025

13:45 – 15:00 / Parallel Sessions (Round 3)

Session 9 – Next-Generation Fighter Aircraft and Advanced Propulsion Systems

Moderator: Cahit BİLGİ

HALL 1

Mechanical Analysis of Single-Pinned Elliptical Wing–Plate Joint Considering Material Effects

Mustafa Murat YAVUZ

Turbine Blade Cooling Study for a Turbofan Engine

Mehmet Esat BİRCAN, Ayşe İpar YÜKSEL, Melek Nur ALTINDAL, Ulaş GÜLBAHARLI, Cem Tahsin YÜCER

Thermal Performance of Perovskite Nanofilm Coatings on J79 Turbojet Engine Turbine Blades

Atahan ORHON, Eren KOSA, Cem Tahsin YÜCER, Özge SAĞLAM

Haptic Technology in Aviation and Aerospace Tasks: A Research Note

Lale Canan DULGER, Berk BELKIS, Ekin Mesut DENİZEL

Design, Modeling, and Experimental Validation of the Bek-Demir.I Hybrid Rocket Motor Utilizing a Paraffin–N₂O Propellant System

Ersin Karabulut, Aybike Duyuk, Fatmagül Zeynep Çetin, Efe Toprakçı, Bedirhan Şahin, Ali Yaşar Çelik, Azra ipek Ankara, Kaan Turhan, Ali Ekici, Fırat Mavi

Session 10 – UAV Automation, Control and Artificial Intelligence Approaches II

Moderator: Mehmet KIRMIZI

HALL 2

Multi-Model Artificial Intelligence Framework for Balance and Damage in Compact UAV Propeller Diagnosis Systems

Berke YARACIER, Efekan ERTÜRK, Alperen DOĞRU

Motor Speed Control and Analysis Using Metaheuristic Algorithms and Classical Methods in a Motor Driver Designed for Unmanned Aerial Vehicles

Abdulkadir YILMAZ, Murat DEMİR

Design and Implementation of an Autonomous Observer UAV with Real-Time Aerial Target Detection

Emir Morali, Bora ÜNLÜBOZKURT, Ömer ÇETİN

Design and Development of a Ducted-Fan UAV for Agricultural Purpose

Ferudun Efe KETME, Kıymet YILDIR, Alperen MISIRLI, Görkem Efe AKKAYA, Yusuf TEZCAN, Osman Nuri ŞAHİN

Numerical Validation Of Wall Condensation Phenomenon And Numerical Analysis Of The Helicopter Demisting Performance

Furkan KESİM, Alihsan KOCA

Session 11 – Logistics, Efficiency, and Sustainability

Moderator: Pınar KÖYMEN ÇAĞAR

HALL 3

Bibliometric Analysis of Research in Air Logistics

Binnaz ALP, Mustafa ALP

The Development of Industrial Revolutions and the Implications of the Industry 4.0 Process for Air Force Technical Training

Mustafa ALP, Binnaz ALP

Redefining National Logistics Efficiency: An LPI Reconstruction via TOPSIS and Machine Learning

Turan DALGIÇ, Gürcan LOKMAN

Design of a Patching Device for Deep Scratch Damaged Aircraft Composites and Investigation of Patch Efficiency

Muharrem ER

Manufacturing and Performance Analysis of Thermoplastic Composites for Wind Turbine Applications

Güney Cem GÜLBAĞ, Mehmet Arda ÖZDEN, Sercan ACARER, Mehmet Özgür SEYDİBEYOĞLU

Addressing Drone Battery Issues and Charging Solutions for Logistics Applications

Umut Efe KARAÇAY, Gürcan LOKMAN, Ahmet Fevzi BABA

15:00 – 15:30 Coffee Break

15:30 Closing Ceremony



DAY 2 – November 22, 2025

13:45– 15:15/ Parallel Online Sessions (Round 4)

Online Session 1– Unmanned Aerial Vehicles and Air Operations

Moderator: Ayberk SÖZEN

Annotating Formulaic Expressions in Aviation English Corpora: A Cognitively-Oriented Computational Linguistics Approach

Özde Yılmaz ŞENOL

Operational Safety Analysis of Drone Taxi Operations: A Case Study from Turkey

Tamer SAVAŞ

Integration of Unmanned Aerial Vehicles (Drones) in Commercial Airspace

Haya SHEREEF

Thermal Stress Analysis of Wing Structures Under Aerodynamic Heating

Mustafa Tolga YAVUZ, Sercan ACARER, Ahmet YILDIRIM, Çağlar UYULAN

Online Session 2– Structural, Composite and Thermal Analyses

Moderator: Nur Tuğçe GÖZÜKÜÇÜK

Buckling Performance of Composite Beams

Aysun SOSYAL

Vibration and Resonance Analysis of Coupled Euler–Bernoulli Composite Beams

Aysun SOSYAL

Calculating the Heating Load of an Aircraft in Accordance with Thermal Comfort

Nur Tuğçe GÖZÜKÜÇÜK

Current Status, Technological Trends and Future Prospects Of Unmanned Aerial Vehicles (Uavs)

Ebru BİLİCİ, Orhan Erdal AKAY

Hybrid Electric Aircraft: Cutting Edge Technology and Key Electrical System Challenges

Ebru BİLİCİ, Orhan Erdal AKAY

Online Session 3 – Advanced Aerodynamics and Avionic Systems

Moderator: Fırat MAVİ

Design and Modulation of a Reduced-Switch 5-Level Inverter for Compact and Efficient DC-AC Conversion in Aerospace Applications

Erol CAN, Cemal İŞILAK, Selahattin YAVUZ

Evaluating the Impact of Fractional Sine PWM on Harmonic Performance and Signal Integrity in Aircraft AC Power Systems

Cemal İŞILAK, Erol CAN, Selahattin YAVUZ

Parametric Study on Performance Parameters of Micro Turbojet Engines at Different Conditions

Muhammed Cemal Güç, Hakan AYGÜN

Flight Dynamics Modeling and Optimal Control of a 155 mm Artillery Projectile with Canards

Hüseyin GÜNEY, Mustafa Tolga YAVUZ, İbrahim ÖZKOL

Design of a Dual-Band L1/L5 Patch Antenna for Aviation and GNSS Applications

Cem GÜLER, Seçil ULUFER KANSOY

Online Session 4 - Energy Systems, Sustainability and Digital Transformation in Aviation

Moderator: Begüm Buse SERTGÖZ

Wastewater Recycling in the Context of Airport Sustainability Initiatives

Tuğçe ÇOPUR, Ümmühan Beste YILDIRIM

A Comparative Analysis of Green Transformation Strategies in Leading Flag Carrier Airlines

Begüm Buse SERTGÖZ, Harun YILMAZ

Artificial Intelligence Applications in Aircraft Maintenance: Transforming MRO Operations

Muhammed Emin ÖZMEN

Performance Evaluation of a Dual-Pulse Rocket Motor in Beyond-Visual-Range Air-to-Air Missile Engagements

Hüdaî ERPULAT, Ahmet Salih YiğİT

