



## **FLIGHT 2025**

# **MADRAS INSTITUTE OF TECHNOLOGY DEPARTMENT OF AEROSPACE ENGINEERING ASSOCIATION OF AERONAUTICAL ENGINEERS**

### **PAPER PRESENTATION**

**APRIL 5**

**12.00 PM - 04:00 PM**

### **DESCRIPTION:**

Explore the boundless opportunities of knowledge exchange and professional growth at our paper presentation event. Share your groundbreaking research, gain insights into the latest industry trends, and expand your network of like-minded professionals. Our event provides a platform for researchers, students, and industry experts to present their findings, exchange ideas, and collaborate on future endeavours. Enhance your public speaking skills, deepen your understanding of your field, and forge connections that could shape your career trajectory. Join us in this dynamic environment where innovation meets collaboration, and together, let's propel the aviation industry towards a brighter, more sustainable future.

## **EVENT RULES AND FORMAT:**

- ❖ Maximum of two per team.
- ❖ The students must bring their ID card without fail.
- ❖ Each team will be given 15 minutes to present your idea. The time split-up will be as follows- 10 minutes for presenting their paper and 5 minutes for answering the questions from judges.
- ❖ The abstract should be submitted on or before April 4, 2025 via [presentation.flight@gmail.com](mailto:presentation.flight@gmail.com) (cc: msmariselvan27@gmail.com)
- ❖ The screening of the papers submitted will take part from 9.00AM to 12.00PM whereas the presentation will be conducted in the afternoon.
- ❖ In addition to this, two sets of the hardcopy of the presentation should be submitted on the day of the event.
- ❖ The presentation should be brought in a pen drive.
- ❖ Judging will be based on topic selection, understandability, and readability.
- ❖ Judges' decision is final.

**PRIZES WORTH:** Rs. 5k worth [increased based on number of registrations]

**ENTRY FEE:** Rs.250/- per team.

## **TOPICS:**

### **STRUCTURES AND COMPOSITES**

- Advanced Materials and Manufacturing
- Non-Destructive Testing
- Structural Analysis and Design
- Development of Heat-Resistant Composites for Spacecraft Reentry
- Lightweight Materials for Supersonic and Hypersonic Aircraft

### **AERO & FLUID DYNAMICS**

- Computational Fluid Dynamics
- Flight Dynamics
- Fluid Dynamics and Aerodynamics
- Shock-Wave Boundary Layer Interaction in High-Speed Flight
- Optimization of Airfoil Design for Maximum Lift-to-Drag Ratio

### **PROPULSION**

- Propulsion and Combustion
- Next-Generation Scramjet Engines for Hypersonic Travel
- Performance Analysis of Hybrid Rocket Propulsion Systems
- Ion Propulsion: The Future of Deep Space Travel
- Advancements in Thrust Vector Control for Fighter Jets
- Plasma Propulsion for Long-Distance Space Missions

### **AVIONICS & DRONES**

- AI and ML Applications in Aerospace
- Avionics and Unmanned Aerial Vehicles
- Artificial Intelligence in Spacecraft Navigation and Control
- Role of Machine Learning in Aircraft Flight Control Systems

### **SPECIAL TOPICS**

- High Speed jets and Aeroacoustics
- Space Exploration and Satellite Technology
- Nanotechnology Applications in Aerospace Materials
- Reusable Launch Vehicles: Challenges and Future Prospects
- Space Debris Management: Techniques for Sustainable Space Exploration
- CubeSats: Revolutionizing Small Satellite Missions
- Aerodynamic Performance of Bio-Inspired Flapping Wing Drones

### **COMMON TOPICS**

- VTOL (Vertical Take-Off and Landing) Aircraft: Current Trends
- Green Aviation: Sustainable Fuels and Electric Aircraft
- Air Traffic Management in the Era of Supersonic and Urban Air Mobility
- 3D printing and Structural Analysis

***PARTICIPATION CERTIFICATES WILL BE PROVIDED TO ALL PARTICIPANTS***

***NOTE : IF THE REGISTRATION ARE LESS THAN 10 TEAMS ONLY HALF OF THE PRICE MONEY WILL BE REWARDED.***

**REGISTRATION FEES: INR 250/- per team.**

**For any queries, contact:**

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