



# ANNA UNIVERSITY

## MADRAS INSTITUTE OF TECHNOLOGY CAMPUS

### DEPARTMENT OF AEROSPACE ENGINEERING

#### AERODYNAMICS LAB



### Facilities



Model Mounting in Subsonic Wind Tunnel (Model orientation changing mechanism)



Supersonic Tunnel-Mach No: 2 (Test section size 15cm x 15cm x 30 cm)



Subsonic Wind Tunnel Test Section (6' x 4' x 3', Max. wind speed 40 m/s)

### Description

The Department of Aerospace – Aerodynamics Lab has the expertise and infrastructure for subsonic flows across automotive, aircraft and missiles. Lab consists of Subsonic wind tunnels of 20 m/s and 30 m/s, Supersonic Wind tunnel of Mach 2. Three Component balance is used for lift, drag and pitching moment, Six Component Balance is used to find Lift, Drag, Side forces and three moments roll, yaw and pitch.

### Highlights

Total grant of funded projects: Rs. \_approx. 174.53\_\_ lakh/-

No of patents filed/granted/published: 03

No of Publications: Approx. 38

No of PhD/MS Scholars completed/On roll:

No. of PhD Scholars Enrolled: 14

No. of PhD Scholars Completed: 9

No. of PhD Scholars Ongoing: 5

No of International Conferences: 07

No of ME projects (last 5 years): Approx. 20

### Equipments



Strain Gauge Calibration Rig



3 and 6 Component Balance



An Airplane Model Mounted in Test Section with Internal Strain Gauge Balance



C-Component Balance

### Research & Development works

Passive Method of Base Drag Reduction for Range Enhancement of Gun Launched Shell Configuration (2017-19) – ERIP, DRDO, New Delhi.

Evaluation of Stall Characteristics of Wing & Control Surface and Overall Characteristics of a Typical Missile Configuration (2016-17) - DRDL, Hyderabad.

Setting up of Combustion Driven Shock Tunnel.

Development of Mathematical Model for Prediction of Energy losses in Canister during Missile Launching.

Lab in charge: Dr. C. Senthil Kumar, Professor; Dr. V. Suresh, Assistant Professor