



Research Centre

The Department of Aerospace Engineering houses a state-of-the-art Aerodynamics, Propulsion, Structures Research Laboratory designed to support advanced teaching, research, and innovation in the fields of aerodynamics, CFD, structures, aeroelasticity, propulsion, etc. The laboratory serves as a vital resource for undergraduate and research scholars, enabling both experimental investigations and numerical simulations. The various facilities in the Department that enable research are

- 1. Open circuit Subsonic Wind Tunnel**
 - a. 0.6m X 0.6m X 2m test section
 - b. Wind Velocity up to 80m/s
 - c. 16 Channel Pressure Scanner
 - d. 3-component Hot Wire Anemometer
 - e. 6 Component Force Balance
- 2. Supersonic Blow Down Wind Tunnel**
 - a. Mach 1.5 to 4
 - b. 16 Channel Pressure Scanner
 - c. Schlieren Imaging
- 3. 250kN Low Fatigue Median Testing Machine**
- 4. Strandburner/ Crawford Bomb**
 - a. 250 bars pressure thrust chamber
 - b. DAQ for measuring the regression rate
- 5. Subsonic/Supersonic Free Jet Facility**
- 6. Smart Structures Lab**
 - a. High-sensitivity ceramic shear ICP Accelerometer
 - b. DS1104 R&D Controller Board + dSPACE 1104 Control Desk
 - c. High-end computational facility to accommodate GVT + DSP + SIMULATION
 - d. Modally tuned Impulse Hammer with force sensor and tips
- 7. ANSYS**
- 8. MSC NASTRAN/PATRAN**
- 9. MATLAB with Aerospace Tool Box, etc**
- 10. PYTHON**
- 11. ALTAIR HYPERWORKS**