

# **AEROSPACE ENGINEERING GRADUATE STUDENTS SYMPOSIUM - 2016**

## **Venue & Date:**

Outreach Auditorium  
8<sup>th</sup> - 9<sup>th</sup> April 2016

## **Program Synopsis:**

Registration – 15:30-16:00 (8<sup>th</sup> April 2016, Friday)

Number of technical sessions – 6

Number of presentations - 42

## **Organizing Committee:**

Dr. Mangal Kothari (Convener)

Dr. Sathesh Mariappan

Dr. Ashoke De

Dr. A.C. Mandal

Dr. Debopam Das

## Technical Sessions (8<sup>th</sup> April 2016, Friday)

### Session-I: Chair--Prof. C. S. Upadhyay

16:00-16:15	Nidhi Sharma (A)	Time Accurate Computing of Three Dimensional High Speed Flows
16:15-16:30	Abhijit Kumar Kushwaha (P)	Experimental and Numerical Investigation of Reverse Flow Flameless Combustion in Gas Turbine Combustors.
16:30-16:45	CH. Sridhar(S)	Generalized Hierarchical FEM Formulation for Thin Stiffened Structures
16:45 -17:00	M. V. Ramana (F)	A Cooperative Pursuit Strategy for a High Speed Evader
17:00-17:15	Manish Chaudhary (A)	Flow Visualization in Soap Films
17:15-17:30	Alok Mishra(P)	Assessment of Different Turbulence Models for Predicting Laminar Separation Bubble over Thick Airfoils
17:30-17:45	S. S. Singh (S)	Effect of Surface Morphology on Dynamic Interface Strength using Laser Induced Stress Wave
17:45-18:00	Pushpender Kumar(A)	Study of Transition in a 3D Square Duct

## Session-II: Chair--Prof. Abhijit Kushari

18:15 -18:30	C. Charly(S)	Effect of Volume Fraction on Microballoon Filled Composite Under Compressive Loading
18:30-18:45	Shubham, Keerthi M C (P)	Numerical Study of Effect of Blade Motion on Turbomachinery Blades
18:45 -19:00	Mohamed Aniffa, Yasar Arafath(A)	Effect of Surface Roughness on a Pressure Induced Separation Bubble
19:00-19:15	Balasundaram Mohan (P)	Influence of Non-Perfect Impedance Boundaries on the Bistable Region in a Rijke Tube
19:15-19:30	Srihari Dinesh Kumar J(P)	Passive Control of Combustion Noise in Gas Turbine Combustor
19:30-19:45	Pradeep Kumar S	A Sharp Interface Immersed boundary method for simulating flow past a 3D complex Geometries
19:45-20:00	Akhil M.V (A)	Subsonic Choked Flow in the Microchannel

## Welcome Address : 9<sup>th</sup> April 2016, Saturday

09:00-09:05	Welcome address by Convenor
09:05-09:15	Address from the Head, Aerospace Engineering
09:15-09:25	Address from the Director
09:25-09:30	Vote of Thanks

## Technical Sessions

### Session-III: Chair--Prof. Sanjay Mittal

09:30-09:45	Tea	
09:45-10:00	Rahul Deshpande Aditya Desai Vivek Kanti (A)	Flow Past a Sphere with Trip: Understanding Cricket Ball Aerodynamics
10:00-10:15	S.Gangwar (S)	Effect of Chemical Treatment of Glass Fiber on Interfacial Shear Strength of Single Fiber Composite
10:15-10:30	Abhishek Singh (P)	Scaling of Colorless Combustors
10:30-10:45	Jawahar S. (A)	Design of Low Re Airfoils for Desired Pitching Moment
10:45-11:00	Yajur Kumar (F)	Optimal Low-Thrust Relative Motion in the Orbit
11:00-11:15	Keerthi M C (P)	Experimental Study of Aerodynamic Damping in an Oscillating Annular Compressor Cascade
11:15-11:30	Abhinav Sharma (S)	Solving Three Dimensional Elasticity Problem via Finite Element Method
11:30-11:45	Tea	

#### **Session-IV: Chair--Prof. Venkatesan**

11:45-12:00	Jyoti Sangwan (A)	Effect of Compressibility on Dynamic Stall
12:00-12:15	Geetanjali (P)	Experiments on Sheet Breakup from Doublet of Non-Newtonian Jets
12:15-12:30	Gaurav Chopra (A)	Numerical Simulations of Flow Past a Circular Cylinder
12:30-12:45	Swati Swarnakar (F)	A Simplified Adaptive Backstepping Control of Aircraft Lateral/Directional Dynamics
12:45-13:00	K.Chawla (S)	Investigation of Fibre Bridging on the Interlaminar Fracture Toughness
13:00 -13:15	Yonas Gebre (P)	Analytical Investigation of Variable Pitch Vertical Axis Wind Turbine
13:15-13:30	Indra Kanshana Eswar Sunder (A)	Characteristics of a Flat Plate Wake for Different Trailing Edge Conditions
13:30 -14:30	Lunch	

## Session-V: Chair--Prof. Sanjay Kumar

14:30 -14:45	Vigneshwaran. R (S)	Numerical Assessment of GLD Porous Plasticity Model
14:45-15:00	Malaikannan G (A)	An alternate Algorithm for Regular DSMC Method for Hypersonic Non-Equilibrium Flows
15:00 -15:15	Namrata (S)	Flight Dynamics and Nonlinear Control Design for Variable-Pitch Quadrotors
15:15-15:30	Rahul Kumar Soni (P)	Numerical Simulation of Strut-Ramp Injector in a Scramjet Combustor
15:30-15:45	Akanksha Verma (A)	Lattice Boltzmann Simulation of Some Classical Incompressible Flows
15:45-16:00	Zulqarnain Akbar(A)	Transition due to Monochromatic and Polychromatic Time Excitation
16:00 -16:15	Tea	

## Session-VI: Chair--Prof. Debopam Das

16:15 -16:30	Mohd Furquan Tulsi Ram Sahu (A)	Fluid-Structure Interactions Using a Partitioned Approach
16:30-16:45	Ravindra Agarwal T Chandra Sekar (A)	Design and Development of Experimental Model to Study Aerodynamic Flutter
16:45 -17:00	Swetha Prakash (P)	Effect of Chemical Kinetics in NO Prediction in Piloted Turbulent Diffusion Flames Using Multiple Unsteady Diffusion Flamelet Modelling
17:00-17:15	Jay Patrikar (F)	A Fixed Wing System for Autonomous Flight and Camera Gimbal Control
17:15-17:30	Atchyut Gullapalli Aakash Kardam (A)	Enstrophy based POD Analysis for Flow Past an Airfoil
17:30-17:45	Ramraj H Sundararaj Srihari Dinesh Kumar Anoop Kumar Raut Chandrasekar T Vivek Pandey (P)	Effect of Biofuel Blends on Gas Turbine Emissions
17:45-18:00	Joydeep Bhowmik Digpriya Chowdhary(A)	Experimental Investigation of an Ornithopter with Fixed Bend and Sweep Wing

**A – Aerodynamics**

**F – Flight Mechanics and Control**

**P - Propulsion**

**S - Structures, Structural Dynamics & Aeroelasticity**