Venkata Murali Krishna M | **113010019**
Aerospace Engineering | **M.Tech.**
Indian Institute of Technology, Bombay | **Male**
Specialization: AEROSPACE STRUCTURES | **DOB: 28-12-1989**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2012	7.68
Undergraduate Specialization: Aeronautical Engineering				
Graduation	JNTU Hyderabad	Institute of Aeronautical Engineering	2011	71.81
Intermediate/+2	Board of Intermediate Education, A.P	Sri Chaitanya Jr college	2007	88.90
Matriculation	Board of Secondary Education	Swarna Barathi High School	2005	88.17

KEY PROJECTS

POST GRADUATION

M. Tech Project Title: "*Structural Analysis and Material Characterisation of Inflated Structures*"

Guide: Prof. R. K. Pant

Co- guide: Prof. P. J. Guruprasad

- Lighter-Than-Air (LTA) systems like airships and aerostats constitute a major area for use of inflated structures. In this research work an attempt is made to develop a theoretical methodology for the structural analysis of such inflated structures. The methodology will be based on membrane theory that will be implemented in ABAQUS for the structural analysis. Constitutive law used in the model will be based on the material properties that will be determined from the experiments. It is envisaged that the model developed will provide the benchmark standard for the design of LTA structures.

UNDER GRADUATION

MAJOR PROJECT (at DRDL) (Feb'11-Apr'11)

Guide: Dr. G. Raja Singh (Scientist "F")

Title: *"Preliminary Design of Liquid Propellant Rocket Thrust Chamber of a Surface – To – Surface Missile and Simulation of its Flight Performance"*

- A preliminary design of liquid propellant rocket engine thrust chamber of Surface-to-Surface missile is made for specific thrust requirements.
- Simulation of its flight performance and trajectory is done using **SIMULINK** tool in **MATLAB**.

INDUSTRIAL VISITS

Industrial Minor Project Air India, Begumpet, Hyderabad. (June'10-July'10)

- Visited Air India hanger and workshop and observed various servicing checks done to aeroplanes.
- Did a case-study project: " *Hydraulic Systems and Landing Gears of AIRBUS A320*

SEMINAR

SEMINAR TITLE: *"Development of Aerodynamic Model and Dynamics of High Altitude Airships"*

- Identified the advantages of High Altitude Airships (HAA) over heavier than aircrafts in terms of exceptionally high endurance and use of renewable natural resources like solar power.

- Studied the design aspects and basic tradeoffs involved in the development of aerodynamic model of HAA.
- Various kinematic and dynamic models of HAA are studied.

COURSE PROJECTS (M.TECH)

FINITE ELEMENT METHODS Prof. S K Maiti

- "Finite *Element Analysis of Thin Cylindrical Shell subjected to Transverse loading with one end fixed*"

AEROELASTICITY Prof. P M Mujumdar

- "*Aeroelastic analysis of wing*".
- Determined the divergence speed, aeroelastic loads distribution over the wing at level flight, pull-up and pull-down manoeuvres.

AIRCRAFT FLIGHT DYNAMICS Prof. K Sudhakar

- Analyzed the effect of a step roll, pitch and yaw angle input independently on the steady state cruise flight

SMART MATERIALS Prof. Mira Mitra

- "*Validating a dynamic modelling of an innovative piezoelectric actuator for minimally invasive surgery (MIS)"*

COMPUTER PROFICIENCIES

- Analysis & Designing Softwares: ANSYS 11, AUTOCAD,ABAQUS
- Computer Languages: MATLAB, C
- Miscellaneous: MS OFFICE, MATHEMATICA

ACADEMIC ACHIEVEMENTS

- All India Rank 54 in GATE (AE) 2011.
- Achieved GATE (AE) top rank from 2011 batch in the college.

Extra Curricular Activities

- Participated the workshop " **Composite Materials and Aerospace Applications** " held at Institute of Aeronautical Engineering
- Attended JUDO classes held at IIT Bombay by **Bombay Judo Club**
- Participated in the attempt made by IIT Bombay Rubik's Cube club to break ***Guinness world Record*** for most people solving Rubik's cubes simultaneously and solved the cube in 3 minutes.

Teaching Assistantship Experience

Aerospace Structures Laboratory, IIT Bombay (July'12 – present)

- Illustrated structural testing experiments such as '3-point bending test', 'Tensile &compression tests', and 'Column buckling experiments' to 3rd year undergraduate students.
- Conducted viva as a part of their course assessment.