Insect and Bird Aerodynamics – Theory and Methods

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Overview

Everyone observes natural flyers like insect & bird, but their aerodynamics is very interesting. They outperform man-made aircraft in terms of efficiency and maneuvering by using flapping wings which are often quite flexible. They can sustain extreme climatic conditions like ice, snow, and storm. Micro-Aerial Vehicle (MAV) and Nano-Aerial Vehicle (NAV) are designed mimicking insect aerodynamics. Owing to their applications both in defence and in civilian applications, research on MAVs and NAVs have gained importance in the recent past. In this course, the fundamental mechanisms adopted by different insects and birds will be discussed. Some examples will be given from ongoing research.

Modules	**A: Insect and Bird Aerodynamics : Dec.24 – Dec. 30, 2015** **Number of participants for the course will be limited to 200 including students from IITM.**
You Should Attend If…	▪ you are an Mechanical, Aerospace engineer or research scientist involved in MAV,UAV studies ▪ you are a student or faculty from academic institution interested in getting involved in MAV/UAV/Insect Aerodynamic research.
Fees	The participation fees for taking the course is as follows: **Student: INR 1000** **Faculty of institution: INR 3000** **Govt. Research organization: INR 5000** **Private Industry : INR 10000** The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation on payment basis.

The Faculty

Prof. Danesh Tafti is a Professor in the Department of Mechanical Engineering, Virginia Tech., USA. His research interest includes Modelling of Turbulent Flows, CFD, Insect and Bird Aerodynamics, Multiphase Flows.

Prof. S.Vengadesan is a Professor in the Department of Applied Mechanics, IIT Madras. His research interest includes application of turbulence models and CFD for different engineering problems, Insect Aerodynamics, BioFluid Mechanics.

Course Co-ordinator

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