

CURRENT RESEARCH ACTIVITIES



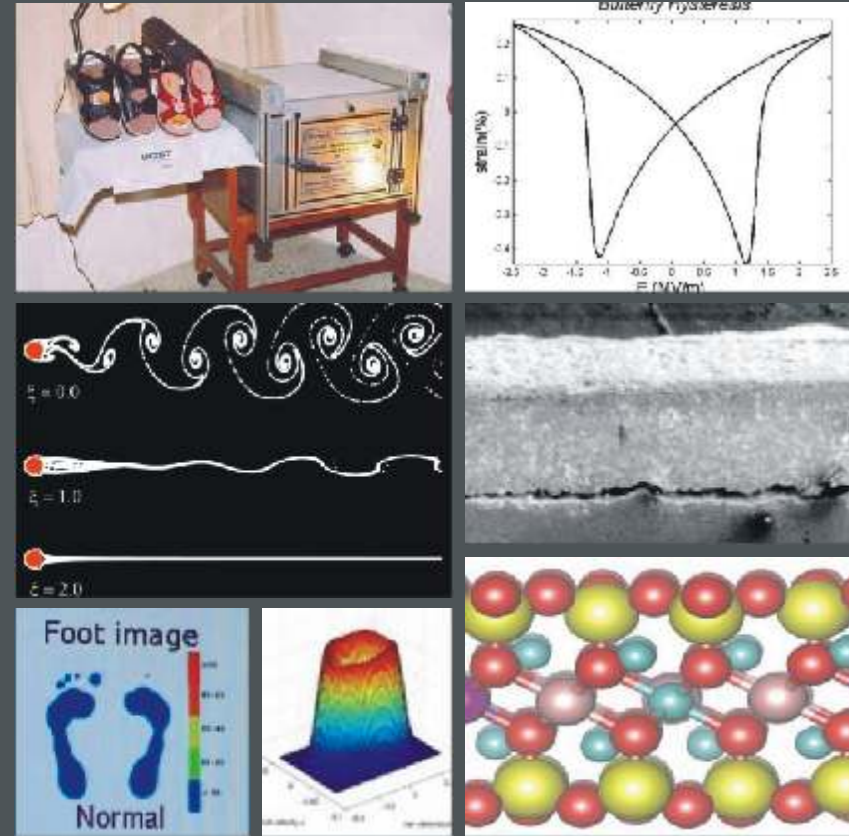
Biomedical Image processing and signal processing, medical robotics, ultrasound imaging and surgery, biomedical instrumentation, biosensors, bio-nano-sensors, non invasive optical imaging, optical spectroscopy for biomedical applications etc.



Fluid structure interaction, formation flight, unsteady aerodynamics, boundary layer stability, post-stall aerodynamics, spray combustion, CFD, large eddy simulation, turbulence modeling, thermal hydraulics, modeling of bio-fluids, Interfacial flows and convection, geothermal modeling, heterogeneous porous medium etc.



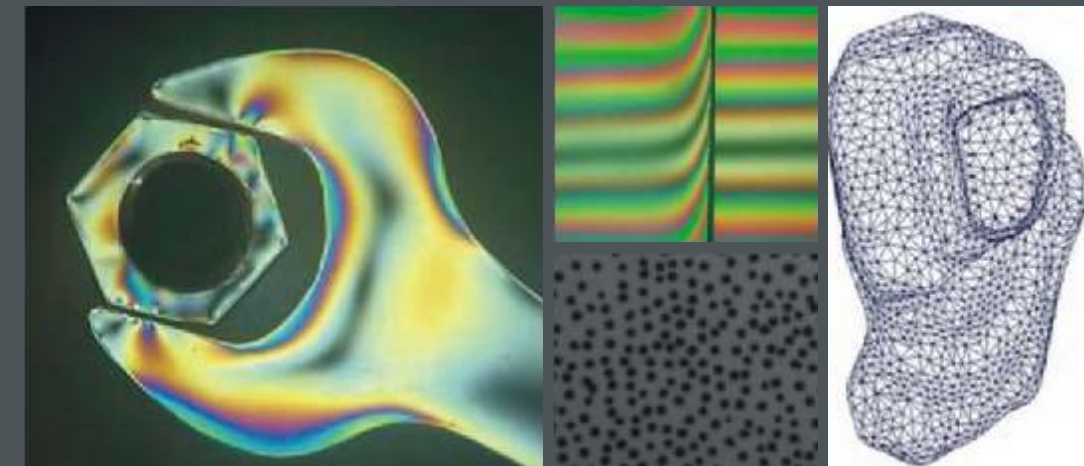
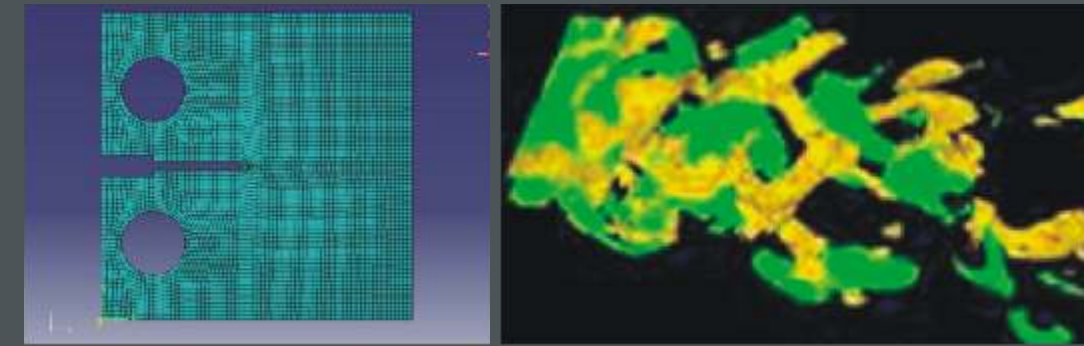
Buckling control, stochastic mechanics, non-linear dynamics, electro-active polymers, fracture mechanics, nano-mechanics, digital photo-elasticity, vibration analysis, nano-composites, smart materials, energy harvesting etc.



IIT Madras, Chennai



DEPARTMENT OF Applied Mechanics



MISSION

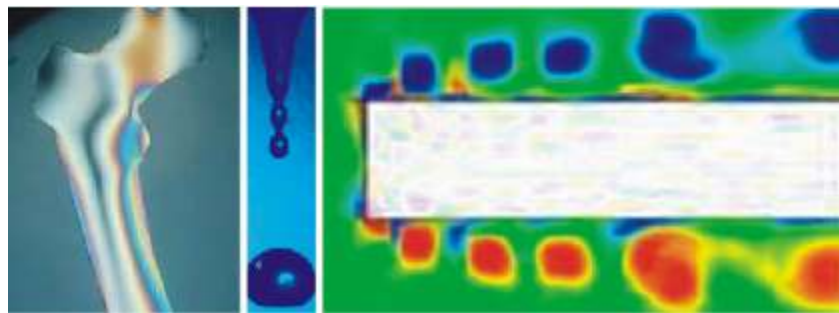
To edify individuals in a sound interdisciplinary backdrop, empower in them a strong sense of research values and metamorphose into some of country's finest mechanicians.



Department of Applied Mechanics
Indian Institute of Technology Madras
Chennai 600036, Tamil Nadu, India.

Tel: +91-44-2257 4050
Fax: +91-44-2257 4052
E-mail: apoffice@iitm.ac.in

<http://apoffice.iitm.ac.in>



From Atoms to Applications:
A True Interdisciplinary Platform



ABOUT US

Underpinned in the year 1959, the DEPARTMENT OF APPLIED MECHANICS has an esteemed distinction of being one of the earliest departments to be set up in the institute. A blend of postgraduate level programs of M.Tech, M.S (by Research) and PhD are offered with a forethought to develop skills that would help an engineering student to acquire and apply new scientific knowledge from diverse engineering fields with specializations in the areas of Bio-Medical Engineering, Fluid Mechanics and Solid Mechanics. The department also offers a unique interdisciplinary Dual Degree Program along with the departments of Aerospace Engineering, Civil Engineering, Electrical Engineering and Ocean Engineering.

THE PROGRAM AND THE CURRICULUM

The department has grown into a fully fledged graduate research over the years with excellent experimental and computational facilities. Advanced courses like Atomization and Spray, Flow induced Vibrations, Molecular Dynamics, Stochastic Processes, Biomedical Imaging, Biomedical Instrumentation, Quantitative Physiology, Engineering Fracture Mechanics, Biomechanics, Analysis and Design of Smart Material Structures are unique to the department. Courses like Advanced Structural Mechanics, Advanced Fluid Mechanics, Discrete Element Methods, Computational Fluid Dynamics etc are also offered.



SPONSORED & INDUSTRIAL COLLABORATIONS

Sponsored research projects are carried out in collaborations with industries and research organizations such as, Department of Science and Technology (DST), General Electric (GE), Indian Space Research Organization (ISRO), General Motors (GM), Council of Scientific and Industrial Research (CSIR), Department of Biotechnology (DBT), Indira Gandhi Centre for Atomic Research (IGCAR), Department of Atomic Energy (DAE), Naval Research Board (NRB), Defense Research Development Organization (DRDO), Defense Metallurgical Research Lab (DMRL), Aeronautical Research Development Board (ARDB).

