Workshop on

Topology Optimization

26 OCTOBER 2024

Jointly Organized by

Department of Aerospace and Automotive Engineering
M. S. Ramaiah University of Applied Sciences

&

Department of Mechanical Engineering
Indian Institute of Science

About the Workshop

Topology optimization is a computational method that optimally distributes material within a given design space, ensuring maximum performance while minimizing weight and material usage. This process is pivotal in various fields, including aerospace, automotive, civil and mechanical engineering where efficiency and innovation are paramount. Workshop on Topology Optimization is being organized to enable the participants gain a solid understanding of the theoretical foundations of topology optimization and explore its practical engineering applications.

In addition to comprehensive lectures and discussions, the workshop features hands-on sessions designed to enhance the understanding of the concepts. Participants will have the opportunity to work with specialized software tools and apply topology optimization techniques to their design problems. This interactive segment will allow participants to experience firsthand how to implement and interpret optimization results, making the theoretical knowledge gained during the workshop applicable to practical engineering problems. This workshop will benefit senior UG & PG students, research scholars, and practitioners in engineering design and optimization.

SCHEDULE

REGISTRATION	09:00 AM to 09:30 AM

Introduction to Topology Optimization   09:30 AM to 10:30 AM
Prof. G. K. Ananthasuresh
Indian Institute of Science, Bengaluru

TEA/COFFEE BREAK

Hands-on Session : 1   10:45 AM to 12:15 PM
Optimality Criteria Method for Trusses, Frames, and Continua
MATLAB Codes

Shape Optimization in Aerodynamics   12:15 PM to 01:00 PM
Prof. M. Sivapragasam
M. S. Ramaiah University of Applied Sciences, Bengaluru

LUNCH BREAK

Design Parameterization, Filters and Design-Dependent Loads in   02:00 PM to 03:00 PM
Topology Optimization
Dr. Prabhat Kumar
Indian Institute of Technology, Hyderabad

TEA/COFFEE BREAK

Hands-on Session : 2   03:15 PM to 04:45 PM
HoneyTop90 and **TOPress** MATLAB Codes

Industry Talk   04:45 PM to 05:30 PM
MathWorks

CONCLUDING REMARKS

D-502, Ramaiah Technology Campus,
M. S. Ramaiah University of Applied Sciences,
Peenya Industrial Area, Peenya 4th Phase,
Bengaluru - 560058

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Registration will be limited to 60 participants on a first-come-first-served basis

Registration Link :
https://forms.gle/pT4juWXaNibNiHTv8
Registration fee : Rs 500 /-