

## INTRODUCTION

Manufacturing Industries are facing many challenges on product optimization during its design from their customers demand on reliability, performance, faster time to market and lowering cost yielding to erosion in profit margins. Enhancing product value in terms of functionality has never been more critical. Finite Element Method has become the mainstay of engineering design and development to accelerate new product development.

Keeping this in view, **IMTMA** is organizing a line training program on "**Product Optimization through Finite Element Method**" for working professionals aspiring to work as FEM experts in the manufacturing industry. This program is intended to build competitive skills in FEM with more practical workshops on CAE tools and make them FEM experts.

## FOCUS AREAS

- Introduction to FEA
- Basic solid modeling
- Advanced solid modeling
- Finite element method (FEM) – I
- Finite element method (FEM) – II
- Static structural analysis
- Advanced structural analysis (dynamic and nonlinear)
- Advanced structural analysis
- Thermal analysis
- Generating the report of analysis

## KEY TAKE AWAYS

- Intensive knowledge in -
  - Basics of FEA/FEM
  - Hands-on knowledge of popular CAE tools
  - Full knowledge in Analysis and Optimization
- Capability to handle part analysis independently
- Complete readiness on FEA
- Confidence to take up FEA projects within the organization

## PARTICIPATION FEE

**Rs. 13750/-**  
+18% GST  
**IMTMA Members/ Micro Companies/ Individuals/  
Educational Institutions / Students/ IMTMA Non  
Members/ Others**

**USD 550/-**  
**Overseas Participants**

**Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company**

## PARTICIPANT PROFILE

Fresh Mechanical engineers, Fresh recruits from industry, Working design engineers, M Tech Graduates.

## FACULTY

This programme will be conducted by **Mr. Mangesh Ketkar ( Master of Engineering - Machine Design )**

**Mr. Mangesh Ketkar** is a Post Graduate Mechanical Engineer, having Strong academic and professional background in Machine Design, analysis and Project Management. Fluency in CAD/CAM and CAE. Very well versed in different manufacturing processes including machining, sheet metal fabrication, welding fabrication, castings and heat treatment, structural design, electro mechanical, hydraulic and pneumatic systems.

More than 38 years rich experience in design of CNC machine tools, Special Purpose Machines, High Speed Packaging Machines and Industrial Automation. Worked in different capacities with reputed organizations – Forbes, Bajaj Auto, Greaves, Premier – Machine Tools, TAL Limited, ACG-Worldwide. Have designed more than 100 CNC SPMs , launched @ 15 new products in market and a Recipient of FIE foundation award during IMTEX 2011 for the development of 5 axis CNC machine and 3 axis gear shaving machines.

Worked as a faculty for 5 years with Govt. Engineering College, Aurangabad for their part time M.E. course. I taught the subjects - Advanced Machine Stress Analysis, FEA, Tribology, Dynamics of Machinery and Product Design.

### For Registration Contact

**Santosh Singh**  
**Programme Coordinator**  
9021442692  
[santosh@imtma.in](mailto:santosh@imtma.in)  
**Back End Operations**  
9742626488  
[enquiry@imtmablr.com](mailto:enquiry@imtmablr.com)

### Contact Address

**INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION**  
12/5, D-1 Block, MIDC, Chinchwad,  
Pune-411019  
Board Line : +91 7066030531 / 532

