



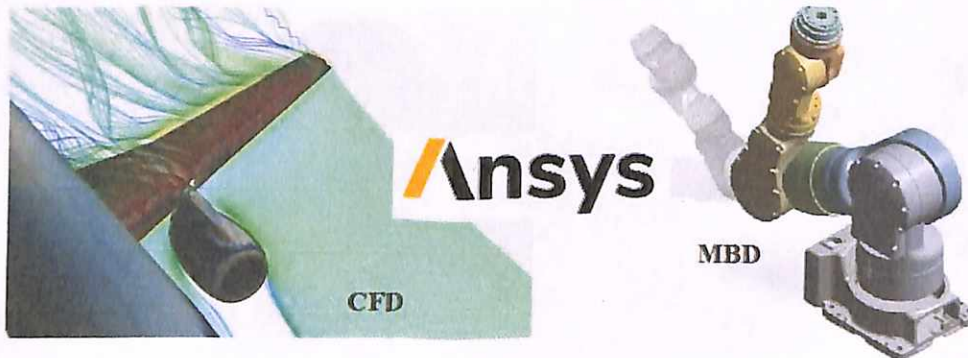
Techno -Social Excellence”
MARATHWADA MITRA MANDAL'S
INSTITUTE OF TECHNOLOGY (MMIT)
S.No.35, Plot No. 5/6, Lohgaon, Pune-411 047

A REPORT ON

FIVE DAYS WORKSHOP ON

**“ANALYSIS OF MECHANICAL SYSTEMS USING
ANSYS FLUENT (CFD) & MULTIBODY DYNAMICS”**

13th March - 17th March 2023



Organized By



Department of Mechanical Engineering

Marathwada Mitra Mandal's Institute of Technology, Lohgaon, Pune

Approved by AICTE New Delhi, Recognized by DTE Maharashtra & Affiliated to Savitribai Phule Pune

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Convenor

Prof. Sudhir S. More

Head of Department, Mechanical Engineering, MMIT, Lohgaon, Pune

Coordinator

Prof. Amol S. Bhanage

Dean, Research and Development, MMIT, Lohgaon, Pune



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Learning Objective:

- Learning the basics of CFD, ANSYS Fluent and MBD software, create 3D models of mechanical systems and mesh geometries for CFD simulations.
- Understanding the different types of fluid flow problems that can be simulated with ANSYS Fluent.
- Applying appropriate constraints and forces to simulate the mechanical behavior of the system.
- Analyzing and interpreting simulation results using post-processing tools in ANSYS Fluent and to identify areas of improvement and optimize the design of the system.

Course Content:

- ANSYS Multi Body Dynamics, including how to create and simulate multi-body systems. Various types of constraints and forces that can be applied in ANSYS Multi Body Dynamics.
- Analysis of Parallel Robot Manipulators & Analysis of Grippers Mechanisms
- Case Study on MBD
- ANSYS Fluent: basics of ANSYS Fluent, including how to set up and run simulations, how to postprocess the results. Various physics models and turbulence models.
- Numerical simulation and analysis of boundary layer over a flat plate (Blausius Equation)
- Numerical simulation and analysis of boundary layer for a Developing flow through Pipe
- CFD Analysis of external flow CFD analysis of heat transfer in pin fin CFD Case Study





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The guest speaker was invited by Prof. Amol S. Bhanage. The Coordinator also given information about Marathwada Mitra Mandal's Trust and Marathwada Mitra Mandal's Institute of Technology (MMIT) Institute.

The seminar was conducted on **Zoom Platform**.

The details about Webinar:

Title of Workshop:

Analysis Of Mechanical Systems Using ANSYS FLUENT (CFD) and Multibody Dynamics

Date: 13th March - 17th March 2023

Zoom Meet Link:

<https://zoom.us/j/93792384631?pwd=aC9PYkFJMTJJYit6cm9jWGRxd3IwUT09>

Time: 9.00 A. M. – 3.00 P. M. (Five Days)

After successful completion of Seminar, the Question Answer session was organized for participants.

Vote of thanks:

Prof. Amol Bhanage gave the vote of thanks expressing the gratitude towards resource person for sparing their valuable time from their busy schedule. He expressed thanks to Management for supporting and to Principal for motivating to arrange the Seminar. He also expressed thanks to all the participants of the Seminar and all the staff from MMIT for their dedication to show all aspects of the process, making the Workshop is a valuable learning experience.



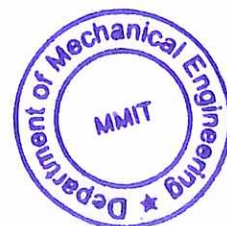


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Outcomes:

The Five-Day Workshop on “**Analysis Of Mechanical Systems Using ANSYS FLUENT (CFD) and Multibody Dynamics**” was a success, with the participants gaining insights into the simulation of multi-body systems using ANSYS. Various types of constraints and forces that can be applied in ANSYS Multi Body Dynamics with different case studies. It also focuses on basic of ANSYS Fluent with simulation of boundary layer problems on flat plate, pipe, heat transfer in pin fin and different CFD case studies. The workshop provided a platform for participants to interact with experts in the field of CFD and MBD, share their experiences, and enhance their learning skills. The event was well-organized, and the feedback from the participants was positive, indicating the effectiveness of the workshop in achieving its objectives.

Glimpses of the Session





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List of Participants:

Sr. No.	Name of Participants	Institute
1.	ATISH GANGADHAR LAD	MMIT, Pune
2.	ATKIRE KAUSTUBH RAJU	MMIT, Pune
3.	BABALU ANKUSH MEHER	MMIT, Pune
4.	BHATI SANKET GURUDATTA	MMIT, Pune
5.	CHANDOLE SWAPNIL SACHIN	MMIT, Pune
6.	CHAPALKAR ATHARV ANKUSHRAO	MMIT, Pune
7.	CHAUHAN AMAN JEEVANSINH	MMIT, Pune
8.	CHIKATE ABHISHEK SHARAD	MMIT, Pune
9.	CHINCHOLI BHAGESH	MMIT, Pune
10.	DANDADE NANA PRAMOD	MMIT, Pune
11.	DHAME GOKUL ARUN	MMIT, Pune
12.	DHANDE CHINMAY NARENDRA	MMIT, Pune
13.	DONGRE ABHIJIT DATTATRAY	MMIT, Pune
14.	DUDHGONDE GOVINDA CHANDU	MMIT, Pune
15.	ETANE ATHARV NILESH	MMIT, Pune
16.	GHUGUL KUNDAN VITTHAL	MMIT, Pune
17.	GIRI SRIPAD VIKAS	MMIT, Pune
18.	HANKARE VARSHIKET SHRINIWAS	MMIT, Pune
19.	DHANDE CHINMAY NARENDRA	MMIT, Pune
20.	DONGRE ABHIJIT DATTATRAY	MMIT, Pune
21.	DUDHGONDE GOVINDA CHANDU	MMIT, Pune
22.	KADAM SHUBHAM VAIJNATH	MMIT, Pune
23.	KALE AKSHAY BALKRUSHNA	MMIT, Pune
24.	KAMBLE BALAJI SATISH	MMIT, Pune
25.	KOLI VIKAS PUNDLIK	MMIT, Pune
26.	KORHALE HARSHAL AJINATH	MMIT, Pune
27.	LAD ABHISHEK SUDHAKAR	MMIT, Pune
28.	LOKHANDE SUYASH RAJARAM	MMIT, Pune
29.	MARE AVINASH NAMDEV	MMIT, Pune
30.	MATE SUMIT YASHWANT	MMIT, Pune
31.	MATKAR SAGAR PARMESHWAR	MMIT, Pune
32.	MUJAWAR SAMIR IMAM	MMIT, Pune
33.	LAD ABHISHEK SUDHAKAR	MMIT, Pune
34.	RUTVIK ANIL MUTKULE	MMIT, Pune





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Sr. No.	Name of Participants	Institute
35.	SAHASRABUDHE OMKAR R.	MMIT, Pune
36.	SAWANT AKANKSHA SAMPAT	MMIT, Pune
37.	SAWANT HARSHAL MILIND	MMIT, Pune
38.	RUTVIK ANIL MUTKULE	MMIT, Pune
39.	SURYAWANSHI PRITAM JANAK	MMIT, Pune
40.	THAKARE HRISHIKESH OMPRAKASH	MMIT, Pune

Prof. Amol Bhanage
Coordinator



Prof. Sudhir More
HoD, Mechanical Engg.