मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान भोपाल

Maulana Azad National Institute of Technology, Bhopal

Online 5-Day Workshop on Computational and Experimental Methods in Manufacturing (CEMM-2021)

February 22–26, 2021

Organized by

Department of Mechanical Engineering

MANIT, Bhopal 462 003

ABOUT MANIT BHOPAL

Maulana Azad National Institute of Technology (MANIT) is one of the leading institutions of national importance in the area of technical education. Established with the objective of developing a 'Centre of Excellence' in central India, it aims at becoming a multi-disciplinary center for technical education by strengthening both teaching and research activities besides contributing to the needs of rural community, society and industry at large. The Government of India and the Government of Madhya Pradesh, jointly sponsored the Institute on 4th September 1960 to attract bright young students from across the country. It was formerly known as Maulana Azad College of Technology (MACT), that was among the first eight Regional Engineering Colleges of India. It has been named after the great scholar, educationist and the first education minister of Government of India, Dr. Maulana Abul Kalam Azad.

ABOUT THE MECHANICAL DEPARTMENT

The Mechanical Engineering department was formed in 1960. The department is continuously striving to achieve excellence in education, academic and industry-oriented research as well as consultancy work aiming service to the society. The major research areas include Machine Design, Fluids & Thermal Sciences, Manufacturing, Materials Science and Industrial Engineering. Currently, department is offering B. Tech Mechanical Engineering, M. Tech in five specializations *viz*., Industrial Design, Advanced Material Technology, Stress and Vibration Analysis, Industrial Tribology and Maintenance Engineering and Thermal Engineering and Doctoral Programs. The students of all tiers have access to both expert faculty members in the department and institute supported industry engagement opportunities.

ABOUT THE COURSE

- This online workshop covers interesting topics related to the experimental and computational methods in manufacturing.
- The workshop includes several manufacturing processes like machining, metal forming, unconventional machining, joining, micromanufacturing etc.
- The contents of the workshop has been designed by focusing the research efforts required for M.Tech/MS and PhD research scholar.
- Highly qualified experts will deliver the talks which will certainly helpful to the young researchers (Early stage in PhD/MTech) in selecting new research area.
- Participants will be benefited in terms of their experiments design, analysis & interpretation of results as well as finding of new research areas.
- The course will provide deep knowledge related to mathematical modelling, empirical models, experimental techniques and optimization methods which are prominently used in the research in manufacturing areas.
- Computational and experimental methods are the utmost requirement of the research in manufacturing areas. Nowadays time has come to combine experimental efforts with theoretical in order to add more value to the research work.
- Computational and experiments has become an essential tool to understand the behavior of various factors during design and manufacturing processes which would be difficult to predict otherwise.

COURSE OBJECTIVE

- To provide a glimpse of key computational and experimental techniques commonly used.
- To understand the mathematical and experimental techniques used in manufacturing processes.
- To learn basic techniques that is necessary for the research in manufacturing.
- To learn manufacturing simulation using different software such as finite element method-based software (ABAQUS/ANSYS)
- To learn how Big Data Analytics helps to enhance the productivity and accuracy in manufacturing.
- To learn how to design experiments as well as analyze the results.

COURSE CONTENT

- Manufacturing: vision for future.
- Design of experiments in manufacturing environment.
- Hybrid joining & forming process.
- Experimental techniques in manufacturing.
- Mathematical modelling of manufacturing process.
- Deep learning in manufacturing.
- Soft computing.
- Optimization methods in manufacturing.
- Hands-on-training sessions on the application of software's such as MATLAB, ANSYS, ABAQUS for simulating the manufacturing problems.

PARTICIPATION AND REGISTRATION FEES

- Industrial/Professionals/Faculty/Research Scholars/ Students: Rs. 500/-
- No fees to be charged from MANIT UG/PG and PhD students.
- Details of Money-Transfer by net-banking:
  - **Account Name:** Director MANIT Bhopal
  - **Bank Name:** State Bank of India Bank
  - **Address:** MANIT (MACT) Bhopal
  - **Account No.** 10020150107 **IFSC Code:** SBIN0001608.
- ***In net banking money transfer please clearly mention narration in remark column as "CEMM-2021" otherwise it will be difficult to trace the money transfer and receipt may not be issued.***

REGISTRATION

- Interested participants should register by depositing of **Rs. 500/-** before **15th February, 2021**. For the registered participants, we will send the confirmation email and schedule of the workshop.
- After paying the registration fee, please fill the form along with your transaction details.

NOTE: The signed registration form must be sent through to the following email address cemm.manufacturing@gmail.com. Email confirmation in advance is suggested. Evidence of payment should be emailed in advance to confirm the participation (Participant from MANIT Bhopal are exempted, however, institute ID card must be attached herewith).

KEY DATES

Last date of Registration: **15th February 2021**

Announcement of Short-listed candidates: **19th February 2021**

Workshop Timings: **2:00 PM – 7:00 PM**

Workshop link will be shared individually via email.

Certificate will be awarded to the participants after successful completion of the course.

Patron

Dr. N S Raghuwanshi
Director, MANIT, Bhopal

Chairman

Dr. G Dixit
Professor & Head, Department of Mechanical Engineering (HoD), MANIT Bhopal

Course Coordinators

- Dr. M K Pradhan, Dr. Vinod Yadav & Dr. Sudhanshu Kumar

Assistant Professor
Department of Mechanical Engineering
Maulana Azad National Institute of Technology, Bhopal
Madhya Pradesh 462 003

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Email: cemm.manufacturing@gmail.com

REGISTRATION FORM

(*Filled form along with proof of registration fee should be sent to* cemm.manufacturing@gmail.com)

1. Name (in block letters)**:**

2. Designation:

3. Organization:

4. MANIT Bhopal BONAFIED STUDENT: _____ (Yes/No)

5. SCHOLAR NO (issued by MANIT Bhopal authority)**:** _____

6. Address for Correspondence:

City:	**State:**
Country:	**Zip Code:**
Phone:	**Mobile:**
Fax:	**E-mail:**

7. Category of Registration (Research Scholar/Faculty/Industry Professionals):

8. Registration fee: _____

(In words)**:** _____

9. DD No/Online transaction reference no. _____

Remarks (if any) _____

Signature