

About MNIT Jaipur

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated “Institute of National Importance” by MHRD. The institute was established in 1963, and its campus spreads over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate and postgraduate courses (B.Tech., MTech. /MBA/ M.Sc. & Ph.D.) to about 4500 students in leading engineering, technology, architecture, management, and sciences fields. Through the internationally renowned faculty, laboratories with state-of-the-art equipment, and excellent infrastructure, the institute is actively engaged in research, consultancy, and developmental activities, besides imparting regular teaching.

About Mechanical Engineering Department

Welcome to the Department of Mechanical Engineering at Malaviya National Institute of Technology Jaipur, where experienced faculty and highly motivated students - supported by a dedicated staff - experience of a unique engineering education. The Department offers academic programs at three levels leading to Bachelor of Technology (B.Tech.), Master of Technology (M. Tech.), and Doctor of Philosophy (Ph.D.) degrees. In addition, continuing education programs in specialized areas are regularly offered to industry professionals and academic staff from other colleges.

Patron

Prof. Narayana Prasad Padhy
Director, MNIT Jaipur

Co-Patron

Prof. G.S. Dangayach, MNIT Jaipur

Chairman

Prof. Himanshu Chaudhary, Head, Mechanical Engineering

Coordinators and Event Organizers

Dr. Rajeev Agrawal, Associate Professor,
Mechanical Engineering Department
Dr. Vikas Kumar Sangal, Associate Professor,
Chemical Engineering Department

Convener

Prof. Monica Sharma
Department of Management Studies

Co-Convener

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Resource Persons

The various sessions of this internship program will be preceded by faculty members of MNIT Jaipur, faculty of other reputed institutions like IITs, IIMs, NITs, IIITs, and industry experts.

During the program, participants will undergo lectures followed by equipment demonstrations and hands-on practice on industrial case studies.

Eligibility / Target Audience

This high-end workshop is targeted towards PhD/PG/UG (4th year) students of Govt. / Govt. aided / self-financed Eng. Colleges.

Important date

The last date for receiving the complete Registration form is **20th February 2024**.

Confirmation of selection by E-mail on **22nd February 2024** based on the screening results.

Note: Selected participants will be provided food, accommodation, and travel support as per SERB norms.

How to Apply / Registration

PhD/PG/UG (4th year) students can apply with the Google form link below.

<https://forms.gle/gqEw1Ub6RyHZ7e64A>

Venue

Department of Mechanical Engineering
Malaviya National Institute of Technology, Jaipur

High-End Workshop (KARYASHALA)

ON

“Modelling and Optimization in Green Manufacturing”

(26th February – 03rd March 2024)



Organized By

Department of Mechanical Engineering
Malaviya National Institute of Technology
Jaipur- 302 017 Rajasthan- India

Under the ACCELERATE Vigyan Scheme of
SERB (DST), New Delhi

Workshop Objective- The objective of the SERB Karyashala program on "Modelling and optimization in Green manufacturing" is to foster innovation and collaboration among PhD/PG/UG (4th Year) students in the field of sustainable development. The program aims to promote and provide hands-on training for Modelling and Optimization tools for green manufacturing to address sustainability challenges faced by industries and society.

About the Workshop-

This workshop will educate and provide hands-on training to the participants about the recent novel modeling and optimization concepts in green manufacturing for different industrial sectors. Also, exchanging ideas, knowledge, skills, and experience among participants and experts relevant to the Modelling and optimization tools will be advantageous. It will provide in-depth coverage of various notions based on Qualitative and Quantitative methods. In brief, the objective of the program may be:

1. To introduce green manufacturing and sustainability modeling techniques and hands-on training on GABI software.
2. To introduce and illustrate the sustainability assessment in the manufacturing processes using multi-criteria decision-making tools.
3. To explore mathematical notions like Fuzzy Set Theory as a research perspective on sustainable manufacturing.
4. To develop a model and demonstrate the process of analyzing trade-offs in green manufacturing through multi-objective optimization.
5. Provide hands-on exercises that allow participants to apply integrated approaches using GABI software for real-world green manufacturing scenarios.

The workshop on "Modelling and Optimization in Green Manufacturing" offers an exciting opportunity for students to delve into the world of sustainable manufacturing and gain practical skills using the powerful GABI software. Throughout the 13 sessions, participants will engage in hands-on activities and learn about various topics, including sustainability modeling, multi-criteria decision-making, and multi-objective optimization.

By attending this workshop, students will:

- 1. Learn the fundamentals:** Gain a solid understanding of green manufacturing concepts and the importance of sustainability in today's world.
- 2. Gain practical skills:** Develop proficiency using the GABI software for data analysis, modeling, and simulations in green manufacturing processes.
- 3. Solve real-world challenges:** Apply multi-criteria decision-making techniques to evaluate and prioritize sustainability criteria and utilize multi-objective optimization to find optimal solutions.
- 4. Explore integration opportunities:** Discover how to integrate modeling, MCDM, and optimization for more comprehensive and effective decision-making processes.
- 5. Stay ahead of the curve:** Learn about emerging trends and future challenges in green manufacturing to be better equipped for the evolving industry landscape.

This workshop promises an immersive and interactive learning experience, allowing students to directly apply their knowledge and skills to solve complex sustainability problems.

Session Details: The "Modelling and Optimization in Green Manufacturing" workshop provides hands-on sessions using GABI software for sustainability modeling, multi-criteria decision-making, and multi-objective optimization. Over 13 sessions, participants will learn about green manufacturing, use GABI for data input and analysis, create models and simulations, apply MCDM techniques, and solve optimization problems. Integration of modeling, MCDM, and optimization is explored, along with case studies and discussions on future trends and challenges.

Tentative List of Speakers:

Prof. G.S. Dangayach, MNIT Jaipur
Dr. Saurabh Pratap IIT BHU, Varanasi
Dr. Vijay Kumar Manupati, IIM Mumbai
Dr. Lohithaksha Maniraj Maiyar, IIT Hyderabad
Dr. Biswajita Mohanty, VIT University
Dr. Rajeev Agrawal, MNIT Jaipur
Dr. Vikas Kumar Sangal, MNIT Jaipur
Dr. Mahipal Jadeja, MNIT Jaipur

Registration Form

High-End Workshop (KARYASHALA)

On

“Modelling and Optimization in Green Manufacturing”

26th February – 03rd March 2024

Department of Mechanical Engineering
MNIT Jaipur – 302017 Rajasthan

Name: _____

Category (PhD/PG/UG (4th year) students):

Department: _____

Year of Study: _____

Department: _____

Institute: _____

Mailing Address: _____

Phone (M): _____ (O): _____

Email: _____

Accommodation required? Yes/ No _____

Registration fee Details (Not required)

The above information provided is true and to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the program and MNIT Jaipur.

Date: _____ **Signature of Participant**

The applicant will be permitted to participate in the above program if selected.

Date _____

Signature of Competent Authority