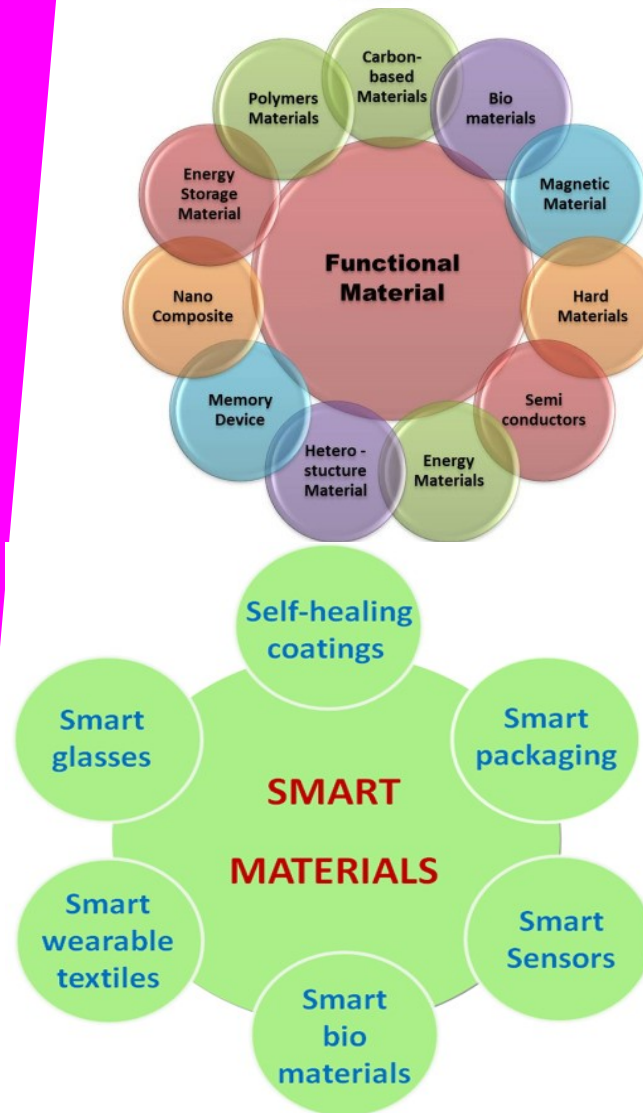


RECENT ADVANCES IN FUNCTIONAL & SMART MATERIALS (RAFSM-2025)

The objective of the programme is to upgrade the knowledge and skill of teachers employed in various disciplines of science and engineering with a special focus on material science, as it is the core of all engineering and science subjects. The FDP will cover common areas of interest to cater the need of faculty members across various disciplines focusing on properties of cutting edge functional and smart materials and their novel applications. The amalgam of academia, scientists and researchers from central universities, NIITs & IITs and other research organizations/industries will give an opportunity to interact with them.



Google Form Link for Registration:

https://docs.google.com/forms/d/e/1FAIpQLSco78MiRkghvW5A-QitcTJaEXsy3OHAz3esNxoff_dy1INy0Q/viewform?usp=header

One Week Faculty
Development Programme
03 Feb. —07 Feb. 2025

RECENT ADVANCES IN FUNCTIONAL & SMART MATERIALS

(RAFSM-2025)

Organized by:

Department of Physics
& Material Science

MMM University of Technology,
Gorakhpur, UP,
India-273010

Convener:

Dr. Satya Pal Singh Mob. 9450422506

Head and Chairman

Prof. D K Dwivedi Mob. 9235500510

Email: rafsm.mmmut.2025@gmail.com

ABOUT THE UNIVERSITY

Madan Mohan Malaviya University of Technology, Gorakhpur has been established in year 2013 by the Government of Uttar Pradesh in the form of a non-affiliating, teaching and research University after reconstituting the Madan Mohan Malaviya Engineering College, Gorakhpur which was established in 1962. Fifty-Four batches of students have entered its portals to emerge after four years of rigorous education under the tutelage of some of the most venerable teachers, engineers ready to face the world and create new worlds. The University is located in the Gorakhpur-Deoria road about 9 Km away from Gorakhpur Railway Station. In addition to UG in Civil Engineering, Chemical Engineering, Computer Science & Engineering, Mechanical Engineering, Electrical Engineering and Electronics & Communication Engineering, Information Technology, University also offers MCA, BBA, MBA, M. Tech, M.Sc. and Ph.D. courses in various specializations.



ABOUT THE DEPARTMENT

The Department of Physics and Material Science was established on 22nd June, 2019, which has been inaugurated by Shri Yogi Adityanath Ji Maharaj, Hon'ble Chief Minister of Uttar Pradesh. Previously, it has been the constituent part of Department of Applied Sciences. The erstwhile Madan Mohan Malaviya Engineering College, Gorakhpur, which was started in 1962, by the then Government of Uttar Pradesh to foster technical education, has been upgraded as Madan Mohan Malaviya University of Technology, Gorakhpur on 1st Dec. 2013 by the UP-Government Act (22). The department of Physics and Material Science has been founded for imparting high quality education through the programs; B. Tech in Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, Information Technology, Mechanical Engineering and M.Sc. in Physics with specialization in electronics. The main objective of the department is to disseminate knowledge in the area of Physics and Material Science, in order to promote the implementation of practical aspects related to it and to build a solid foundation of physics for science and engineering graduates. The department offers Ph. D. degree in Physics, with an objective to produce trained and skilled human resources; who can take the challenges to cater the need of the society. The research is focused to thrust areas as: Con-densed Matter Physics, Solar Energy Physics, Thin Films, Opto-electronic Materials and Devices, Fiber Optic Sensors, Solar Cell, Energy Storage, Applications of Nanomaterial, Micro & Nano-fluids, Molecular Simulation etc.

Organizing Committee:

Patron

Prof. J. P. Saini

Hon'ble Vice Chancellor
MMM University of Technology, Gorakhpur
(U.P.), India

Chairman

Prof. D. K. Dwivedi

Head
Department of Physics & Material Science

Convener

Dr. Satya Pal Singh

Department of Physics & Material Science

Faculty Members

1. **Prof. B K Pandey** (Ex-head PMSD)
2. Dr. Pradutt K Bharti (Guest Faculty)
3. Dr. Anand Kr. Vishwakarma (Guest Faculty)
4. Dr. Beena Bhatt (Guest Faculty)

Student Members

1. Ms. Shweta Agrahari
2. Ms. Sapna
3. Avanish Mishra
4. Ms. Himanshi Yadav
5. Vikash Maurya
6. Ms. Priyanshi Gaur
7. Rishabh Kumar Mishra
8. Divyansh Srivastav

**One Week Faculty Development Programme On
Recent Advances in Functional & Smart Materials**

(RAFSM-2025, 03 Feb. – 07 Feb. 2025)

Department of Physics & Material Science

Madan Mohan Malaviya University of Technology, Gorakhpur (U.P.) India-273010

(A NAAC "A" Accredited and NIRF 84th Ranked Institution in Engineering Discipline)

S No	Date/Day	Lecture No.	Time	Resource Persons/Guests
1.	03 Feb. Day-1 Monday	Registration	9.30 am-10.00 am	Aryabhata Hall, ITRC, Madan Mohan Malaviya University of Technology, Gorakhpur
		Inauguration Ceremony	10.00 am- 11.00 am	Prof J P Saini, Hon'ble Vice Chancellor & Patron Madan Mohan Malaviya University of Technology Gorakhpur Prof A C Pandey, Chief Guest Director, Inter University Accelerator Center (IUAC) New Delhi
		High Tea	11.00 am- 11.30 am	
		Keynote Address Lecture-1	11.30 am- 12.30 pm	Expert-1 Prof. Prabhakar Singh Department of Physics, IIT (BHU), Varanasi, UP <i>Title: Innovations and Applications in Functional and Smart Materials</i>
		Lunch Break	12.30 pm- 2.00 pm	
		Lecture-2	02.00 pm- 3.00 pm	Expert-2 Prof. Prabhakar Singh Department of Physics, IIT (BHU), Varanasi, UP <i>Title: Functional Materials: Driving Innovation in Energy Storage and Conversion Technologies</i>
		Tea Break	03.00 pm- 03.30 pm	
		Interactive Session-1	03.30 pm- 04.30 pm	Prof. Prabhakar Singh, IIT(BHU)
2.	04 Feb. Day-2 Tuesday	Keynote Address Lecture-3	10.00 am- 11.00 am	Expert-2 Prof. R. K. Singh Department of Physics BHU, Varanasi <i>Title: Innovation in Energy Storage Materials and Devices for Automotive Applications</i>
		Tea Break	11.00 am- 11.30 am	
		Lecture-4	11.30 pm - 12.30 pm	Expert-2 Prof. R. K. Singh Department of Physics BHU, Varanasi <i>Title: Sodium-Ion Batteries: A sustainable Alternative to Lithium-Ion Batteries for Efficient Energy Storage</i>

		Lunch Break	12.30 pm- 02.00 pm	
		Lecture-5	02.00 pm- 03.00 pm	Expert-3 Dr. Anurag Prakash Sunda Department of Chemistry, J. C. Bose University of Science & Technology Faridabad, Haryana <i>Title: Introduction to Molecular Modelling Tools: Simulations Approach and Applications</i>
		Tea Break	03.00 pm- 03.30 pm	
		Lecture-6	03.30 pm – 4.30 pm	Expert-3 Dr. Anurag Prakash Sunda Department of Chemistry, J. C. Bose University of Science & Technology Faridabad, Haryana <i>Title: Molecular Insights on Polymer-Electrolyte Membranes: Structure and Dynamics of Ion-Water Molecules</i>
3.	05 Feb. Day-3 Wednesday	Lecture-7	10.00 am- 11.00 am	Expert-4 Prof. B C Yadav Department of Physics, BBAU Lucknow, Uttar Pradesh <i>Title: Self-healing Nano-Materials</i>
		Keynote Address		
		Tea Break	11.00 am- 11.30 am	
		Lecture-8	11.30 am - 12.30 pm	Expert-4 Prof. B C Yadav Department of Physics, BBAU Lucknow, Uttar Pradesh <i>Title: Self-powered sensors using functional materials</i>
		Lunch Break	12.30 pm- 02.00 pm	
		Lecture-9	02.00 pm- 03.00 pm	Expert-5 Prof. Ravindradhar Department of Material Science University of Allahabad, Prayagraj <i>Title: Anti-ferroelectric Liquid Crystals: Smart Materials for Future Displays</i>
		Tea Break	03.00 pm- 03.30 pm	
		Interactive Session-2	3.30 pm-4:30 pm	Laboratory Visit (Prof. B C Yadav)
4.	06 Feb. Day-4 Thursday	Lecture-10	10.00 am- 11.00 am	Expert-5 Prof. Ravindradhar Department of Material Science University of Allahabad, Prayagraj <i>Title: Liquid-Crystal Composites for Efficient Solar Cells</i>

		Tea Break	11.00 am- 11.30 am	
		Interactive Session-3/Quiz	11.30 am - 12.30 pm	Prof. Ravindradhar
		Lunch Break	12.30 pm- 02.00 pm	
		Lecture-11	02.00 pm – 3.00 pm	Expert-6 Dr. Fouran Singh Scientists-G Inter-University Accelerator Center, New Delhi <i>Title: Heterojunction Diodes and Their Manipulations by Ion Beams for Multi-functional Applications</i>
		Tea Break	03.00 pm- 03.30 pm	
		Interactive Session-4 & Quiz	03.30 pm- 04.30 pm	Expert-6 Dr. Fouran Singh
5.	07 Feb. Day-5 Friday	Lecture-12 Keynote Address	10.00 am- 11.00 am	Expert-6 Dr. Fouran Singh Scientists-G Inter-University Accelerator Center, New Delhi <i>Title: Research & Innovation for Sustainable Development</i>
		Valedictory	11.00 am-12.00 pm	Prof J P Saini, Hon'ble Vice Chancellor Madan Mohan Malaviya University of Technology Gorakhpur Patron & Chief Guest
		High Tea	12.00 pm- 12.30 pm	IIRC Lounge