

Newsletter

Department of Mechanical Engineering



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Madhav Institute of Technology &
Science, Gwalior-474005

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Vision

"To develop innovative and creative Mechanical Engineers catering the global industrial requirements and social needs".

Mission

1. To prepare effective and responsible graduate engineers for global requirements by providing quality education.
2. To enhance knowledge through project and internship in the field of Mechanical and allied engineering.
3. To guide students in acquiring career-oriented jobs in the field of Mechanical engineering.
4. To provide academic environment of excellence, leadership, ethical values and lifelong learning to cater the need of society by sustainable solutions.

Editorial Team

- Dr. Amit Aherwar
- Dr. Ravi Kant Ranjan

Students

- Nikita Jain
- Nitya Singh
- Ansh Rathore

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

1. Graduates of the program will be able to have successful professional career.
2. Graduates of the program will be able to develop attitude of learning and become adaptable to dynamic industrial and social environment.
3. Graduates of the program will be able to design and develop mechanical system by using skills and knowledge of core competency along with allied engineering skill.
4. Graduates of the program will be able to undertake interdisciplinary research needed to build a sustainable society.

PROGRAM OUTCOMES (POs)

Mechanical and Automobile Engineering Graduates will be able to:

- PO 1** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO 2** Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO 3** Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO 4** Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO 5** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools

including prediction and modeling to complex engineering activities with an understanding of the limitations.

- PO 6** *The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.*
- PO 7** *Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.*
- PO 8** *Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.*
- PO 9** *Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.*
- PO 10** *Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.*
- PO 11** *Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.*
- PO 12** *Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.*

Faculty Outreach

1. Dr. G. Norkey has participated in IP Awareness/training program under National Intellectual Property Awareness Mission, Organized by Intellectual Property Office, Govt of India on 6th April, 2022.
2. Dr. Ashish Agarwal Presented a Research Paper in International Conference on Emerging Trends in Science Technology & Applications (ICETSTA-2022) on "Analysis of Pressure Drop and Suspension Velocity of Solid- Liquid Slurries in Process Equipment" organized by Sree Sakthi Engineering College, Coimbatore, Tamilnadu, India on 27th May, 2022.
3. Dr. Nitin Upadhyay has Presented a Research Paper on "A Review on Mechanical Properties of coir reinforced Polymer Composites" 7th international Conference "Shastrarth-2022" on Computational Optimization, Modelling, and Simulation, Recent Trend and challenges, 25 & 26 March 2022, Organized by Rungta College of Engineering and Technology, Bhilai.

Departmental Activities

1. 'Departmental Alumni Cell' of Mechanical Engineering Department has organized an interactive session in virtual mode on CAT preparation by a MITS Alumni Ms. Aditi Chourey (IIM Shillong) on 1st April, 2022.



2. The innovation club and Mechanical Engineering Department has jointly conducted a two hours offline session under the theme IPR on 06/04/2022 (Wednesday) from 04:00 PM-6:00 PM. The expert lecture on the topic "Intellectual Property Awareness" is delivered by Mr. Arpit Jain, Examiner of Patents and Designs, Patent Office, Mumbai, DPIIT, Ministry of Commerce & Industry, Govt. of India. Dr. C.S. Malvi & Dr. Gavendra Norkey were the coordinator of the programme.



3. The innovation club and Mechanical Engineering Department have conducted a two-hour offline session under the theme "Azadi ka Amrit Mahotsav" on 25/04/2022 (Monday) from 04:00 PM – 06:00 PM. The expert lecture on the topic on the topic "भारत में विज्ञान की गौरवशाली परंपरा (प्राचीन काल से आधुनिक काल तक)" is delivered by Dr. Sadanand Damodar Sapre, former professor of MANIT, Bhopal (Electronics engineering), author of Hindu dharma Sanskriti.



4. Department of Mechanical Engineering has organized an online programme on an event "Market Ka Eklavya" a short one-hour online program on "Basics of Investments and Money Management" for the students of MITS Gwalior. This program was organized by the National Securities Depository Limited (NSDL) on 9/6/2022 (Thursday) under 'आज़ादी का अमृत महोत्सव' at 04:00 PM.

Faculty Achievement and Activities

Dr. C.S. Malvi wrote an article on Intellectual Property Right titled "4 movies on Intellectual Property Rights".

Dr. Nitin Updhayay have received Elite+ Silver certificate for an online swayam NPTEL on 'Operation Management', Elite certificate for an online Swayam NPTEL course on "Introduction to operation research" & qualified in "Communication Skills Modes & Knowledge Dissemination", "Development of Self Learning Material" and Academic and Research Report Writing" Exam conducted by SWAYAM NTA and offered by NITTTR.

Dr. G. Norkey have received Elite certificate for online SWAYAM NPTEL course on 'Manufacturing Process Technology I & II', Elite certificate for SWAYAM NPTEL course on "Introduction to Abrasive Machining and Finishing Processes" & Elite certificate for SWAYAM NPTEL course on "Introduction to Machining and Machining Fluids". He has also qualified in "Communication Skills Modes & Knowledge Dissemination", "Development of Self Learning

Material" and Academic and Research Report Writing" Exam conducted by SWAYAM NTA and offered by NITTR.

Dr. Ashish Agarwal have received NPTEL (Elite + Silver) certificate for online SWAYAM NPTEL 8 weeks course on 'Steam and Gas Power Systems', and NPTEL Elite certificate for online SWAYAM NPTEL 8 weeks course on 'Computational Science in Engineering'.

Towards 26 April
'World I.P.R. day'

4 movies on 'PATENT * COPYRIGHT * DESIGN * TRADEMARK

Intellectual Property Rights



Dr C S Malvi
Professor, MITS, Gwalior
csmalvi@mitsgwalior.in
9993207600

In western world people are aware of these rights thus make a lot of money. Though, in India people are intellects but do not know about rights, even if they know the rights they do not know how to convert this intellect to money.

Apple vs Samsung, or Audi, these patent are some popular but odd examples thus no more motivates the students. Simultaneously, a lecture may make an intellect here; in result he or she can ignore the learning for the IPR, and only try to focus on their work, which is better because practice makes you perfect. But in modern world everything ends to money, and opportunists can make money on your work. This same thing happened with Margaret, she was a painter but her husband took credit of wife's painting which were commercial success as shown in 'Big Eyes'. Also, poster depicts the idea of the theft i.e. picture inside the pictures.



Well, this was art side but what happens to engineering side. To know this every engineer should watch 'Flash of Genius'. It is a story of a college professor who invented intermittent wind-shield wiper but a big car company stole his idea. Even though he could not afford to buy that car but fought a long legal case against the big company. He argued, proved and won. He couldn't earn money but earn several followers whatsoever owns the intellectual property.



'Followers' is the today's money. It may be on Twitter, Instagram, Facebooks etc. social media. To understand the battle on developing biggest social

All intelligent people are not genius, but all geniuses are highly intelligent. A genius is more creative than a genius who is merely intelligent. It is creativity that leads to invention and is labeled as a prerequisite is a genius.

media platform, one must see 'the social network'. It is a compilation of legal debates and settlement of money in millions of dollars. The money was huge even several cannot think of.



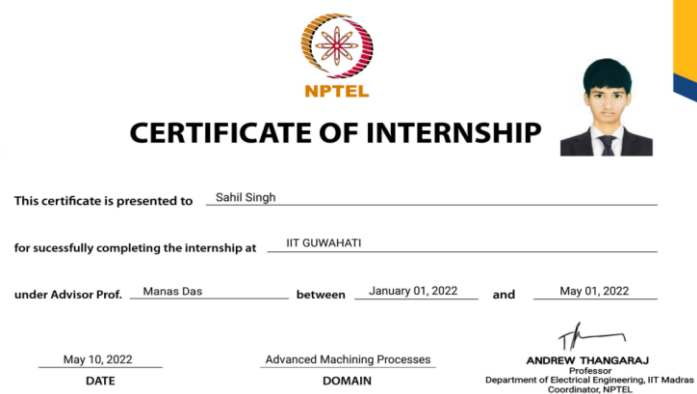
So, we discussed about art, engineering and internet, then what about doctors and India. Also, what happens to the research paper publications? Some of the answers one may get while seeing Indian hindi movie 'ek doctor ki maut'. It is a story of a doctor who discovered the treatment of in vitro fertilization but could not submit the written matter on time. On the same time another scientist from England published the complete detail of the experiment to treat the same. This is old story and due to lack of knowledge, red tapism, lengthy and unclear processes in India, the Doctor migrated to foreign, the correct example of brain-drain. But now in India brains has to cultivate here only. Government started KAPILA scheme, which is acronym for *Kalam Program for IP Literacy and Awareness*.



Student Achievement and Activities

1. Mr. Pushpendra Sharma has awarded with an appreciation letter from VE Commercial Vehicles for 'Excellent support in A frame DC nut runner I&C, Diesel dispensing unit I&C at HD1 line' on 12th May, 2022.

- Mr. Sahil Singh, a final year student has successfully completed the internship at IIT Guwahati on the topic 'Advances Machining Processes' under advisor Professor Manas Das on 10th May, 2022. He also got a stipend of total Rs. 20000/- on completion of his internship.



- Mr. Shivam Jadon and Miss Sheetal Yadav, both 3rd year students from Automobile Engineering branch have been selected for the industrial training under Summer Internship Programme for one month (from 01.07.2022-31.07.2022) in 'Maruti Suzuki India Limited (Manesar Car Plant)'.
- Mr. Mayank Keshari and Miss Saumya Kanthariya, both 3rd year students from mechanical Engineering branch have been selected for the industrial training under Summer Internship Programme for one month stipend-based internship in 'MECHLERGY PVT. LTD.'.
- The following students of final year students have got stipend for their internship:

S.No.	Name	Company Name	Stipend Amount (Rs.)
1	Ayush Sharma	TAFE pvt ltd	5000
2	Anuj Kumar singh	Admitkard	15000
3	Shivam Gupta	Admit kard	15000
4	Jatin wadhvani	Surabhi Lifespaces Pvt. Ltd	10000
5	Swapnil kathiri	ACUITY KNOWLEDGE PARTNER	15000
6	Ritik Mathe	Tafe motors and tractor limited,	5000

		Bhopal	
7	Sachin Kumar Wadhvani	DataGrokr	20000
8	Himanshu Dubey	Cyfuture	15000
9	Harsh Ratnere	Admitkard	12000
10	SHIVAM SAHU	ACUITY KNOWLEDGE PARTNER	15000
11	Jishnu Mukherjee	HPCL	5000
12	Isha Khulve	Capillary Technologies India Limited	15000
13	SOM UPADHAYAY	TAFE pvt ltd	5000
14	Pradeep Kumar Nat	Fujiyama Power system ltd	10000
15	Ashish prajapati	HPCL	5000
16	Sourabh Lodhi	HPCL	5000
17	Harsh ghanghoriya	Practo Pvt Ltd	33500
18	Sonu soni	Admitkard	15000
19	Abhishek Kumar Vishwakarma	Hindustan Petroleum Corporation Limited (HPCL)	5000
20	Raj Puniyani	Techie Shubdeep IT solution pvt ltd.	3000
21	Chandra Shekhar	TAFE Motors and Tractors Limited	5000+TA & Lunch
22	SAHIL CHAUHAN	Admitkard	12000
23	Parth Sharma	Tafe motors and Tractors limited.	5000+TA & Lunch
24	Harshita Sharma	KMA Technology	10000/-
25	Himanshi Tomar	KMA Technology	10000/-
26	Girraj Shitole	Praedico global research pvt. Ltd.	3-4K
27	Mohit Lal Prajapati	Madhya Pradesh Sour Urja Solutions (TATA Power Solar)/MRF Tyres	8000/-
28	Rishabh Gupta	Stallion Archies Ltd	6000/-
29	Sarthik Singh Rajawat	Newgen & MITS Gwalior	20000/-
30	Yash Singh Chouhan	TATA Power Solar	8000

Research Publications

1. Rishika Shah, R.K. Pandit & M.K. Gaur have published a paper titled "Urban physics and outdoor thermal comfort for sustainable street canyons using ANN models for composite climate" in the Journal of 'Alexandria Engineering Journal' on 10th April, 2022. <https://doi.org/10.1016/j.aej.2022.04.024>
2. Akanksha Prajapati¹, Gavendra Norkey and Girish D Gautam have published a paper titled "Optimization of heat affected zone in laser cutting of Kevlar-29 fiber composite using hybrid response surface based grey wolf optimization (RSGWO) algorithm" in the Journal of Mechanical Engineering Science on 5th April, 2022. DOI: 10.1177/09544062221096557
3. Pushpendra Singh, M.K. Gaur & C.S. Malvi have published a paper titled "Effect of Drying Area on Heat Transfer Coefficient and Drying Kinetics of High-Moisture Crop Dried in A Hybrid Active Greenhouse Solar Dryer" in the Journal of Heat Transfer Research in May, 2022. DOI: [10.1615/HeatTransRes.2022040797](https://doi.org/10.1615/HeatTransRes.2022040797)
4. Kaushal Pratap Singh, Ankur Bahl, Gavendra Norkey & Girish Dutt Gautam have published a paper titled "Experimental investigation and parametric optimization of the hole-circularity and taper angle during laser drilling kevlar-29 fiber composite" in the Journal of Materials Today: Proceedings. <https://doi.org/10.1016/j.matpr.2021.10.155>
5. Dr. Nitin Upadhyay and Dr. Surendra Kumar Chourasiya have published a paper entitled "Extreme learning machine and ensemble techniques for classification of rolling element bearing defects" in the Journal of Life Cycle Reliability and Safety Engineering. doi.org/10.1007/s41872-022-00196-1.
6. M.K. Gaur & Vikash Kumar Thakur have published a paper entitled "Experimental Analysis of Sustainability of Passive Solar Still with Nanoparticles Operating at Various Angles of Glass Cover" in the Journal of ENERGY SOURCES, PART A: RECOVERY, UTILIZATION, AND ENVIRONMENTAL EFFECTS 2022, VOL. 44, NO. 2, 5227–5245. doi.org/10.1080/15567036.2022.2082600