MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY
MAIT
उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः

Official Newsletter
Department of Mechanical Engineering

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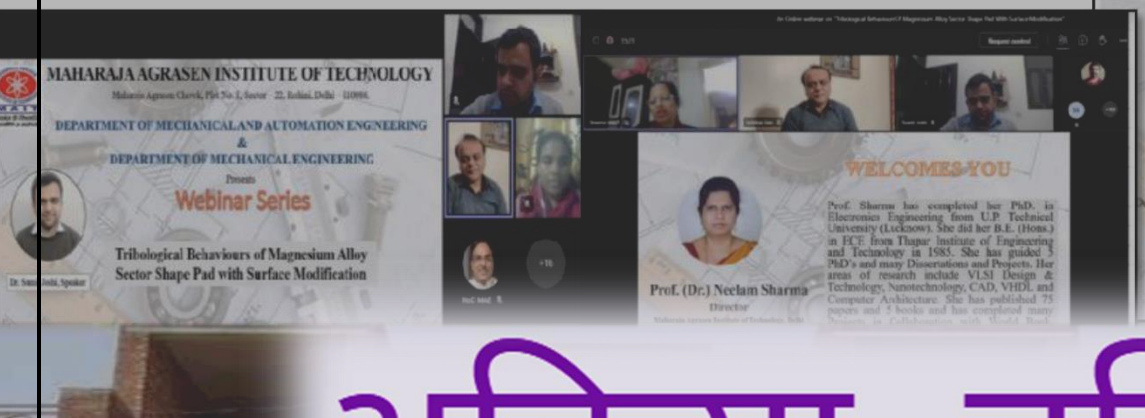
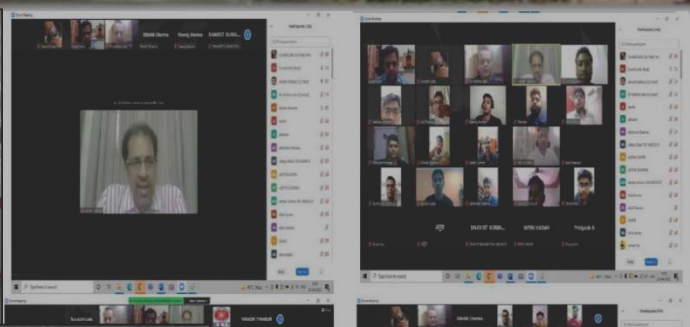


अविन्या= वृद्धिं

Insight to innovative growth



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Maharaja Agrasen Institute of Technology

The Head's Desk

It is a matter of great pride and privilege for me to be associated with the Department of Mechanical Engineering for this 19th year. Year 2019-20 has been a year of accomplishments for the Department. We got Accreditation status from NBA. Three of the faculty members of the Department received their PhD degrees from reputed institutes viz. NIT Kurukshetra and DTU. The Department organized Faculty Development programme in which faculty of other institute from NCR participated. A course on SCILab organized by us with the help of NMEICT, IIT Bombay benefitted number of teachers of various schools of Delhi. A large number of faculty members and students presented their research papers in various conferences in Delhi, Pune and Hyderabad.

This year we organized industrial visits almost every fortnight for the students. Two national seminars, sponsored by CSIR and GGSIPU, respectively were organized by the Department. Number of lectures have been also arranged by ASHRAE society and SAE Collegiate Club of MAIT.

Dr. Vaibhav Jain

Department Vision

To be a globally renowned department in Engineering and Technology, excelling in academics, research, innovation, and ethical values, while addressing the needs of industry and society through leadership in Mechanical Engineering.

Department Mission

To prepare responsible and effective engineers for global challenges by:

1. Delivering quality education through cutting-edge technologies.
2. Fostering research, innovation, and the development of socially relevant technologies.
3. Upholding ethical values and promoting sustainable professional growth.

Program Educational Objectives

PEO 1: Build on the capability to work in global organisations as individuals and as team members and leaders and to have competence to start, run and grow one's own business.

PEO 2: Develop the ability of modeling & analytical skills for problem-solving and decision making to deal with latest technological challenges in industry and Research.

PEO 3: Develop expertise in the design process of mechanical systems based on functionality, safety, standards, cost effectiveness, aesthetics and sustainability.

PEO 4: Inculcate ethical responsibilities and service towards peers, society and the nation.

PEO 5: Imbibe strong fundamental concepts of engineering and their application in the emerging fields of Engineering among students.

Faculty Members

- Dr. Vaibhav Jain
- Dr. Kanchan Mudgil
- Dr. Sidharth
- Mr. Anil Gupta
- Dr. Vipin Kr. Sharma
- Mr. Naveen Solanki
- Mr. Deshdeep Gambhir
- Ms. Surabhi Lata
- Mr. Sumit Joshi

SAE India Collegiate Club of MAIT: Team JATAYU

Founded in 2012 under the SAEINDIA Collegiate Club of MAIT, Team Jatayu is a dynamic group of engineering students dedicated to redefining automotive engineering. Specializing in All-Terrain Vehicles (ATVs), the team has excelled in prestigious competitions like Baja SAE India, Baja SAE USA, and Enduro Student India, showcasing technical mastery and resilience.

Team Jatayu thrives on collaboration, integrating academic knowledge with real-world applications. From advanced vehicle design to complex manufacturing, their ATVs are known for innovation, performance, and industry-standard excellence. Beyond competitions, the team fosters a culture of learning, mentoring juniors, and contributing to MAIT's legacy of automotive excellence. With a passion for pushing the boundaries of off-road engineering, Jatayu continues to inspire future engineers.

Mr. R.C. Saini

3D SPACE Club

3D Space: Additive Manufacturing Society of MAIT, founded in 2019 by 20 visionary students, is dedicated to advancing additive manufacturing. The society transforms ideas into tangible solutions through hands-on experience with 3D printing, enhancing students' CAD skills and mastering Design for Additive Manufacturing (DFAM).

Beyond designing and building 3D printers, the society produces engineering-grade components and fosters interdisciplinary collaboration. It stays at the forefront of the industry through research, competitions, and conferences. Committed to innovation, 3D Space empowers students to excel in the evolving field of additive manufacturing.

Ms. Surabhi Lata

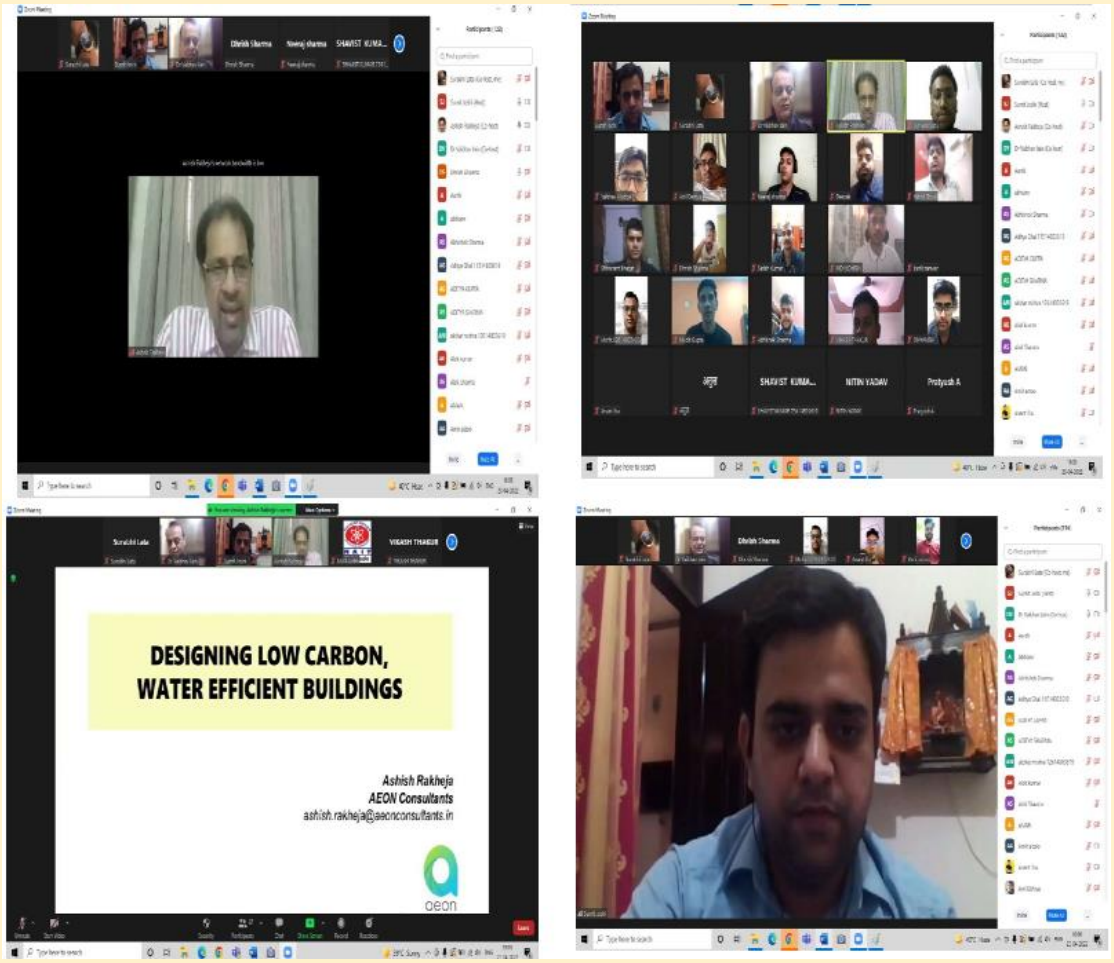
Team Aerostars

Founded in 2021 under the Mechanical Department of MAIT, under the Mechanical Department of MAIT, Team Aerostars is a group of aviation enthusiasts advancing aerial technology through innovation and research in unmanned aerial vehicles (UAVs). Serving as a platform for knowledge sharing and collaboration, the team has transformed passion into expertise, excelling in competitions like SAE India ADDC, TechnoXian, and BML Munjal. Committed to integrating engineering, technology, and sports, Aerostars empowers students to become creators rather than consumers. As we continue to reach new heights, our motto, **"In Thrust, We Trust,"** propels us forward.

Dr. Kanchan Mudgil

WORLD EARTH DAY 2022

Department of Mechanical Engineering in association with the Institute Innovation Council (IIC) and ASHRAE MAIT Student Branch celebrated "World Earth Day (22 April)" on 23rd April 2022. The event was graced by Mr. Ashish Rakheja, Managing Partner at AEON Consultants. He is associated with ASHRAE as Director at Large (DAL) and is also seasoned Consulting Engineer who has designed over 2000 projects including Hotels, Airports, Hospitals, Retail, Residential, Commercial, High rises and Industrial projects. Mr. Ashish Rakheja delivered a talk on "Net Zero Water Building" focusing on the conservation of water. Various techniques for water treatment and distribution were highlighted and explained. The innovations in water savings like low flow fixtures, toilet fixtures, and wall -mounted sensors were presented. The speaker highlighted the world water use and the current situation of water in India. The lecture presented various rating systems of energy conservation such as IGBC, GRIHA, LEED, MOEF and IPC standards. The concept of carbon neutrality and green building footprint was also presented. The lecture ended with a short eye-opening video on Earth and its ecosystem.



"No research without action, no action without research."

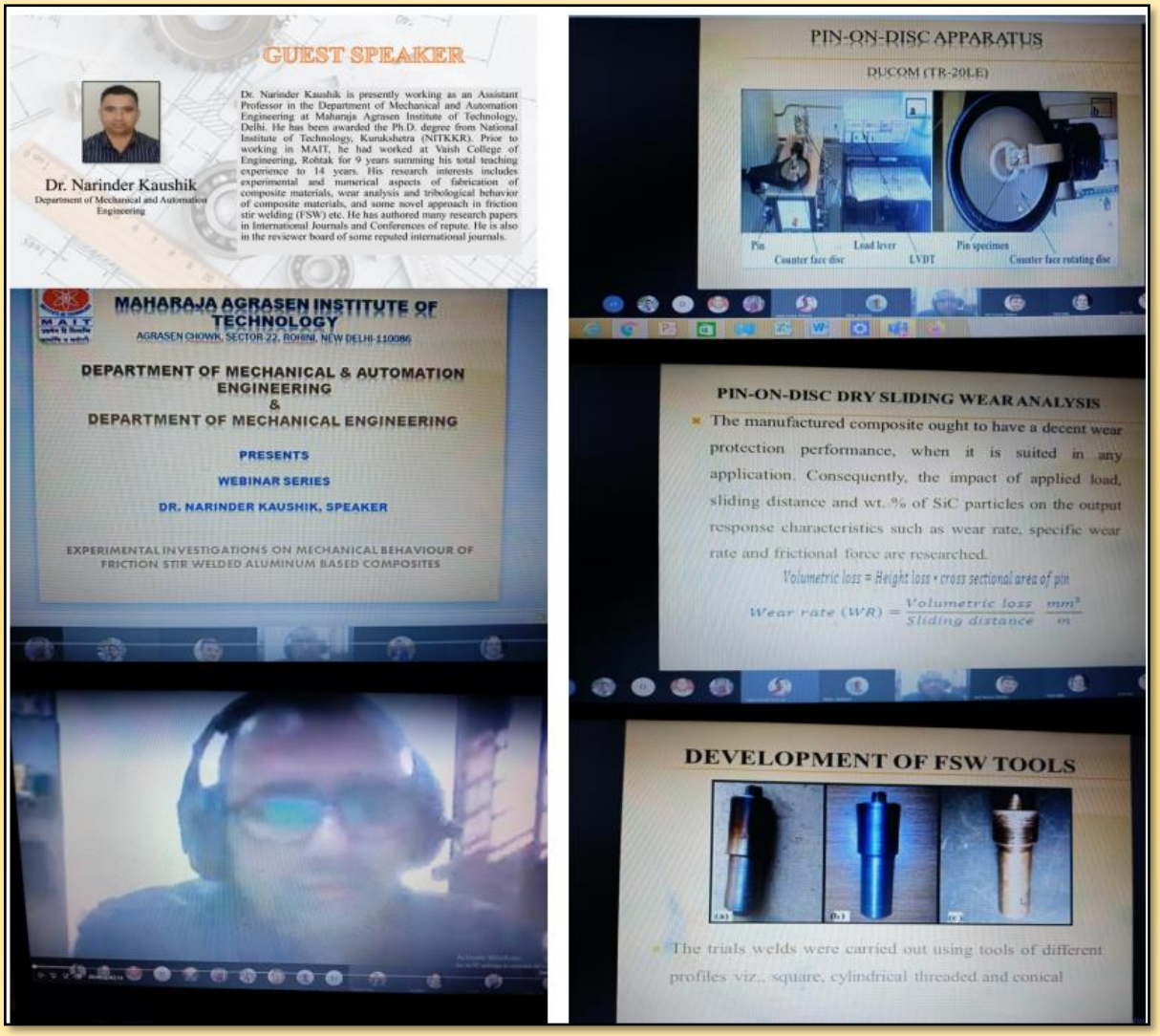
- Kurt Lewin

Research based-Online Webinar

Department of Mechanical Engineering organized a webinar on the different research topics in the month of January 2022.

"Experimental investigations on mechanical behaviour of friction stir welded aluminum-based composites"

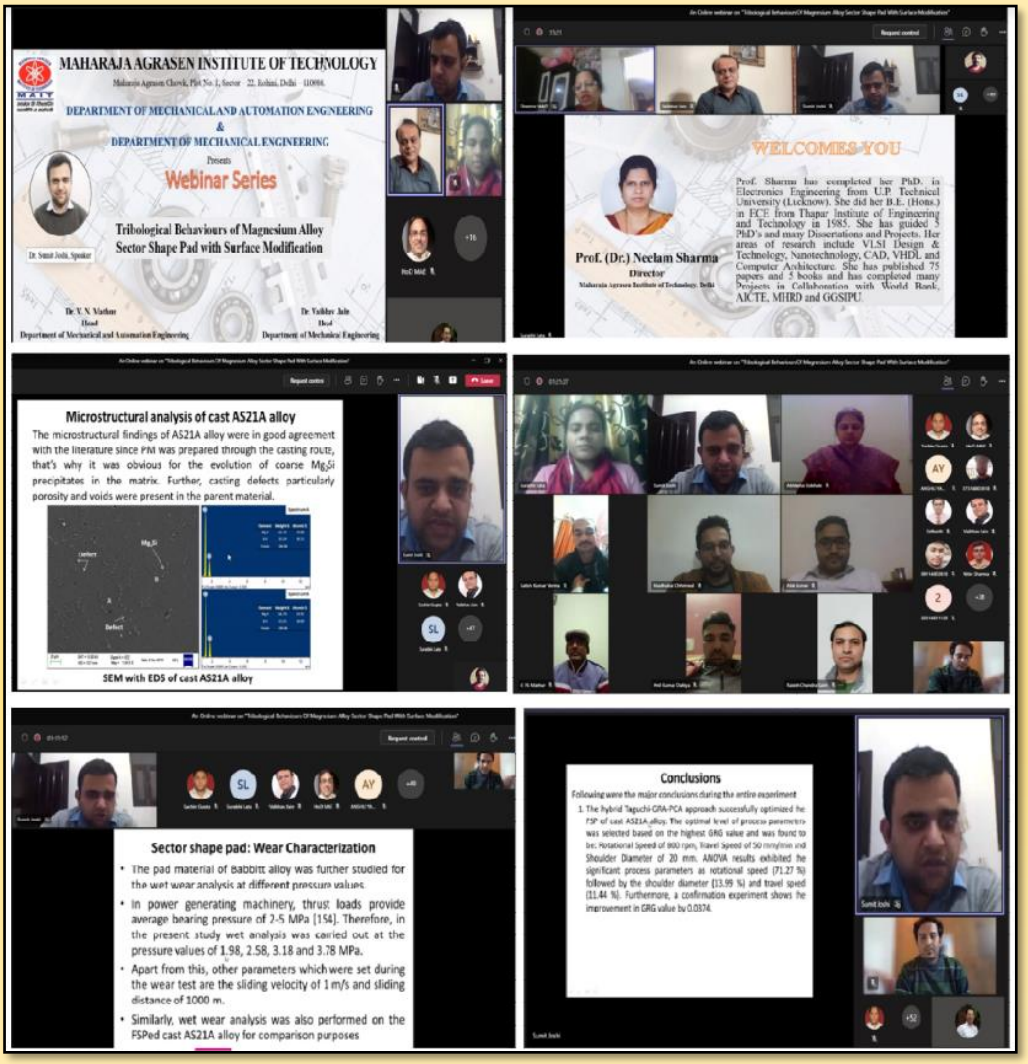
The event was based on the research work carried out by Dr. Narinder Kaushik during his PhD program on 29th January 2022. Dr. Narinder Kaushik presented mechanical behaviour of friction stir welded aluminum-based composites with the adoption of Friction Stir welding technique. The talk started with the introduction of composite materials and introduction of FSW process. The speaker briefly explained the influence of microstructural features obtained after FSW on the mechanical and tribological properties of the FS welded joints. The lecture concluded with the future scope of the research work.



Research based-Online Webinar

"Tribological behaviors of magnesium alloy sector shape pad with surface modification"

Dr. Sumit Joshi presented magnesium alloy sector shape pad with adoption of Friction Stir Processing (FSP) on 8th January 2022. Further, the principle of FSP was very well explained along with the supporting literature. Dr. Sumit Joshi presented a talk discussing about the Friction Stir Processing (FSP), a surface modification technique, used for investigation of the properties of Magnesium alloys. The talk started with the introduction of various types of magnesium alloys and their applications. Further, the principle of FSP was explained with supporting literature. Dr. Sumit listed the various types of equipment utilized for achieving the research objectives. The speaker briefly explained the influence of microstructural features obtained after FSP on the mechanical and tribological properties of magnesium alloys. The FSP produced magnesium alloys was further explored for the thrust bearing applications. The speaker stressed the studies of magnesium alloys at elevated temperature applications.



Industry-Institute Interaction

AIR FLOW PVT. LTD.

An industrial visit to Air Flow Pvt. Ltd, Greater Noida was organized on 26th May, 2022 for students of Department of Mechanical Engineering. 20 students accompanied with 2 faculty members. attended the same. Department instructed the students about the processing and productions of the Air Flow Pvt. Ltd. At the company, the students were briefed about the exhaust and ventilation fan manufacturing process by the technical staff. Mr. Abhishek and Arun (PO) who gave presentation related to the history of air flow and its operations and production. Students were taken around various divisions and explained about the operations in each division specifically shearing, bending, fitting, and assembling division.

After the lab processing the students went for the balancing units and storage warehouse. The students were guided about the Research and Development department and were shown the propulsion jet and explained its uses. Overall, it was highly interactive and learning visit for the students on the concepts related to production and operations in a large manufacturing plant.

Multicolor Pvt. Ltd.

An industrial visit to Multicolor Pvt. Ltd, Haryana was organized on 10th June, 2022 for faculty members of Department of Mechanical Engineering. 4 faculty members, Dr. V. N. Mathur, Mr. R. C. Saini, Ms. Surabhi Lata and Mr. B. R. Saini and one alumni student, Mr. Ranauq Dua, were taken around the company to understand the new upcoming trend in the construction field. The visit aimed at understanding the development of pure steel structures with no use of cement or concrete. The visit around the company displayed basic conventional processes to develop the steel components to predefined design and dimensions. These pre-fabricated components are transported to the construction site and all are assembled to develop muti-storeyed structures. It also aimed at identifying the expanse of knowledge to be imparted to the students in this upcoming field of steel structures. Overall, it was highly interactive and learning visit on the concepts related to production and operations in a large manufacturing plant for developing pre-fabricated steel structures.

Research Publications

S.no.	Name	Conference Details	Year
1	Dr. Vaibhav Jain	Presented the project tittled “Air Conditioner Cum Air Sterilizer for Combined Application of Air Heating and Cooling” (funding of $4980 in March 2021, ASHRAE, USA) in ASHRAE Winter conference 2022 scheduled at Las Vegas, 29 Jan-Feb 2, 2022.	February 2022
2	Mr. Madhukar Chhimwal	"International Conference of Advance Research and Innovation (ICARI-2022)" organized by International Journal of Advance	March 2022
3	Mr. Anupam	"International Conference of Advance Research and Innovation (ICARI-2022)" organized by International Journal of Advance	March 2022
4	Dr. Ramakant Rana	"International Conference of Advance Research and Innovation (ICARI-2022)" organized by International Journal of Advance	March 2022
5	Ms. Surbhi Upadhyay	3rd International Conference on "Recent Advances in Materials, Manufacturing and Thermal Engineering (RAMMTE-2022)	July 2022
6	Ms. Piu Jain	3rd International Conference on "Recent Advances in Materials, Manufacturing and Thermal Engineering (RAMMTE-2022)	July 2022

“Happiness comes from helping others, by being with others, and by sharing, even if it's only a smile.”

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Department of Mechanical Engineering

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