

*Official Newsletter*  
*Department of Mechanical Engineering*

# अविन्या= वृद्धि

*Insight to innovative growth*



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## *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***

## *Faculty Corner*



**Mr. Sumit Joshi** completed his PhD in "*Tribological behaviours of magnesium alloy sector shape pad with surface modification*" from Delhi Technological University, in December 2020.

## *Department Vision*

To be a global leader in Mechanical Engineering education, research & innovation with ethics and values.

## *Department Mission*

M1: To deliver industry relevant and skill oriented education in Mechanical Engineering, encompassing production, design, thermal, and emerging areas to address diverse global challenges. M2: To foster ethical values with professional skills for the benefit of industry and society.

M3: To enhance the teaching-learning process through modern pedagogical tools.

M4: To promote research, innovation and entrepreneurship using sustainable technologies and continuous learning.

M5: To strengthen engagement with alumni, industry and other stakeholders for collaborative growth and capacity building.

## *Program Educational Objectives*

The objectives of the department of Mechanical Engineering are to produce graduates who will have:

PEO1: Employability, entrepreneurship, leadership skills, and the ability to pursue higher education for the enhancement of knowledge.

PEO2: Ability to lead through research and innovation in the field of Mechanical Engineering.

PEO3: Engineering competence with good communication skills, professionalism, moral values as well as foundation for lifelong learning.

PEO4: Technical capabilities pertinent to Mechanical and allied engineering and to provide innovative and sustainable solutions for industrial and societal problems.

## **ASHRAE, Student Chapter MAIT**

**Membership Number: 8370536**

The ASHRAE Student Chapter MAIT was started in Feb 2019. Since its inception the ASHRAE Student Chapter MAIT has witnessed exponential growth. The society was started just with 15 members under the guidance of Dr. Vaibhav Jain and its strength has been increased to 71 student members. Some of the members graduated in year 2020 and currently has 53 student members. The students of this chapter have shown extreme compassion and exuberance in discharging all the tasks taken up by them with utmost dedication and hard work. The Chapter has grown to be stronger, compassionate, tech savvy and slated to give the better engineers of tomorrow. They are continued to indulge in new, green and sustainable technological research and generated more practical experience in our society and with that work smart towards developing new models in the field of HVAC&R. As it is evident from this report, they didn't let COVID-19 to stop them from doing their best and making the best use of the time at home and keep on expanding the chapter and its activities. ASHRAE is a world-renowned organization and they only want to uphold that name by constantly trying hard to be better than before.

**Student President: Mr. Satwick Mishra**

**Student Vice-President: Mr. Akashat Goel & Mr. Shivam Wahi**

***Dr. Vaibhav Jain***

## **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***

## **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, Team 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***

# ASHRAE Scholarships

## 2023-24

1. Mr. Saquib (3<sup>rd</sup> Year ME) received the scholarship of \$10000 by ASHRAE, USA.
2. Mr. Kavya Taneja (3<sup>rd</sup> Year ME) received the scholarship of \$5000 by ASHRAE, USA.
3. Mr. Kamran Ali (3<sup>rd</sup> Year MAE) received the scholarship of \$5000 by ASHRAE, USA.

# Annual Conference AIC Tech 2023

The students of ASHRAE Student Branch MAIT along with their mentor Dr Vaibhav Jain were felicitated for their active participation and work in the field of HVAC&R by ASHRAE India Chapter during their Annual conference AIC Tech 2023 organized at Hotel Pride Plaza, Aerocity, Delhi on 28 April 2023.

The conference was highly informative and focused on net zero educational campuses, and the discussions were centered around how we can reduce carbon footprint of educational institutions while maintaining a comfortable learning environment.

Apart from net zero educational campuses, the conference also focused on topics such as thermal comfort, energy efficiency, and building automation systems. The speakers at the conference were highly experienced and provided valuable insights into the latest technologies and best practices for achieving sustainability in the built environment.



# List of Faculty

- ❖ Dr. Vaibhav Jain
- ❖ Prof. V.N. Mathur
- ❖ Dr. Anil K. Dahiya
- ❖ Mr. Anil Gupta
- ❖ Mr. Naveen Solanki
- ❖ Dr. Deshdeep Gambhir
- ❖ Dr. Kanchan Mudgil
- ❖ Ms. Surabhi Lata
- ❖ Dr. Sidharth
- ❖ Dr. Vipin Kr. Sharma
- ❖ Dr. Sumit Joshi
- ❖ Ms. Piu Jain
- ❖ Mr. Rakesh C. Saini
- ❖ Ms. Surbhi Upadhyay
- ❖ Dr. Sachin Gupta
- ❖ Dr. Ramakant Rana

# Virtual Industrial Visit to EDGETECH Air Systems

The students of Department of Mechanical Engineering, Maharaja Agrasen Institute of Technology joined the Virtual Industrial visit of EDGETECH Air Systems (a leading manufacturer of Air Handling Units) organized by ASHRAE India Chapter 6 May 2023.



# *Industrial Visit to Shriram Pistons and Rings Pvt. Ltd.*

Department of Mechanical Engineering, MAIT organized an industrial visit at Shriram Pistons and Rings Pvt Ltd, Ghaziabad on 2<sup>nd</sup> June 2023. 40 students of ME department participated in the same.

Shriram Pistons & Rings Limited is an India-based company, which is engaged in the manufacturing of various products, such as pistons and piston pins, piston rings, and engine valves. The company caters to both domestic and international markets. The principal business of the company is Automobile Piston Assemblies.



# *Technoxian World Robotics Championship*

Team Aerostars under Department of Mechanical Engineering, MAIT participated in Technoxian World Robotics Championship that was held in Noida Indoor Stadium from July 25<sup>th</sup> to July 27<sup>th</sup>, 2023. The Robotics Championship attracted a crowd from all around the world and got more than 32 countries visited this prestigious competition. Team Aerostars took part in the Drone championship with 172 other teams including teams from Iran, Bangladesh, Israel, Sri Lanka, Russia, Brazil etc. The team managed to secure a position in the top 5 by the piloting skills shown by team Aerostar and came out in 5<sup>th</sup> position.



# Placements 2023

<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>CHIRAG BHARGAVA 20214803620 ETA Engineering</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>PRATYUSH ANANDKULAV 20214803620 Curiosity 3D</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>ADITYA SHARMA 20214803620 Consultadd</p>
<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>RIYAN 20214807420 Ornate Solar</p>	<p>2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>Students for getting placed in</p>  <p>ANANT RAMESH JAIN 20214803620 Spiders</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>PRATEEK JAIN 20214803620 Prodo Technologies Pvt. Ltd.</p>
<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>ADITYA GUAN 20214803620 Accenture</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>ANJALI BANJAL 20214803620 V3</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>PURVAKANU 20214803620 TEN</p>
<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>ABAD ALAM 20214807420 ETA Engineering</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>ABHIRAV JAIN 20214807420 ETA Engineering</p>	<p><b>Congratulations !!</b></p> <p>Student of B.Tech for getting placed in</p>  <p>GOVIND 20214807420 Cognizant India</p>
<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>DRISHTI UPRETI 02614803619 Delhivery</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>SATYK BHARMA 00214803619 Daikin India</p>	<p>Department of Mechanical and Automation Engineering 2022-23 Batch</p> <p><b>Congratulations !!</b></p> <p>for getting placed in</p>  <p>VISHOR 20214803619 Daikin India</p>

## Workshop on “Unmanned Aerial Vehicles (UAV) and Drone Technology”

The Workshop on Unmanned Aerial Vehicles (UAV) and drone technology was held between 15<sup>th</sup> March 2023 to 17<sup>th</sup> March 2023 by the Department of Mechanical Engineering in association with Team AEROSTARS, MAIT. The primary objective of the program was to provide participants with a basic understanding of the Drones, its anatomy and its flying techniques and opportunities to fly a drone. The program was designed to cater the interest of students from various academic branches, who showed a keen interest in exploring the latest trends and technologies in the field of UAVs. The program consisted of a series of informative lectures, soldering and simulation session, drone building, assembly, and flying session, with society members serving as the primary speakers.



## Workshop on “Hands-on Training on 3D Printing Technology”

A 3 Days Workshop on “Hands-on Training on 3D Printing Technology” was held from 15<sup>th</sup> -17<sup>th</sup> March 2023, by the Department of Mechanical Engineering in association with 3D Space Club at Maharaja Agrasen Institute of Technology. The primary objective of the workshop was to provide exposure to the students about the 3D printing technology and its application and ongoing research in today’ modern world. An interactive session was conducted to deliver the latest research opportunities in this field.

The workshop was designed to provide the hands-on training and let the participants transform their own ideas into real objects. The ideas were printed according to the participants choices. The session started with a brief discussion about 3D printing technology, its need, application, and research in this field which was followed by basic steps to transform the idea to real world. The speakers Bhavey Goel and Saquib delivered this session through a series of informative talks and interactive sessions.

The second was completely dedicated to the designing of ideas on software such as Fusion 360, SolidWorks etc and slicing the design in Ultimaker Cura. This session was headed by Anish Kumar who designed items like keychain with name, logo of society, society’s badge which were later considered for printing. The students were asked to design their ideas and were assisted by the team members to develop error free designs. The next day all the ideas were printed after giving the details about how to set up the printer. During the setting up of printer, bed levelling was the most significant step which was taught to the participants before the printing process. The students were assisted by A. Pratyush, Bhavey Goel, Saquib and Anish Kumar and team.



## 6<sup>th</sup> Research Excellence Awards Function

Ms. Piu Jain, faculty of Department of Mechanical Engineering received research excellence award at a 6<sup>th</sup> Research Excellence Awards function organized at Delhi Technological University on 6<sup>th</sup> April 2023 for her commendable performance.



An alumni talk was organized by Department of Mechanical Engineering and Mechanical Engineering on 7<sup>th</sup> March 2023 at Maharaja Agrasen Institute of Technology. Dhruv Malhotra is working with Daikin Airconditioning India Pvt. Ltd. as Graduate Engineer Trainee. He is working in the sales department of the VRV Business. He completed his B.Tech in MAE from Maharaja Agrasen Institute of Technology in 2022. During his college years, he was an Active member of ASHRAE MAIT Student Chapter and was the president of the same from 2021-2022. His team scored Rising star position in Setty Family Foundation Applied Engineering Challenge 2021. His research project was selected for publication in ASHRAE Journal and he was invited to present the same at ASHRAE Winter Conference 2023.

## Maharaja Agrasen Institute of Technology Department of Mechanical Engineering

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