

Department of Mechanical Engineering

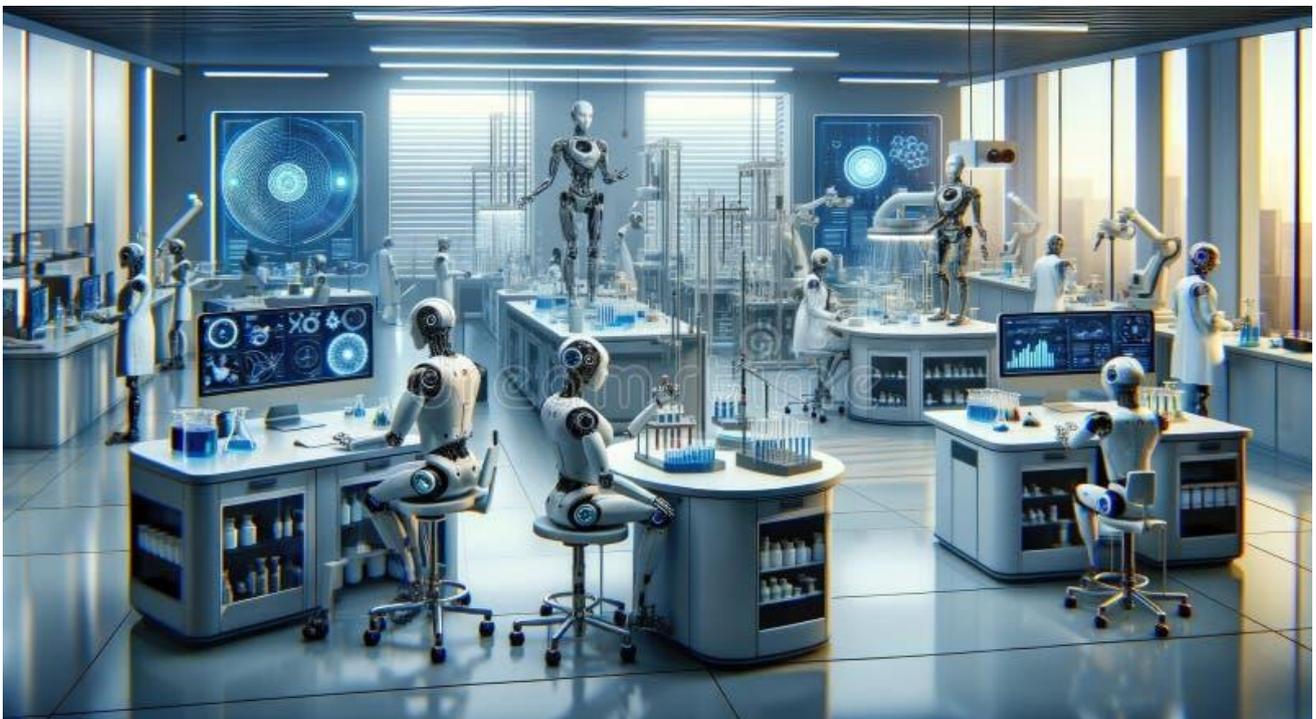
Jan-March-2024

ECHELON INSTITUTE OF TECHNOLOGY



NEWS LETTER Jan-March 2024

DEPARTMENT OF MECHANICAL ENGINEERING



Echelon Institute of Technology, Faridabad

ECHELON INSTITUTE OF TECHNOLOGY, FARIDABAD INSTITUTE VISION AND MISSION

Vision

The institute is committed to fulfilling its vision of- "Technical and Management leaders engaged in the evolution of life, being at the frontiers of the continuous technological and administrative breakthroughs, inspired by ongoing exploration of self, society, and nature through self-reflective consciousness by building a culture of inspiration, exploration and growth."

Mission

M-1 Having a culture of inspiration, exploration and invention through effective, experiential teaching-learning giving rise to ever evolving knowledge and wisdom.

M-2 To have self-inspired students ever engaged in continually working upon and sharpening and deepening computational, creative, innovative and leadership consciousness.

M-3 Having students established in self- reflective consciousness, committed to personal, social & human integrity and engaged in deep inquiry and conversation, giving rise to shared, inter-subjective human values and consciousness.

**ECHELON INSTITUTE OF TECHNOLOGY,
FARIDABAD
DEPARTMENT OF MECHANICAL ENGINEERING
VISION AND MISSION**

Vision

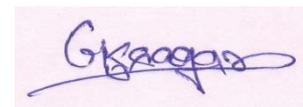
"To create quality mechanical engineering professionals having ethical and moral values, able to solve real life technological problems, possessing capability to adapt the rapid changes occurring in the technology to serve society as technocrats, innovators, academicians & entrepreneurs."

Mission

- i. To ensure sufficient technological exposure to the students in order to Create tech-savvy professionals.
- ii. To maintain high quality labs and workshops as per the requirement of current industry scenario.
- iii. To impart adequate CAD/CAM exposure to nurture designing skills of the students.
- iv. To ensure effective counseling and career guidance facilities to the students to help them achieve their goals.
- v. To motivate the students to participate in the national level examinations such as GATE/CAT/Engineering Services etc.
- vi. To have well qualified and competent faculty members in the department who are in a position to impart quality technical education.
- vii. To encourage faculty & staff members to participate in seminars and workshops for their awareness of state-of-the-art technology.
- viii. To encourage the faculty & staff members to pursue higher education and research.

FROM THE DESK OF EDITOR IN CHIEF

It gives me immense pleasure to present the latest trends in Mechanical Engineering. The period has been packed with variety of activities in the hectic and tight academic schedule. This edition of the newsletter summarizes the achievements and highlights of the semester. I would like to take this opportunity to present the readers with the glimpses of the week and other activities of the Mechanical Engineering Department. In this quest, I would like to keep you up –to-date with the happenings of the department. And hence, present you with this half yearly newsletter. You can know the details as you go through the newsletter. Every faculty made an effort to avoid the boredom of class room lectures and ample opportunities were provided for personality development of the students and enhancement of their skills as per their choice/ area of interest through hobby clubs and industrial visits. This approach helps maintaining a very healthy and conducive atmosphere of learning, keeping the students in an excited state eager to grasp knowledge at all times. The department is scaling new heights with such positive approach.

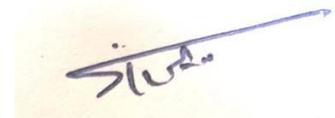


Mr. Gaurav Kumar
Assistant Professor
Department of Mechanical
Engineering
EIT Faridabad

ENDEAVOUR BY HOD

The Aim of our department is to provide quality education. The process of learning is extremely important in life. What you learn, how you learn and where you learn play a crucial role in developing ones intellectual capability, besides career. I am proud to see that the students and faculty of our department have put in appreciable effort into creating this newsletter. This newsletter highlights the academic and non-academic activities of both faculty and students of the Department of Mechanical Engineering.

I congratulate the editorial team for their brilliant and original efforts. I wish all the students and faculty a great academic career



Dr. Sindhu Kumar
HOD Mechanical Engineering
EIT, Faridabad

ABOUT THE DEPARTMENT

Mechanical Engineering is the application of physical and scientific principles, and its history is intricately linked to advances in understanding of physics and mathematics throughout history. Because Mechanical engineering is a wide ranging profession, including several separate specialized sub-disciplines, its history is linked to knowledge of structures, materials science, Production, Design, Thermal, Welding, Manufacturing, Various Machine operations, and Solid mechanic etc.

The course cover basic sciences, Mathematics, Engineering graphics, computing techniques along with the fundamental Engineering principles of construction materials, Engineering Graphics & Drawing and Laboratory classes interesting of materials help to understand Mechanical Engineering in a practical way. Software packages like AutoCAD, CNC, CATIA, Solid Works, Origin Pro, ANSYS and CAD/CAM allows our students to expand their skills and provide an adequate platform to perform analysis, design and drawing for a wide range of Mechanical Engineering machines and other heavy Design structures or tools etc.

Every semester students will be taken for Industrial Visits to various Automobile, Thermal, Power Plants, Design related companies, Dams and places of interest to impart Practical Knowledge. In addition, the students have to undergo practical Training for 2- 3 weeks in any Design, Manufacturing, Welding, Automobile and Production to gain practical experience and technical skills. The students are also encouraged to give seminars on current areas of research. To acquire high degree of engineering skills and to translate brilliant ideas into a working reality.

Department of Mechanical Engineering

Jan-March-2024

Faculty Development Program (FDP)

Mr. Gaurav Kumar Sagar has participated in 5 days Faculty Development program on **Green Manufacturing** conducted by Mechanical Engineering Department from **29/01/2024 to 02/02/2024** (One Week) at NITTTR Chandigarh.



Department of Mechanical Engineering

Jan-March-2024



**Glimpses of Runbhumi (Intercollege Sports Competetion) held
on 1st & 2nd March at EIT Campus**

Department of Mechanical Engineering

Jan-March-2024



ECHELON PRESENTS INTER COLLEGE CHALLENGE CUP

राजBhumi 2024



1st & 2nd March



Team prizes:
-First Prize: Rs 5100/-
-Second Prize: Rs 3100/-



TRACK EVENTS (M/W)

100 m Race
200 m Race
400 m Race
4 × 100 m Relay

INDOOR GAMES (M/W)

Table-Tennis
Arm wrestling
Chess
Carrom

OUTDOOR GAMES (M/W)

Football
Basketball
Volleyball
Kabaddi
Kho-Kho

FIELD EVENTS (M/W)

Long Jump
Javelin Throw
Shotput
Tug of War
Discus Throw
High Jump

ECHELON INSTITUTE OF TECHNOLOGY

KHERI-MANJHAWALI ROAD, NAHARPUR, KABULPUR PATTI MAHTAB, FARIDABAD, HARYANA 121101

WWW.EITFARIDABAD.COM
+919999753763

MR. MAYANK CHAUDHARY
+91 8377024410

MR. ROHAN PHOGAT
+91 9053073280

MR. MUKUL ATTRI
+91 9779887677

SCAN TO REGISTER



एस्लोन इंस्टीट्यूट ने अंतर कॉलेज प्रतियोगिता की मेजबानी की

फ़रीदाबाद। एस्लोन इंस्टीट्यूट ऑफ टेक्नोलॉजी, फरीदाबाद ने अंतर-कॉलेज खेल प्रतियोगिता, रणभूमि-2024 के पहले दिन के कार्यक्रम कार्यक्रम का



सफलतापूर्वक समापन किया। जिससे वातावरण में खेल भावना का ऊर्जावान माहौल भर गया। इस रोमांचक खेल महाकुंभ में दिल्ली एनसीआर क्षेत्र के 50 से अधिक संस्थानों के 600 से अधिक छात्रों ने भाग लिया।

प्रतियोगिता में वॉलीबॉल, कबड्डी, खो-खो, बास्केटबॉल, रस्साकशी, फुटबॉल, विभिन्न ट्रैक रेस (100 मीटर, 200 मीटर, 400 मीटर), रिले रेस (4×100 मीटर), भाला फेंक सहित विविध प्रकार के खेल शामिल थे और गोला फेंक, डिस्कस थ्रो, कैरम, शतरंज, टेबल टेनिस, लंबी कूद और ऊंची कूद जैसे विषयों को शामिल किया गया। जिससे एथलीटों को अपने कौशल का प्रदर्शन करने के लिए एक व्यापक मंच प्रदान किया गया।

रणभूमि-2024 में पूरे क्षेत्र के कॉलेजों के जोशीले प्रदर्शन देखने को मिले, जिसमें प्रतिभागियों ने गौरव और मान्यता की तलाश में अपनी प्रतिभा और प्रतिस्पर्धी भावना का प्रदर्शन किया। यह आयोजन न केवल स्वस्थ प्रतिस्पर्धा को बढ़ावा देता है, बल्कि युवाओं के बीच सौहार्द और खेल भावना को भी बढ़ावा देता है।

Department of Mechanical Engineering

Jan-March-2024



Upcoming Government Infrastructure Project in 2024

Re-engineering the Musculoskeletal System Using Novel Robotics-inspired Passive Orthopedic Implants



Current reconstructive orthopedic surgeries use sutures to attach muscles and tendons. However, this leads to poor surgical outcomes because of the suture's limited ability to transmit the muscle's forces and movement to the tendons. It is expected that using passive implants, such as pulleys and rods, to surgically construct mechanisms in situ using the existing biological tendons will significantly improve post-surgery function (when compared to using sutures) and lead to the development of new

surgical procedures.

Example projects:

Implants for hand surgery: <https://bit.ly/3XwSUFk>

General problem space: <https://bit.ly/3EPF3Tb>

Robotics Crop Manipulation



Robots are needed to help with the production of specialty crops such as fresh market fruits and vegetables. However, specialty crop cultivation systems are challenging, unstructured environments. Some of the challenges include uneven terrain, variable lighting conditions, occlusions, clutter, and delicate products that can be easily damaged. Another constraint is the seasonal nature of agriculture that limits data collection in the field (the fruit may only be ripe for a few days each year!). Our work aims to advance manipulation in unstructured environments like specialty crop systems through a combination of tactile sensing, soft robotics, and learning from physical twins. This project will involve field testing at commercial farms around the Willamette Valley.

Conclusion

In conclusion, mechanical engineers play a critical role in the development and growth of modern society. They are involved in the design and development of machines, tools, and systems that are essential for many industries.

I believe that Mechanical Engineering is too vital of a field to be dropped from the curriculum due to its importance to the University and to the world. Mechanical Engineering has intertwined throughout the making of our history, and is the backbone of almost everything that we use on a daily basis. Since the days of Archimedes, it has played such a large role in the development of our world, and it's the foundation of so many amazing products and feats in our lives. This computer I am trying on would not be in existence if not for a Mechanical Engineer.

The department here at UK knows this and teaches its pupils how to be great in today's world. Mechanical Engineering courses teach valuable information and applications that can be easily put forth in the real world. Think of a tree, a giant tree with many branches. Think of this tree as the Mechanical Engineering major, and the branches as the other engineering majors. Without this tree, the branches could not survive, the tree is Mechanical Engineering and the branches are the other majors. Without Mechanical Engineering, the other fields would cease to exist, because so much of what they stand for was built through Mechanical Engineering.

I believe that there are not enough Mechanical Engineers in the world to face real problems today, and I believe the major should be expanded to accommodate the larger problems in the world today, instead of completely dropping it to fund a different major.