MITS
MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS)
Estd 1998

NEWSLETTER

Mechanical Engineering Department

July – September 2023

About the Department

The Department of Mechanical Engineering was established in the year 1998. The course offers a deep insight into the discipline and enables promising engineers to acquire skills required to succeed both individually as well as in Industry. Keeping in view of the technological advancement, the department is fortified by the most qualified and experienced faculty. The department is well equipped with modern laboratories.

The Department has obtained UGC-Autonomous Status in the year 2014 and is running the programmes successfully meeting all the requirements. The College Academic Council, Board of Studies of the department strive to provide quality education and most advanced curriculum and syllabus to make the students industry ready and excel in the contemporary business world.

The Department offers 4 years B.Tech programme and 2 years M.Tech programme with the specialization in Advanced Manufacturing Systems.

The B.Tech. Programme under Department of Mechanical Engineering was accredited by the National Board of Accreditation (NBA) of All India Council for Technical Education (AICTE).

Vision

"To be a Centre of Excellence in the field of Mechanical Engineering to generate Quality Human Resource who can contribute constructively to the Technological and Socio-economic Development of the Nation."

Missions

i) To provide globally competent Mechanical Engineers through Experienced and Committed Faculty.
ii) To nurture graduates with scientific temperament, rational thinking and Humanistic approach for excelling in their Career.
iii) To promote Excellence in teaching and research through collaborative activities.

Goals

- To maintain a high standard of mechanical engineering education through outstanding teaching innovative curriculum and research training that reflect the changing needs of society.
- To attract highly motivated students with enthusiasm, attitude and interest in Mechanical Engineering.
- To pursue excellence in research and technology transfer.
- To increase the public awareness of departmental activities and the Mechanical Engineering profession.

A. Faculty Development Program Attended

1. **Dr. Arun Kumar D.** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

2. **Dr. Manish Sharma** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

3. **Dr. Rupshree Ozah** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

4. **Dr. Dhrubajit Sarma** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

5. **Mr. Kumar G.** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

6. **Dr. Satyajit Pattanayak** attended an FDP on "Parametric and Non-parametric modeling using Solid Edge" held for the duration of 5 days from 01.08.2023 to 05.08.2023 organised by the department of Mechanical Engineering, MITS.

7. **Dr. Baskaran S.** attended an online FDP on "Cloud Infrastructure (AWS)" held for the duration of 5 days from 21.08.2023 to 25.08.2023 organised by Aditya Institute of Technology and Management, Andhra Pradesh.

8. **Dr. Arun Kumar D.** attended an online FDP on "Cloud Infrastructure (AWS)" held for the duration of 5 days from 21.08.2023 to 25.08.2023 organised by Gurunanak Technical Institutions Campus, Hyderabad.

9. **Dr. Anantha Raman L.** attended an online FDP on "Cloud Infrastructure (AWS)" held for the duration of 5 days from 21.08.2023 to 25.08.2023 organised by Gurunanak Technical Institutions Campus, Hyderabad.

10. **Dr. Baskaran S.** attended an FDP on "Introduction to Machine Learning" held online for duration of 8 weeks (July – September 2023).

11. **Mr. Kumar G.** attended an online FDP on "Engineering Thermodynamics" held for the duration of 5 days from 28.08.2023 to 01.09.2023 organised by Care College of Engineering, Trichy.

12. **Mr. S Manoj Kumar** attended an online FDP on "Engineering Thermodynamics" held for the duration of 5 days from 28.08.2023 to 01.09.2023 organised by Care College of Engineering, Trichy.

13. **Mr. Pujari Rajesh** attended an FDP on "Incalculating Universal Human Values in Technical Education" held for the duration of 3 days from 05.10.2023 to 07.10.2023 organised by MITS, Madanapalle.

B. Papers Published

1. **Dr. Arun Kumar D.** published an article titled "Investigation of mechanical and dynamic mechanical analysis of bamboo/olive tree leaves powder-based hybrid composites under cryogenic conditions" in Biomass Conversion and Biorefinery https://doi.org/10.1007/s13399-023-04591-1) on July, 2023.
2. **Dr. Arun Kumar D.** published an article titled "Experimental Investigations of Flammability, Mechanical and Moisture Absorption Properties of Natural Flax/NanoSiO2 Based Hybrid Polypropylene Composites" in Silicon (https://doi.org/10.1007/s12633-023-02611-3) on August, 2023
3. **Dr. Arun Kumar D.** published an article titled "Application of potential green algal for power generation as a likely and fractional alternative" in Biomass Conversion and Biorefinery (https://doi.org/10.1007/s13399-023-04870-x) on September, 2023.
4. **Dr. Anantha Raman L.** published an article titled "Shear strength, wear, thermal conductivity, and hydrophobicity behavior of fox millet husk biosilica and *Amaranthus dubius* stem fiber–reinforced epoxy composite: a concept of biomass conversion" in Biomass Conversion and Biorefinery (https://doi.org/10.1007/s13399-023-04854-x) on September, 2023

C. Book/ Book Chapter Published

1. **Dr. Anantha Raman L.** published a book chapter titled "Thermodynamics Field Formulation and Turbulent Modeling" in the book "Thermodynamics Field Formulation and Turbulent Modeling" published by Cosmas Scientific (ISBN: 978-81-962332-7-3).

D. Events Organized

1. **Dr. Arun Kumar D.** coordinated an FDP on "**Parametric and Non-Parametric Modelling Using Solid Edge Software**" organized by the department of mechanical engineering, MITS from 01.08.2023 to 05.08.2023.

2. **Dr. Arun Kumar D.** coordinated a virtual orientation programme on **"Agribusiness incubation scheme & the funding opportunities for agri innovators"** organized by the department of mechanical engineering, MITS held through online mode on 06.07.2023

3. **Dr. Anantha Raman L & Dr. Dhrubajit Sarma** conducted a guest lecture on **"Career by Choice or Chance"** organized by the department of mechanical engineering in association with II-C, MITS held on 26.09.2023

4. **Dr. Anantha Raman L & Dr. Dhrubajit Sarma** conducted a webinar on **"An Overview of Anaerobic Digestion Process for Biogas Production"**organized by the department of mechanical engineering, MITS held on 12.10.2023

5. **Mr. Jagannath Pattar & Mr. Raghavendra H** conducted a one-day national level student workshop on **"Industrial Project ideas on Emerging Technologies of 3D Printing, CNC Machining & Robotics for Engineering Applications"** organized by the department of mechanical engineering, MITS held on 18.10.2023

6. **Dr. S. Baskaran & Dr. Anantha Raman L** conducted an awareness program on **"Road Safety**" organized by the department of mechanical engineering, MITS held on 20.10.2023.

7. **Mr. Reddi Lakhsman S.** coordinated a Parents Meet organized by the department of mechanical engineering, MITS held on 31.10.2023.

8. **Dr. Dhrubajit Sarma** coordinated an online current affairs quiz competition organized by the department of mechanical engineering and ED Cell, MITS held through online mode on 01.11.2023.

9. **Mr. G. Kumar & Dr. Arun Kumar D.** conducted a webinar on "**Machine Learning for Mechanical Engineers**" organized by the department of mechanical engineering, MITS held on 15.11.2023

E. Patents Received

1. **Dr. Anantha Raman L.** received patent grant for the invention titled "IOT Based Solar Powered Agriculture Robot" vide design number 389052-001 on 23.08.2023 from the patent office, Government of India.
2. **Dr. Anantha Raman L.** received patent grant for the invention titled "An Intelligence Sensor Based Biodegradable Waste Collection Unit" vide design number 389840-001 on 26.09.2023 from the patent office, Government of India.
3. **Dr. Anantha Raman L.** received patent grant for the invention titled "Solar Powered Glass Cleaning Robot" vide design number 392222-001 on 27.09.2023 from the patent office, Government of India.

F. Faculty & Students' Achievements

1. **Dr. S. Baskaran** has received IOP trusted reviewer status in recognition of an exceptionally high level of peer review competency.
2. **Dr. S. Baskaran** has received certificate of appreciation in recognition of an NPTEL motivated learner from IIT Madras.

G. NPTEL Course

1. **Dr. Dhrubajit Sarma** completed eight weeks (3 credits) NPTEL course on "Building Materials and Composites" during July - September 2023 with Elite+Silver certification.
2. **Dr. Satyajit Pattanayak** completed eight weeks (3 credits) NPTEL course on "Power Plant Engineering" during July - September 2023 with Elite certification.
3. **Dr. S. Baskaran** completed eight weeks (3 credits) NPTEL course on "Introduction To Machine Learning - IITKGP" during July - September 2023 with Elite certification.

H. NPTEL Course

1. Mr. Ajith Gopal Joshi joined as 'Assistant Professor' on 16.09.2023.

I. Newspaper Clips

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epaper.eenadu.net

టమాట వినాల్సిందే!

మ్యాప్‌టుడే, మదనపల్లి విద్య

రైతులకు అందగా వినూత్న యంత్ర పరికరం

మిషన్ లర్నింగ్ ద్వారా ముందస్తు సమాచారం

మిట్స్ ఇంజినీరింగ్ కళాశాల విద్యార్థుల సృష్టి

నివేదిక పత్రాన్ని చూపుతున్న ఇంజినీరింగ్ విద్యార్థులతో గైడు

ఏవిధంగా తయారు చేశారంటే...

టమాట రైతులకు మార్గదర్శి

Date : 14/09/2023 EditionName : ANDHRA PRADESH(ANNAMAYYA) PageNo :

MITS ME students develops predictive model for tomato

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epaper.eenadu.net

యంత్రమే హమాలి... ధాన్యం నింపేయాలి

మదనపల్లి విద్య, మ్యాప్‌టుడే :

ఒక్కరుంటే చాలు సంచులు భర్తీ

మిట్స్ విద్యార్థుల నూతన ఆవిష్కరణ

ధాన్యాన్ని సంచుల్లో నింపే పరికరంతో విద్యార్థులు, గైడ్ అధ్యాపకుడు ముప్పా లక్ష్మణరావు

ఎలా తయారు చేశారంటే...

కర్షకులకు ఉపయోగం

Date : 24/08/2023 EditionName : ANDHRA PRADESH(ANNAMAYYA) PageNo :

MITS Students develop a device to fill bag with grains.

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epaper.eenadu.net

గట్టుపై కూర్చునే

పొలంలో కలుపు తీసేయొచ్చు!

- సౌర శక్తి ఆధారిత రోబోటిక్ సెమీ వీడ్ కట్టర్
- మిట్స్ ఇంజినీరింగ్ విద్యార్థుల వినూత్న సృష్టి

తాము తయారు చేసిన సోలార్ ఆపరేటెడ్ రోబోటిక్ సెమీ వీడ్ కట్టర్‌తో విద్యార్థులు

ఏవిధంగా తయారు చేశారంటే...

ఏవిధంగా పనిచేస్తుందంటే...

Date : 04/08/2023 EditionName : ANDHRA PRADESH(ANNAMAYYA) PageNo :

Solar-powered robotic semi-weed cutter to relieve farmers' struggles

D SURENDRA KUMAR @ Chittoor

FARMERS are the backbone of the nation, but lack of mechanisation has forced the same farmers to work for hours with less productivity. Aiming to reduce the cost of cultivation, workload burdening the farmers for ages and to overcome the shortage of agriculture labour, students of Madanapalle Institute of Technology and Science (MITS) Engineering college have come up with a project benefitting the farming community.

The students have invented a solar powered robotic semi-weed cutter that can be controlled with a remote, decreasing the workload on the farmers drastically.

Students Kumar, Lokesh, Rupesh, Lalit Venkat Sai from the department of mechanical engineering teamed up and started manufacturing the machine under the guidance of Professor Muppa Lakshmana Rao and Assistant Professor H Raghavendra Rao.

"The machine, designed using an AT 238 % micro cooler, two DC motors, an Arduino board, ultrasonic sensors, a solar panel, a 12-volt battery, a three-wheeled cart, and a pair of scissors, works by absorbing sunlight. The weed cutter connected to the battery cuts the weeds, which earlier requires huge manpower costing the hard earned resources of the farmers," said Kumar.

The sensors in the machine will remove only the weeds without causing any damage to the main crop, the team added. It is to be noted that the machine was manufactured with less than ₹15,000.

"With the lack of farm labourers, the ryots are forced to spend lakhs of rupees to make the farmland weed-free. With this machine, which will cost up to ₹5 lakh in the open market, the farmers will be able to clear the weeds in no time," said Lokesh.

Correspondent Vijaya Bhaskar Choudary, principal C Yuvraj and faculty members appreciated the students.

MITS Students develop solar powered robotic semi-weed cutter