ANURAG UNIVERSITY

SDG-13 CLIMATE ACTION 2025



TABLE OF CONTENTS

Content	Page Numbers
Executive summary 2025	3 - 5
Plastic waste management	6 - 9
Outreach programs	10 - 16
Environmental conservation initiatives	17 - 18
Sustainable practices	19 - 21
Industry exposure	22 - 25
Research contributions	26 - 30

Executive Summary 2025

Research and Innovation for Climate Action

Anurag University demonstrates its commitment to climate action through research and innovation focused on developing technological and scientific solutions to environmental challenges. Research contributions address clean fuels, emission reduction, carbon capture, climate-smart agriculture, sustainable energy systems, and environmental monitoring. Studies on alternative fuel blends, including CNG, biodiesel, hydrogen, and ammonia, explore opportunities to improve engine performance while reducing emissions. Other research focuses on carbon sequestration, CO_2 capture, carbon conversion, and machine learning applications for carbon footprint analysis. Research on climate-resilient agriculture, ecosystem adaptation, and climate-responsive urban planning further reflects the University's multidisciplinary approach to addressing climate change.

Plastic Waste Management

Through its collaboration with Bisleri, Anurag University promotes responsible plastic waste management and resource recovery on campus. A dedicated plastic waste collection bin has been installed to encourage students, faculty, staff, and visitors to segregate and dispose of plastic waste responsibly. The collected plastic is channelled towards recycling, supporting the recovery and reuse of materials. An important outcome of this collaboration is the installation of benches manufactured using recycled plastic, with each bench incorporating approximately 60 kg of recycled material. These benches demonstrate how discarded plastic can be transformed into useful campus infrastructure, reinforcing the principles of circular economy, resource conservation, and responsible consumption.

Climate-Conscious Technologies and Energy Efficiency

The University encourages students to explore technological solutions that contribute to energy efficiency and sustainable development through expert interactions and technical learning activities. An expert talk on Energy-Efficient VLSI Solutions for EV Control and Monitoring was organised on 12 September 2025, introducing students to low-power electronic systems used in electric vehicle battery management, motor control, and real-time monitoring. Similarly, an invited talk on Building Energy Management Systems (BEMS) was organised on 16 December 2025 in collaboration with ILM Group, Hyderabad. The session familiarised students with smart sensors, automated energy monitoring, building controls, and technologies that help optimise electricity consumption in residential and commercial buildings.

Environmental Conservation

Environmental conservation and the protection of green spaces form an important part of the University's climate action initiatives. Through its NSS Cell, Anurag University organised Van Mahotsav 2025 at Pillapally village on 7 August 2025. Student volunteers actively participated in sapling plantation activities and interacted with community members to highlight the importance of trees in maintaining ecological balance and protecting the environment. The initiative encouraged community participation in green-cover development and promoted awareness about the role of plantation activities in creating a healthier environment for future generations.

Promoting Sustainable Community Practices

Anurag University promotes environmentally responsible practices through community awareness programmes that encourage sustainable alternatives in everyday activities. An Eco-Friendly Ganesh Idol Distribution and Awareness

Programme was organised on 25 August 2025 at Maktha Anantharam Village in collaboration with the Pollution Control Board. The programme highlighted the environmental consequences of Plaster of Paris idols, chemical colours, and plastic decorations. NSS volunteers distributed natural clay idols and educated villagers about biodegradable alternatives, safe immersion practices, and reducing plastic use during celebrations. The initiative demonstrated how traditional celebrations can be aligned with environmental protection through awareness and community participation.

Industrial Exposure

Practical exposure and industry interaction help students understand environmental challenges and sustainable solutions beyond the classroom. On 17 September 2025, NSS volunteers visited Rani Polymers at Cherlapally, Hyderabad, to gain insights into plastic manufacturing, recycling, and resource recovery processes. Students observed how damaged and rejected plastic products are segregated, shredded, and reprocessed into reusable granules for manufacturing. The visit provided practical exposure to sustainable industrial practices, automation, quality control, and circular production methods. Such activities help students connect academic learning with real-world applications of recycling, resource optimisation, and environmental responsibility.

Bisleri–Anurag University collaboration: Plastic waste management

As part of its commitment to environmental sustainability and responsible resource management, Anurag University has undertaken a plastic waste management initiative in collaboration with Bisleri. The initiative focuses on promoting responsible plastic disposal, encouraging recycling practices, and reducing the environmental impact of plastic waste generated on campus.

Plastic waste, particularly single-use plastic, is a significant environmental concern due to its persistence in the environment and its potential to pollute land and water resources. Recognising the importance of addressing this issue at the institutional level, the University has facilitated a dedicated plastic waste collection system through its collaboration with Bisleri.

This initiative reflects the University's efforts to integrate sustainable waste management practices into everyday campus activities while encouraging students, faculty, staff, and visitors to participate in environmental conservation.

Dedicated Plastic Waste Collection Facility

Under the Bisleri collaboration, a designated collection bin has been installed on the University campus for the collection of plastic waste. The facility provides a dedicated space for depositing discarded plastic materials, helping prevent their mixing with general waste.

The collection bin encourages the campus community to segregate plastic waste at the point of disposal. By providing an accessible collection facility, the University promotes responsible waste disposal habits and increases awareness about the importance of separating recyclable materials from other waste streams.

The initiative also encourages students and staff to recognise that plastic waste, when appropriately collected and channelled for recycling, can become a resource rather than being treated merely as discarded material.

Recycled Plastic Benches on Campus

An important aspect of the Bisleri collaboration is the installation of benches manufactured using recycled plastic. These benches demonstrate a practical application of plastic recycling by converting discarded plastic materials into useful and durable campus infrastructure.

Each bench is made using approximately 60 kg of recycled plastic, demonstrating how waste materials can be recovered and transformed into products with continued utility.

The installation of these benches highlights the concept of a circular economy, in which materials are collected, processed, and reused rather than discarded after a single use. It also provides a visible example of how recycling can contribute to resource conservation and sustainable infrastructure development.

By incorporating products made from recycled plastic into the campus environment, Anurag University reinforces the importance of sustainable material consumption and demonstrates how institutions can support practical alternatives to conventional resource use.



Bisleri bench made with 60 KG of recycled plastic



Bisleri plastic deposit bin

Environmental Significance of the Initiative

The Bisleri–Anurag University collaboration contributes to several important environmental objectives:

- Plastic Waste Reduction: Encourages the collection and appropriate management of discarded plastic materials.
- Resource Recovery: Supports the conversion of plastic waste into reusable products through recycling.
- Circular Economy: Demonstrates how materials can be recovered and reintroduced into productive use.
- Responsible Consumption: Encourages individuals to consider the environmental consequences of plastic consumption and disposal.
- Environmental Awareness: Promotes responsible waste segregation and recycling practices among students, faculty, staff, and visitors.
- Sustainable Campus Infrastructure: Incorporates recycled-material products into the University's campus facilities.

Student and Campus Community Participation

The success of plastic waste management initiatives depends on the active participation of the entire campus community. Through the provision of a dedicated plastic collection bin, the University encourages individuals to take responsibility for the waste they generate.

Students, faculty, and staff are encouraged to use the designated collection facility and adopt responsible disposal practices in their everyday activities. The presence of recycled plastic benches further reinforces the importance of recycling by demonstrating a tangible outcome of responsible waste management.

Outreach Programs

Climate-Conscious Technologies

Technological innovation and efficient energy management play an important role in addressing climate-related challenges. Anurag University provides students with opportunities to explore technologies and systems that can contribute to improved energy efficiency and more sustainable practices.

During 2025, students participated in technical learning activities focusing on energy-efficient electronic solutions and the management of energy use in buildings.

Energy-Efficient Technologies for Electric Vehicles

The following event highlights the University's efforts to create awareness among students about energy-efficient technologies and their applications in electric vehicles.

Expert talk is for the awareness of Energy-Efficient VLSI Solution for EV Control & Monitoring

Date: 12th Sept, 2025
Time: 11:00 AM to 12:45 PM
Venue: A-422 Seminar Hall, Anurag University
No. of Participants: 151

The theme behind the expert talk is for the awareness of Energy-Efficient VLSI Solution for EV Control & Monitoring. About 101 students of IIIrd Year, on a study of Electric Vehicle Technology the expert talk is conducted on behalf of HOD on 12th September 2025, 11:00AM to 12:45PM. In this session we have learn The global shift towards electric vehicles (EVs) has created a strong demand for intelligent and energy-efficient control systems. EVs require real-time monitoring of parameters such as battery health, motor performance, charging status, and safety mechanisms. To achieve this, Very Large-Scale

Integration (VLSI) solutions play a crucial role in designing compact, high-performance, and low-power hardware. By integrating advanced circuits and architectures, energy-efficient VLSI systems enable reliable EV operation while reducing overall energy consumption.

Need for Energy-Efficient VLSI in EVs

Battery Limitation: EV performance is strongly linked to battery capacity, which makes energy efficiency vital.

Real-time Processing: Control units must process sensor data instantly to ensure safety and performance.

Compact Design: VLSI enables system-on-chip (SoC) solutions that minimize size and weight.

Sustainability: Low-power circuits reduce heat dissipation and extend battery life.



Applications of VLSI in EV Control & Monitoring

Battery Management System (BMS)

- Monitors state-of-charge (SoC) and state-of-health (SoH).
- Ensures safe charging/discharging cycles
- Implemented with low-power VLSI-based sensing and control circuits.

Motor Control Unit (MCU)

- Manages torque, speed, and power efficiency.
- Uses real-time digital signal processing (DSP) blocks in VLSI.

Power Electronics Interface

VLSI-based gate drivers and power controllers optimize inverter efficiency.

Vehicle Monitoring System

Integrates IoT-enabled VLSI chips for remote monitoring and diagnostics.

Energy-Efficient VLSI Design Techniques

Low-Power CMOS Design: Reduces static and dynamic power consumption.

Clock Gating & Power Gating: Disables unused circuit blocks to save energy.

Voltage Scaling: Dynamic Voltage and Frequency Scaling (DVFS) adjusts performance as per workload.

System-on-Chip Integration: Combines multiple EV subsystems on a single chip to minimize power loss.

Approximate Computing: Allows minor computation trade-offs to save power in non-critical modules.

Advantages of VLSI-Based EV Monitoring Systems

- Increased energy efficiency leading to extended driving range.
- Enhanced safety and reliability with real-time fault detection.
- Miniaturization reduces system weight and cost.
- Support for AI/ML integration in smart EVs for predictive maintenance.

Conclusion

Energy-efficient VLSI solutions are transforming the control and monitoring systems of electric vehicles by offering compact, reliable, and low-power designs. These innovations directly contribute to extending EV driving range,

ensuring safety, and supporting advanced functionalities such as predictive maintenance and smart charging. As EV adoption accelerates, VLSI technology will remain a cornerstone in shaping the next generation of sustainable and intelligent mobility solutions. It was indeed a successful expert talk completed for which we express our sincere thanks to our management, HOD of EEE department, Dr. T Anil Kumar.





Building Energy Management Systems (BEMS)

Date: 16th December, 2025
Time: 11.00 AM – 1.00 PM
Venue: B-BLOCK Arambh Hall, Anurag University Hyderabad
No. of Participants: 150

The **ISTE student chapter** of Electrical and Electronics Engineering department of Anurag University was organized an Invited Talk on **"Building Energy Management Systems (BEMS)"** with **"ILM Group, Hyderabad"** on 16th December, 2025 during 11 AM to 1 PM at B-block Arambh Hall. Total 100 students were participated in the event.

Dr. T. Anil Kumar, HOD, Electrical& Electronics engineering department introduced the resource persons from ILM Group, Hyderabad to the III year EEE students and handed over the session.

The resource person explained the importance of saving energy in residential and commercial buildings. He introduced the concept of Building Energy Management Systems and described how these systems help in monitoring and controlling energy usage in buildings.

During the session, the speaker discussed the main parts of BEMS such as sensors, smart meters, controllers, and monitoring software. The role of automation and smart technologies in controlling lighting, air conditioning, and other electrical systems was explained in a simple manner.

The speaker also shared real-life examples of smart buildings where energy management systems are used to reduce power consumption and electricity bills. The importance of renewable energy and energy-efficient practices was highlighted. The session was interactive, and students actively participated by asking questions. The talk helped students understand modern energy management techniques and their applications in real-world buildings.






ANURAG

The primary objectives of the invited talk were:

- To introduce the concept and importance of Building Energy Management Systems (BEMS) in modern infrastructure.
- To create awareness about energy efficiency, conservation, and sustainable building practices.
- To explain the architecture, components, and working principles of BEMS.
- To highlight the role of automation, IoT, and smart sensors in energy monitoring and control.
- To encourage students and faculty to explore research and career opportunities in smart building technologies.

The invited talk was a wake-up call for students to look beyond traditional power engineering. The BEMS industry is growing rapidly, offering roles in system design, energy auditing, commissioning, and software development.

The speaker encouraged students to learn about sensors, PLC programming, and energy efficiency standards. By mastering Building Energy Management Systems, EEE students can position themselves at the forefront of the global transition toward "Smart Cities" and a sustainable future.

The invited talk received positive feedback from students, many of whom expressed a keen interest in further exploring the software and its applications in their academic projects and future careers.

Environmental Conservation Initiatives

Environmental conservation and the protection of green spaces are important components of climate action. Anurag University encourages students and members of the University community to participate in initiatives that promote environmental responsibility and contribute to the development and preservation of green cover.

Vanmahotsav

The following initiative reflects the University's efforts to promote environmental conservation, encourage the protection and enhancement of green cover, and create awareness about the importance of trees in addressing environmental challenges.

VANMAHOTSAV- 2025

Date: 07/08/2025

On 7th August 2025, Anurag University's NSS Cell Unit-1 successfully organized the Van Mahotsav celebrations at Pillapally village, Bhoodan Pochampally Mandal, Yadadri Bhuvanagiri District — the adopted village of NSS Cell Unit-1. As part of the initiative, volunteers actively participated in planting saplings and contributing to the greening of the village.





The Programme was graced by Dr. J. Rajendra Kumar, Programme Officer of NSS Cell Unit-1, and Mr. B. Tirupathi, Pharmacy Department Coordinator. Special guests included Mr. Bhaskar, MPDO Officer of Pillapally, and Dr.C.Mallesha, NSS Cell Programme Coordinator of Anurag University, who addressed the gathering on the importance of trees in environmental conservation and the positive impact of large-scale plantation drives. They also appreciated the efforts of the volunteers in making the event a success. The activity aimed to raise environmental awareness and contribute towards creating a healthier environment for future generations.





Sustainable Practices

Anurag University encourages students to adopt environmentally responsible practices and participate in initiatives that promote awareness of sustainable alternatives. Such activities help connect everyday practices with broader environmental concerns and encourage responsible participation in climate and environmental protection.

Eco-Friendly Ganesh Idol Distribution & Awareness Programme

The following initiative highlights the University's efforts to promote environmentally responsible practices and create awareness about the environmental impact of traditional celebrations.

The Eco-Friendly Ganesh Idol Distribution & Awareness Programme encouraged the use of environmentally friendly alternatives and promoted awareness among participants about sustainable celebration practices.

The detailed event report is presented in the following section.

Eco-Friendly Ganesh Idol Distribution & Awareness Programme

Date: 25th August 2025.
Venue: Maktha Anantharam Village
Organized by: NSS Cell, Unit – II and Unit – V.
As part of Anurag University’s ongoing environmental conservation initiatives and in alignment with national efforts to promote sustainable festive practices, NSS Unit–II organized an Eco-Friendly Ganesh Idol Distribution & Awareness Programme on 25th August 2025 at Maktha Anantharam Village, Bibinagar Mandal, in collaboration with the Pollution Control Board. The programme aimed to encourage the community to celebrate Ganesh Chaturthi in an environmentally responsible manner.

Representatives from the Pollution Control Board and NSS Programme Officers addressed the gathering and sensitized villagers about the environmental hazards caused by Plaster of Paris (PoP) idols, chemical colors, and plastic decorations. They explained that PoP idols do not dissolve easily in water and release toxic substances during immersion, leading to water pollution and harm to aquatic ecosystems.

As a practical step toward pollution-free festivities, NSS volunteers distributed eco-friendly clay Ganesh idols to households in the village. The volunteers interacted with families and explained that natural clay idols are biodegradable, non-toxic, and dissolve harmlessly in water, thereby preserving lakes, ponds, and groundwater quality. Villagers were also guided on safe immersion practices, including home immersions and the use of designated community immersion points.

To enhance awareness further, volunteers conducted an interactive session focusing on:

- Reducing plastic and thermocol decorated items.
- Using natural colors and traditional materials.
- Encouraging simple and culturally rooted celebrations.
- Participating in post-immersion clean-up activities.

The local community responded with great enthusiasm and actively supported the initiative. Many villagers pledged to adopt eco-friendly practices not only for this festival but in future celebrations as well.

This impactful program demonstrated how religious traditions can flourish in harmony with environmental protection, inspiring the community to safeguard nature for future generations. The initiative showcased the true service spirit of NSS — "Not Me, But You" — by fostering social responsibility, environmental awareness, and community participation in sustainable development efforts.


గ్రామ పంచాయితి కార్యాలయం
NATIONAL SERVICE SCHEME
Eco – Friendly Ganesh Idols

Industry Exposure

Practical exposure helps students understand environmental challenges beyond the classroom and develop awareness of sustainable practices in real-world settings. Anurag University provides opportunities for students to observe industrial processes and understand their environmental implications through field-based learning.

The following field visit provided students with an opportunity to gain practical exposure to industrial operations and understand environmental practices associated with manufacturing and waste management.

NSS Field Visit – Rani Polymers, Cherlapally, Hyderabad

Date: 17th September 2025.
Venue: Rani Polymers, Hyderabad.
Organized by: NSS Cell, Unit – II.

As a part of the National Service Scheme's objective of imparting practical learning, industrial exposure, and community-oriented understanding to student volunteers, a field visit was organized to Rani Polymers, Phase–2, IDA Cherlapally, Hyderabad. The visit aimed to familiarize students with modern plastic manufacturing processes, recycling methods, and sustainable industrial practices.

Rani Polymers is a well-established micro-enterprise engaged in the production of durable plastic furniture, primarily plastic chairs. The organization utilizes a combination of semi-automatic and fully automated injection-molding machines, ensuring high-volume production with consistent quality standards. The company has adopted environmentally responsible

operations by incorporating recycled plastic into the manufacturing process, thus minimizing waste and reducing dependency on virgin polymers.

During the visit, students were introduced to the various operational stages involved in chair manufacturing. The process begins with the procurement of plastic granules—both virgin polypropylene/polyethylene and recycled material obtained from damaged or defective plastic products. These granules undergo a controlled melting process, followed by high-pressure injection into precision steel molds. The molded product is then subjected to regulated cooling, demolding, finishing, and final quality inspection.

The officials at the plant provided a detailed explanation of temperature control, pressure regulation, and the role of PLC-based automation in ensuring product uniformity. Students closely observed the recycling unit, where rejected chairs are segregated, cleaned, shredded, and reprocessed into reusable granules. This circular production approach stands as a strong example of industrial sustainability and responsible manufacturing—an important lesson for today's youth and aspiring engineers. The quality control laboratory demonstrated several mechanical and physical tests performed to ensure the strength, durability, and safe usability of the finished products. The interaction with the technical team helped students understand the importance of precision in manufacturing and the significance of adhering to safety standards in industrial environments.

This field study provided an enriching learning opportunity for the volunteers, enabling them to correlate theoretical industrial knowledge with real-world engineering practices, especially within the plastic processing sector. It also strengthened awareness of the importance of recycling, resource optimization, and environmental responsibility — values NSS constantly promotes through its motto, "Not Me, But You."












ANURAG UNIVERSITY
NATIONAL SERVICE SCHEME
Ministry of Youth Affairs & Sports Govt. of India
Venkatapur(V), Ghatkesar(M), Medchal- Malkajgiri(Dist.), Telangana-500088
WELCOME YOU TO THE
"Reduce : Reuse : Recycle
NSS Volunteer's learns at Rani Polymers"
Rani polymers, cherlapatly, hyderabad
17 SEP 2025
"NOT ME,BUT YOU"
ORGANIZED BY:
NSS UNIT- II , NSS CELL
ANURAG UNIVERSITY

Research Contributions to Climate Action

Anurag University's research under SDG 13 focuses on developing technological and scientific solutions to climate change through cleaner fuels, emission reduction, carbon capture, climate-smart agriculture, sustainable energy systems, and climate-responsive planning.

Research Area	Publications
Clean Fuels & Emission Reduction	• A Novel Paradigm CNG Dual-Fuel Strategy to Reduce Engine Emission of a CRDI Engine: A Green Fuel and MultiObjective Optimization Approach • Mitigating Environmental Impact: A Study on the Performance and Emissions of a Diesel Engine Fueled with Biodiesel Blend • Experimental Study on the Impact of MgO Nanoparticles on the Performance, Combustion and Emission Characteristics of Karanja Oil Methyl Ester in a CRDI Engine • Pioneering Green Dual-Fuel Solutions: An Experimental Study on Optimizing CRDI Engine Performance and Emissions with Hydrogen and Oxygenated Fuels • Hydrogen–Ammonia Fuel Blends for Diesel Engine Performance, Emissions, Vibration–Acoustic Dynamics, and GEP Optimization
Carbon Capture, Conversion	• Sustainable Synthesis of Microporous Activated Carbon from Gum Arabic Tree Seed Shell via Hydrothermal KOH Activation for Enhanced CO_2 Capture • The Regulation of Soil Organic Carbon Sequestration in Calcareous Soil by Long-Term Organic Amendments and Nitrogen Fertilization • Metal-Organic Framework Catalysts for Carbon Dioxide Conversion into Value-Added Chemicals • Machine Learning: AI Meets Blockchain: Machine Learning-Driven Carbon Footprint

	Analysis for Next-Gen Sustainable Supply Chains
Climate Change, Agriculture & Ecosystem Resilience	• Omics Technologies in Grapevine Stress Biology: Bridging Molecular Insights and Sustainable Viticulture under Climate Changes • Climate Change and Agriculture Land Suitability Insights from Interpretable Machine Learning • The Role of Cuticular Hydrocarbons in Physiological Adaptation of Desert Locusts
Climate-Smart Energy	• Addressing Economic and Emission Dispatch Challenges in Combined Heat and Power Systems with a Multi-Objective Liver Cancer Algorithm for Large-Scale Virtual Power Plants • 4D Spatiotemporal Modelling Using Graph Attention Transformers for Climate-Responsive Urban Planning
Environmental Monitoring	• LiDAR Image-Based Earth Carbon Emission Analysis and Its Impact on Public Health: A Machine Learning Model • Ni-Encapsulated Carbon Catalyst with Enhanced Catalytic Stability for Hydrogenation of Levulinic Acid to γ-Valerolactone • Biosynthesis of Carbon Nanoparticles and Their Potential Usefulness in Cancer Research and Biotechnology • Advancements in Proton and Carbon Ion Therapy for Precision Radiotherapy of Complex Tumors

List of publications under SDG 13 are as follows,

Title	Journal	Home Authors
LiDAR Image-Based Earth Carbon Emission Analysis and Its Impact on Public Health: A Machine Learning Model	Remote Sensing in Earth Systems Sciences	Dhyaram Lakshmi Padmaja
A Novel Paradigm CNG Dual-Fuel Strategy to Reduce Engine Emission of a CRDI Engine: A Green Fuel and MultiObjective Optimization Approach	Journal of Mechanical Engineering	Srikanth Vadlamudi
The role of cuticular hydrocarbons in physiological adaptation of desert locusts	Journal of Entomological Research	Vamalatha Bodireddy
Mitigating Environmental Impact: A Study on the Performance and Emissions of a Diesel Engine Fueled with Biodiesel Blend	Journal of Mines, Metals and Fuels	Dr. Kolluri Srinivasa Chalapathi
Ni-enacapulated carbon catalyst with enhanced catalytic stability for hydrogenation of levulinic acid to γ-valerolactone	Molecular Catalysis	Manasa G; Ramineni Kishore; Pradeep Kumar Challa
Addressing economic and emission dispatch challenges in combined heat and power systems with a multi-objective liver cancer algorithm for large-scale virtual power plants	2025 7th International Conference on Energy, Power and Environment (ICEPE)	Swathi Polasa; Harish Pulluri
Biosynthesis of Carbon Nanoparticles and Their Potential Usefulness in Cancer Research and Biotechnology	Health Leadership and Quality of Life	Madireddy Sirisha
Sustainable synthesis of microporous activated carbon	Journal of the Chinese	S Shankaraiah

from gum Arabic tree seed shell via hydrothermal <scp>KOH</scp> activation for enhanced <scp>CO</scp>₂ capture	Chemical Society	
Omics technologies in grapevine stress biology: bridging molecular insights and sustainable viticulture under climate changes	Physiological and Molecular Plant Pathology	Dibya Lochan Mohanty
Experimental study on the impact of MgO nanoparticles on the performance, combustion and emission characteristics of Karanja oil methyl ester in a CRDI engine	Aip Conference Proceedings	K Sandeep Kumar
Climate Change and Agriculture Land Suitability Insights from Interpretable Machine Learning	2025 IEEE 4th World Conference on Applied Intelligence and Computing (AIC)	Manyam Thaile; Yalla Abhinaya; Gorrenkala Rajkumar; Pathi Sunil Kumar; Yelugubanti Sunitha; Ramesh Babu Pittala; Dr. Medikonda Asha Kiran
4D Spatiotemporal Modelling Using Graph Attention Transformers for Climate-Responsive Urban Planning	MUSIK IN BAYERN	D Maheswara Reddy
Advancements in Proton and Carbon Ion Therapy for Precision Radiotherapy of Complex Tumors	Health Leadership and Quality of Life	Putta Chandana
Pioneering Green Dual-Fuel Solutions: An Experimental Study on Optimizing CRDI Engine Performance and	EPJ Web of Conferences	Srikanth Vadlamudi; H Ameresh

Emissions with Hydrogen and Oxygenated Fuels		
Hydrogen–ammonia fuel blends for diesel engine performance, emissions, vibration–acoustic dynamics, and GEP optimization	Environmental Progress and Sustainable Energy	Srikanth Vadlamudi
The Regulation of Soil Organic Carbon Sequestration in Calcareous Soil by Long-Term Organic Amendments and Nitrogen Fertilization	Salud, Ciencia y Tecnología	Banothu Vijay
Machine Learning: AI Meets Blockchain: Machine Learning-driven Carbon Footprint Analysis for Next-Gen Sustainable Supply Chains	Sustainable Supply Chains and Carbon Footprint Reduction	Ravi Aavula
Metal-Organic Framework Catalysts for Carbon Dioxide Conversion into Value-Added Chemicals	International Academic Journal of Science and Engineering	Bathala Balaji