



THEME BASED PROJECT COMPETITION 2025

MODERNIZATION OF AGRICULTURAL SYSTEMS
USING SUSTAINABLE TECHNOLOGIES
TOWARDS NET ZERO EMISSION

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The field of agriculture accounts for nearly one fourth of global greenhouse gas emissions, with traditional practices contributing significantly to deforestation, soil degradation, and water scarcity. By 2050, the global population is projected to surpass 9.7 billion, demanding a 70% increase in food production. This rising demand, coupled with the urgent need to combat climate change, calls for a transformation in how we produce food. The theme "Modernization of Agricultural Systems Using Sustainable Technologies Towards Net Zero Emission" aims to inspire innovative solutions that merge cutting-edge technology with sustainable practices to address these pressing challenges.

This internal expo serves as an inter-disciplinary platform for students of MVJCE to explore and showcase their innovative ideas contributing towards precision agriculture, renewable energy integration, smart irrigation systems, organic farming methods, carbon sequestration strategies, and waste-to-resource technologies. By fostering creativity and critical thinking, this event encourages future engineers and innovators to contribute toward developing resilient, efficient, and sustainable agricultural systems that align with global net zero emission goals. The expo aspires to bridge the gap between traditional agriculture and modern sustainable technologies, driving progress toward an environmentally responsible and climate-resilient future.

Objectives of the Expo:

- Inspire innovative ideas for sustainable agriculture.
- Encourage the use of technology to achieve net zero emissions.
- Provide a platform to showcase research, prototypes, and models.

Awards & Recognition

- Exciting prizes for first and second place for best project/poster
- Certificates for all participants.
- Best projects may be considered for further development or funding.

Event Categories:

- Project Models & Prototypes
- Poster Presentations

Contact Information

Faculty Coordinators:

- 1) Dr Namrata Barodoli, AP, ME
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- 2) Dr Rajesh Saha, AP, VLSI
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Conveners

- 1) Dr. Shrinivas L Gombi,
Dean- Mechanical Sciences
- 2) Dr. A C Niranjanappa,
Dean -Research

Registration Details:

E-mail for registration : expo2025@mvjce.edu.in

Suggested Themes/Focus Areas (but not limited to):

- AI & IoT for Smart Farming: AI-driven crop health monitoring, pest detection, and yield prediction.
- Data Analytics for Climate-Resilient Agriculture: Predictive analysis for weather and crop management.
- Smart Sensors for Precision Agriculture: Soil health sensors, weather monitoring systems.
- Drone-based Crop Monitoring: Real-time surveillance and spraying systems.
- Solar-Powered Irrigation Systems: Energy-efficient pumping solutions.
- Energy Storage Systems for Rural Electrification: Battery technologies for consistent power supply.
- Automation in Agricultural Machinery: Autonomous tractors, seeders, and harvesters.
- Design of Energy-Efficient Farm Equipment: Low-emission tillers, composting units.
- Sustainable Water Management Systems: Rainwater harvesting, smart irrigation canals.
- Agricultural Drones for Precision Spraying: UAVs for targeted pesticide and nutrient delivery.
- Vertical and Urban Farming Technologies: Smart indoor farming systems integrating multiple engineering disciplines.
- Hydroponics & Aquaponics Systems: Sustainable soil-less farming methods.
- Agri-Robotics: Multi-functional robots for planting, weeding, and harvesting.
- Circular Economy Models in Agriculture: Zero-waste farming systems

Eligibility

- Open to all first-year to pre-final year engineering students.
- Each group must have a minimum of 2 and a maximum of 4 students.
- Project groups must include students from at least two different branches of engineering.
- Special encouragement/consideration will be given to all girl students teams.

Schedule

Announcement	◀	25-01-2025
Submission of Data	◀	05-03-2025
Screening	◀	10-03-2025
Mid Review	◀	24-03-2025
Prototype submission with Report	◀	23-04-2025
Expo Date	◀	26-04-2025

01. Procedure for Proposal Submission

Theme Relevance: Ensure your project aligns with the theme.

Format of Proposal: Submit a detailed proposal including:

- o Idea/Concept
- o Objectives
- o Problem statement
- o Proposed solution
- o Methodology
- o Deliverables
- o Required resources

Submission Mode: Proposals must be submitted online through the link and PDF hard copy to the department coordinator.

Deadline: Adhere to the submission deadline. Late submissions will not be considered.



02.



Screening of Projects

Initial Screening: A panel of faculty members from diverse branches will evaluate the proposals based on:

- o Relevance to the theme
- o Feasibility
- o Innovation/novelty
- o Practical application/societal benefits

Shortlisting: Selected projects will be announced within two weeks of submission.

05. Project Expo and Evaluation

Project Expo:

- o Display your working model or prototype during the event.
- o Prepare posters to highlight key aspects of your project.

Evaluation Criteria:

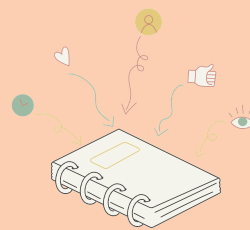
- o Relevance to theme: 20%
- o Innovation: 20%
- o Feasibility and practicality: 20%
- o Technical soundness: 20%
- o Presentation and documentation: 20%

Awards:

- o Best Project Award
- o Runner-Up Project Award

Judging Panel: Comprising faculty members, industry experts, and alumni.

03. Review Process of Project Stages



A mid review by the review Committee to monitor progress and provide feedback during reviews.

Documentation: The review must be accompanied by a progress report.

Submission of Final Project (Prototype/Software/Hardware)

04.

Report Submission: Submit a detailed project report including:

- o Introduction and objectives
- o Literature survey
- o Methodology
- o Results and analysis
- o Conclusion and future scope



Format: The report should follow the specified college guidelines (font size, margins, references).

Presentation: Prepare a PowerPoint presentation for the final evaluation.