

Sri
MANAKULA



VINAYAGAR

Medical College and Hospital
Kalitheerthalkuppam, Puducherry 605107

IIC CELEBRATION ACTIVITY

Institution's Innovation Council

Title: National Science Day-Innovation challenge (solve a Local problem).

Theme: Innovation challenge solve a Local problem.

Organizing Secretaries: Dr. P.Sanjay **IIC**

- Student Coordinator: Deepak V

Time: 12.00.PM onwards.

Objectives:

. Identify a Local Problem:

- Pinpoint a pressing issue in your community (e.g., waste management, water scarcity, healthcare, or lack of proper infrastructure). The problem should be relevant and impactful.

2. Research & Understand: • Conduct thorough research to understand the problem's root causes. Engage with local residents, experts, and data to identify gaps and challenges.

3. Innovative Solution:



- Propose a creative, out-of-the-box solution that directly addresses the identified problem. Use technology, new approaches, or sustainable methods to find a unique solution.

4. Practicality & Feasibility: • Ensure your solution is not only innovative but also practical. Consider resource availability, cost-effectiveness, and the ability to implement the solution locally.

5. Sustainability:

- Focus on long-term sustainability. The solution should be environmentally friendly, economically viable, and socially beneficial for the community

Participant Details:

The competition had 9 participants from all the phases of MBBS. The submissions were judged by distinguished judges in innovation, research and art.

Programme Overview:

The National Science Day was celebrated on 28.02.2025 with an Innovation Challenge competition. The participants were given 7 days for preparation. Nine participants from all the phases of MBBS participated in the competition and were judged based on the Relevance to the theme, innovation, presentation and description. Two of the participants were chosen as Winner and Runner and were felicitated by the Head of the Institution.

Outcomes:

1. Community Empowerment:

- The challenge will foster local engagement, allowing residents to actively participate in solving issues that directly affect their lives.

2. Sustainable Solutions:

- Innovations will focus on long-term, environmentally and socially sustainable solutions, addressing both immediate and future challenges.

3. Technological Advancement:

- Participants will apply modern technologies or creative approaches to solve problems, showcasing the role of innovation in community development.

4. Scalable Impact:

- Successful solutions can be adapted and scaled to other regions, creating broader positive change beyond the local community.

Way Forward:

Moving forward, the Institute Innovation Council will continue to conduct various day celebration activities and events for public perception of technology, and community engagement. Emphasis will be placed on fostering innovation, critical thinking, and entrepreneurship among students and faculty.



INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of Education Initiative)



Sri
MANAKULA VINAYAGAR

Medical college and Hospital

Accredited by NAAC with A+ Grade
Accredited by NABH and NABL

INSPIRE & INNOVATE

INNOVATION CHALLENGE!

Celebrate National Science Day with us!

IIC feels elated to announce the
"Innovative Solutions to Local Problems" event,
From February 21 to 28, 2025.
Join us to showcase your creativity and innovation!

Begins

21

February, 2025

**SPOT A PROBLEM?
SHARE AN INNOVATIVE
SOLUTION!**

Till

28

February, 2025

D. Krithikha
Joint Secretary of IIC&
Research
ph. 8220594941

Register now through the Google Form!

Deepak .V
Secretary of IIC&
Research
ph. 6380096467

NAME: K. SINDHUJA

INNOVATIVE SOLUTIONS

DATE: 27.02.2025

BATCH: 2023-BATCH

TO LOCAL PROBLEMS

QUESTION:

In a busy hospital setting, interns often manage multiple patients, making it challenging to administer IV fluids on time. This can lead to delay in patient care.

SOLUTION:

A smart alert system can be implemented to remind interns about IV fluid administration. These include:

- 1) Automated alarms: Tuned alert on hospital devices or nurse stations to notify when IV fluids need to be checked or replaced. Even the patients attendant can also inform the staff using alarm.
- 2) Mobile Notifications: A system that sends real-time messages to interns phones, informing them about the IV fluid levels and the need for replacement.
- 3) IoT-Based Monitoring: Sensors attached to IV bags (Weight sensor) that detects fluid level and automatically trigger alerts when the level is low.
- 4) Microcontroller & Display: A digital screen (LCD or mobile app) displays the exact volume of fluid left in the IV bag.

This system ensures timely IV fluid management, reducing human error and improving patient care.

INNOVATIVE SOLUTIONS TO LOCAL PROBLEMS

"More than 30 stray dogs were reported in last two days in Pudukkottai"

Above is the news headline taken from Hindu newspaper in recent times. So I put forth my problem and provide an innovative solution for that.

"Controlling stray dogs in semi-urban areas causing nuisance"

Above mentioned topic is not only for that people, even my community people face this problem. So my solution for this problem using Artificial intelligence and Internet of things technology.

Solution: Community for canine economy (CCE)

CCE system can be made using AI and IOT to create human data driven & effective approach to manage stray dogs.

CCE system - multi faceted, technology can be designed to monitor, manage & mitigate stray dog related issues.

dog behaviour
population dynamics
community interactions } can be analysed.

What measures can control the rising stray dog population in urban areas?

Some stray dogs have been a rising problem in Indian localities and have been root cause for several health problems like rabies, parvovirus, distemper, leptospirosis, fleas and ticks and also cause other safety concerns like barking, road accidents, and property damage and may cause fear and anxiety for children.

For a better perspective of the seriousness of this problem approximately 30 lakh dog bite cases 286 deaths associated to it are reported in India in 2023 and 22 lakh cases and 44 deaths associated to it in 2024.

India accounts for 36% of global rabies cases and 5,726 deaths in 2024 in India last year because of it.

In India, Maharashtra leads with 4,35,136 dog bite cases followed by Tamil Nadu with 4,04,488 cases and Delhi is the fastest growing territory in India in dog bite cases with 143% year on year increase in dog bite case.

The solution that I propose for this problem is as follows:-

AI powered stray dog tracking using Drones and CCTV cameras:-

Major dog hotspots in urban areas can be reported and the dogs in those hotspots can be sterilized and vaccinated by the Municipal Corporation.

GPS tagged reflective collars for Strays:-

It can be beneficial for both the dog and humans because the reflective collars will help the dog's safety at night and GPS tagged collars will help us to prevent overcrowding of dogs in a particular area.

PET shelters and Feeding pods:-

We can collaborate with various NGO's like Blue cross, PETA, Animal Right Organisations and Animal Rights Activist to create shelters, feeding pods and small veterinary clinics in various hotspots and we can ask the corporates to give their CSR for this activity and we also ask the public for donation to fund these.

It will be 3 way partnership between the government, public and corporates and it can create lot of employment to and even we can develop it as pet tourist attraction.

Helmet Station: A Safety Initiative

Problem:

Many students using motorcycles to reach the college campus fail to wear helmets regularly, compromising their safety.

Solution:

A monitoring system including rewards may help to promote helmet wearing among students using motorcycles to reach the college.

A Helmet Station at the campus entrance can encourage students to wear helmets regularly by using biometric verification and rewards. A biometric check-in system will scan students as they enter, checking if they are wearing a helmet. If they do, their entry is recorded, and they earn points. Students who wear helmets consistently will receive small rewards monthly managed by the college student council. This system makes helmet use a habit by offering positive incentives instead of imposing fines and punishments. Over time, it will help students develop safe riding habits, reducing the risk of serious injuries. By combining technology and rewards, the Helmet Station will create a safer campus environment, ensuring students protect themselves while commuting.

#INNOVATIVE INITIATIVE FOR ENVIRONMENTAL IMPROVEMENT#

>* Innovation in societal and environmental management is crucial for addressing pressing global challenges like climate change and social inequality, requiring creative solutions that integrate technological advancements with sustainable practices, promoting a holistic approach to improving quality of life while minimizing environmental impact; key areas for innovation include renewable energy, smart infrastructure, circular economy models, community-based initiatives, and advanced data analytics, all aimed at fostering a more resilient and equitable future.

Key Areas of Innovation:

Renewable Energy and Grid

Modernization:

Smart grids: Integrating decentralized