

Research Awards

GANITAM

WINNER



Supriyo Jana

Indian Institute of Technology-Madras, Chennai, Tamil Nadu

Project Title:

Dynamics and Integrability of Polynomial Vector Fields on the n -dimensional Sphere

Project Summary:

Developed new methods to identify and count special repeating patterns that shape how points move on spheres of any dimension over time. The research deepened our understanding of this long-term motion, help locate periodic, cycle-like patterns common in nature, and improve our ability to solve complex models, including ones describing how interacting species, like predators and prey, evolve together.

Supervisor:

Dr. Soumen Sarkar

RUNNER UP I



Soumak Nag

University of Hyderabad, Hyderabad, Telangana

Project Title:

Asymptotic Behavior of an Age-structured SIS Model with Nonlinear Force of Infection

Project Summary:

Developed a mathematical model to study how infectious diseases spread when people's movement is limited within a region. The results can help better predict disease outbreaks and design more effective strategies to control the spread of infections.

Supervisor:

Prof. Suman Kumar Tumuluri

RUNNER UP II



Arghya Chongdar

Indian Statistical Institute, Bengaluru, Karnataka

Project Title:

A Minimal Completion Theorem and Almost Everywhere Equivalence of Completely Positive Maps

Project Summary:

Discovered a mathematical rule that takes a partially broken or incomplete "instruction manual" for shifting quantum energy and perfectly fills in the missing pieces in the cleanest way possible. They then used this rule to prove that if two of these quantum energy maps look almost identical on paper, they are actually exactly the same.

Supervisor:

Dr. B. V. Rajarama Bhat



Research Awards

BHOUTIKAM

WINNER



Gourav Dwari

Tata Institute of Fundamental Research, Mumbai, Maharashtra

Project Title:

Evidence of Skyrmionic Phase in a Centrosymmetric Antiferromagnet $\text{GdNi}_{0.4}\text{Si}_{1.6}$ Single Crystal

Project Summary:

Found evidence of tiny magnetic whirlpools called skyrmions in a special material at very low temperatures. This discovery could help in the future development of faster, more energy-efficient electronic devices and better data storage technologies using these magnetic whirlpools.

Supervisor:

Prof. A. Thamizhavel

RUNNER UP I



Anindita Karmakar

Saha Institute of Nuclear Physics, Kolkata, West Bengal

Project Title:

Measurement of Enhanced Electric Dipole Transition Strengths at High Spin in ^{100}Ru : Possible Observation of Octupole Deformation

Project Summary:

Discovered evidence that the atomic nucleus of ruthenium-100 may have a rare pear-shaped structure instead of the more common symmetric shape. This finding helps a better understanding of how atomic nuclei are formed and behave.

Supervisor:

Prof. Sukalyan Chattopadhyay

RUNNER UP II



Payal Priyadarshini Pradhan

National Institute of Technology, Warangal, Telangana

Project Title:

Development of Novel, Stable, Efficient and Unclonable Nanoscale Luminescent Ink for Advanced Anti-counterfeiting Applications

Project Summary:

Developed a special security ink (Europium ion activated Y_2SrZnO_5 nano ink) that is invisible in normal light but glows bright red under ultraviolet (UV), and blue light, making it useful for protecting currency and important documents from counterfeiting. The ink is highly durable and continues to work even after exposure to heat, moisture, sunlight, and other harsh conditions.

Supervisor:

Prof. D. Haranath



Research Awards

JEEVANAM

WINNER



Simran Rawal

Tata Institute of Fundamental Research, Hyderabad, Telangana

Project Title:

Edge Curvature Drives Endoplasmic Reticulum Reorganization and Dictates Epithelial Migration Mode

Project Summary:

Discovered that cells can sense the shape of a wound and change the way they move to heal it more effectively. This finding improves our understanding of how wounds heal and could help researchers develop better treatments to repair damaged tissues.

Supervisor:

Dr. Tamal Das

RUNNER UP I



Achyutham V Durga Prasad Hotha

Karnatak University, Dharwad, Karnataka

Project Title:

Reproductive Stress Response in Male Black Molly Poecilia Sphenops: Evidence for Receptor Specific Regulation by GABA

Project Summary:

Found that stress increases the activity of a brain chemical called GABA, which raises stress hormone levels and suppresses reproduction in a fish model. Blocking a specific GABA receptor helped protect the fish, opening new possibilities for understanding stress-related reproductive problems.

Supervisor:

Dr. C. B. Ganesh

RUNNER UP II



Jayanti Kumari

Indian Institute of Science, Bengaluru, Karnataka

Project Title:

Distinct Filament Morphology and Membrane Tethering Features of the Dual FtsZ Paralogs in Odinarchaeota

Project Summary:

Studied special proteins from hot spring ancient microbes called Asgard archaea to understand how the cell skeleton in complex organisms, including humans, may have evolved. The findings provide new clues about how cells changed over millions of years to become more advanced and complex how it is now.

Supervisor:

Dr. Saravanan Palani



Research Awards

RASAYANAM

WINNER



Deepak Kumar Patel

Indian Institute of Technology-Madras, Chennai, Tamil Nadu

Project Title:

Macropolyhedral syn-B18H22, the "Forgotten" Isomer

Project Summary:

Discovered that a boron-based material, syn-B18H22, once thought to be unable to glow can actually emit light, and synthesized derivatives to make it glow in different ways. This breakthrough, opens new possibilities for advanced sensors, lasers, photonics, and next-generation electronic devices.

Supervisor:

Prof. Sundargopal Ghosh and Prof. Thalappil Pradeep

RUNNER UP I



Monojit Roy

Indian Institute of Science Education and Research, Mohali, Punjab

Project Title:

Consecutive Multiphoton-Mediated Defluorinative Amination of Fluoroarenes

Project Summary:

Used a special dye that traps visible light to break the ultra-strong chemical bonds in specific fluorine-containing molecules. In traditional photochemistry one catalyst can absorb one packet of light here this unique molecule can absorb upto three packets of light in a row, this catalyst gains enough energy to easily swap out the fluorine atoms and generate carbon-nitrogen bond to create new molecules under very mild photochemical conditions. This discovery could make it easier and more environmentally friendly to produce medicines and other important chemicals.

Supervisor:

Dr. Debashis Adhikari

RUNNER UP II



S Revathy

University College of Science, Osmania University, Hyderabad, Telangana

Project Title:

Sustainable Forensic Drug Analysis: Magnetic Nanoparticle based extraction from Edible Matrices and Analytical Detection using RP-HPLC/LC-MS with Green and White Comparative Study

Project Summary:

Developed a new, environmentally friendly method to detect the modern date rape drug olanzapine when it has been secretly mixed into food. This quick and accurate technique could help forensic scientists and food safety experts identify cases of drug tampering more effectively.

Supervisor:

Dr. P. Muralidhar Reddy



SPARK Innovation Awards

GANITAM

WINNER



Anubhav Mukherjee, Aditya Nandy & Shubham Guie

Class 11, Vivekananda Mission School, Kolkata, West Bengal

Project Title:

Dynamic Traffic Analysis: Merging Video-Inspired Concepts with Mean Value Theorem

Project Summary:

The project demonstrates how the Mean Value Theorem connects a vehicle's average speed over a road segment with its instantaneous speed at a specific moment. Using a simulation of traffic movement between two checkpoints, it illustrates a practical application of calculus in traffic monitoring, speed analysis, and road safety.

Guide Teacher:

Mr. Soumya Bhatta

RUNNER UP



Aditya Choithani, Nidhir Bardhan & Akshat Hatwal

Class 11, Tagore International School, Vasant Vihar, New Delhi

Project Title:

Alloc8 - Fair Resource Distribution Model

Project Summary:

Alloc8 is a mathematical framework that uses optimization, graph theory, probability, and fairness-based algorithms to ensure fast and equitable distribution of resources in crisis-affected regions. By transforming complex humanitarian logistics into efficient mathematical models, it enables rapid, unbiased, and need-based decision-making for disaster response.

Guide Teacher:

Ms. Ruchi Gupta

CONSOLATION



Vibha Myneni, Arigela Srivatsankita & Divvela Riya

Class 9, Bharatiya Vidya Bhavans Atmakuri Ramarao School, Hyderabad, Telangana

Project Title:

B3 - Brains Before Bulbs

Project Summary:

The project demonstrates how binary digits (0s and 1s) can be used to encode and decode secret messages using switches and bulbs. It shows how the same mathematical principles behind computers also appear in patterns found in nature, making binary numbers easy and fun to understand.

Guide Teacher:

Ms. M. V. S. Narasamamba

CONSOLATION



Harsimar Singh Dargan

Class 10, Scottish High International school, Gurgaon, Haryana

Project Title:

A Game - Theoretic Analysis and Novel Solution for India's JEE Counselling System

Project Summary:

The project explains how the JoSAA admission system can make students choose colleges and branches based on expected cut-off ranks instead of their true interests. Using mathematics and game theory, it shows how this can lead to less suitable college admissions and unnecessary stress for students.

Guide Teacher:

Mr. Pawan Mittal



SPARK Innovation Awards

BHOUTIKAM

WINNER



Medhansh Kumar

Class 9, Bluebells School International, Kailash, New Delhi

Project Title:
Gas Risav Niyantrak - Inspectron System

Project Summary:
The project uses an intelligent robotic system with a pipeline inspection robot and a drone to detect gas leaks, cracks, and corrosion before they become serious problems. It can monitor pipelines in real time and perform minor repairs, making pipeline maintenance safer, faster, and more reliable.

Guide Teacher:
Ms. Neeru Bhushan

RUNNER UP



Divij Sharma & Prerit Amin

Class 9, Anand Vidya Vihar, Vadodara, Gujarat

Project Title:
Growlite

Project Summary:
The project is a low-cost autonomous drone that monitors crop health using cameras and environmental sensors. It displays all the information on a single dashboard and alerts farmers when it detects problems, helping them take timely action.

Guide Teacher:
Ms. Nasla A. A.

CONSOLATION



Gauhar Singh

Class 8, Tagore International School, Vasant Vihar, New Delhi

Project Title:
Impact Ease: Shock-Absorbing Car Seat using Non-Newtonian Fluids

Project Summary:
Developed a smart car seat that uses a special non-Newtonian fluid to stay soft during normal driving and become firm during sudden impacts for better protection. It improves comfort and safety while providing an eco-friendly and portable seating solution.

Guide Teacher:
Ms. Chetna Sawhney

CONSOLATION



Agamjot Kaur & Anika Sharma

Class 8 & 7, Tagore Interantional School, Vasant Vihar, New Delhi

Project Title:
Towards Healthy Spines: AI-Powered Smart School Bags

Project Summary:
Developed AI-enabled smart school bag straps that detect poor posture, heavy loads, and uneven weight while students carry their bags. It provides instant alerts and posture reports to help students develop healthy habits and reduce the risk of back and spine problems.

Guide Teacher:
Ms. Nidhi Dimri



SPARK Innovation Awardees

JEEVANAM

WINNER



Avni Dwivedi

Class 11, Scottish High International School, Gurgaon, Haryana

Project Title:
Cool Roof

Project Summary:

Developed eco-friendly roof tiles made from coconut husk and polymer latex that keep houses 7–9°C cooler without using electricity. The tiles are affordable, sustainable, and can provide a better alternative to plastic roofing, especially in villages and less urbanized areas.

Guide Teacher:
Ms. Akanksha Yadav

RUNNER UP



Anvesha Gaur & Riza Qureshi

Class 10, Uttam School For Girls, Ghaziabad Uttar Pradesh

Project Title:
Miraqua

Project Summary:

Developed Miraqua, an AI-powered smart buoy that monitors the sea to detect illegal fishing and other activities that harm marine life. It sends real-time alerts to authorities, helping protect marine biodiversity and conserve ocean ecosystems.

Guide Teacher:
Ms. Yamini Gupta

CONSOLATION



K V Sai Deepansh, T Likhith Kishore & D Sai Tulyasree

Class 8, Bharatiya Vidya Bhavan's Atmakuri Rama Rao School, Hyderabad, Telangana

Project Title:

Green Eye - Autonomous Plant Disease Detection Rover for Sustainable Crop Management

Project Summary:

Developed an autonomous rover to detect plant diseases by capturing and analyzing leaf images as it moves through the field. It sends the plant's location and suitable natural treatment to the farmer's mobile phone, helping improve crop health with precise and eco-friendly farming.

Guide Teacher:
Ms. Ratna Veni Veludandi

CONSOLATION



Subhaditya Sundar Ray

Class 8, DAV Public School, Chandrasekharapur, Bhubaneswar, Odisha

Project Title:
Seizure Alert

Project Summary:

Developed a wearable device that detects possible seizure emergencies by monitoring heart rate and blood oxygen levels. It automatically sends alerts, makes emergency calls, and shares the user's live location, helping ensure quick medical assistance.

Guide Teacher:
Mr. Jyoti Ranjan Mohanty



SPARK Innovation Awards

RASAYANAM

WINNER



Thumma Sansitha & Shreya Vidyashankar

Class 9, Bharatiya Vidya Bhavan's Atmakuri Rama Rao School, Hyderabad, Telangana

Project Title:

Sip, Save, Style: Reinventing Milk Packets for Sustainable Living

Project Summary:

The project shows how used milk packets can be recycled into a strong, flexible, and waterproof fabric. The fabric is then used to make useful products like bags and folders, helping reduce plastic waste and promote sustainable living.

Guide Teacher:

Ms. M. Srilakshmi

RUNNER UP



Kavish Patra

Class 7, Cambridge School, Srinivaspuri, New Delhi

Project Title:

Role of Nanoparticles in Protecting our Cultural Heritage

Project Summary:

Developed "Invisible Trio Shield" nanoparticles made of three materials, Titanium dioxide to clean dirt using sunlight, silicon dioxide pushes water away to stop soaking, and calcium hydroxide fills small cracks by slowly turning into limestone. Together, they form a transparent and eco-friendly coating that keeps monuments clean, dry, and stronger from inside.

Guide Teacher:

Ms. Divya Chawla

CONSOLATION



A Kaushik Kumar, B Paramasivan & B Jithesh Reddy

Class 9, Atomic Energy Central School - 2, Hyderabad, Telangana

Project Title:

IoT-Based Smart Alcohol Detection and Engine Lock System

Project Summary:

The model, a low cost and portable system, detects alcohol in a driver's breath before the vehicle starts and automatically project locks the engine if alcohol is detected. It also sends a real-time alert through the internet, helping prevent drunk driving and improve road safety.

Guide Teacher:

Mr. Santhosh Kumar Budharpu

CONSOLATION



Innayyat Kaur Bedi & Nilakshi Gupta

Class 9, Spring Dale Senior School, Amritsar, Punjab

Project Title:

From Fabric to Fibre

Project Summary:

The project shows how textile and agricultural waste can be turned into useful products instead of being thrown away. It promotes sustainability, creativity, and community participation while encouraging people to reduce waste and protect the environment.

Guide Teacher:

Ms. Aakriti



SMART (Science Meets ART) Awards

WINNER



Gauri Sharma & Renu Pillai

Class 9, Freedom International School,
Bengaluru, Karnataka

Project Title:
Infecto Quest



RUNNER UP I



Md Izaan Khan

Class 7, Tagore International School,
Vasant Vihar, New Delhi

Project Title:
Code Red Lab Breakout



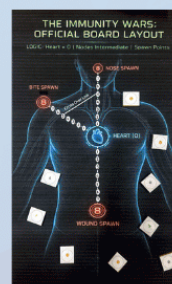
RUNNER UP II



Kartik Chaudhary

Class 7, Scottish High International School,
Gurgaon, Haryana

Project Title:
Immunity Wars



CONSOLATION



Tanush Ghei & Ayaansh Gupta

Class 8, The Heritage School,
Rohini, New Delhi

Project Title:
PHOTOSYNTHESIS: The Game of Growth



CONSOLATION



P Dhikshitha & S Bhavishya

Class 8, Chipotle School, Madhura Nagar,
Hyderabad, Telangana

Project Title:
Cell Voyage: The Journey inside life

