



# SGT UNIVERSITY

Shree Guru Gobind Singh Tricentenary University



## SYNERGY 2024

*International Techno-Fest*

*16 - 18 October 2024*



*Seventh Edition*









*"Spread of learning is the best service to mankind"*

*-Shree Guru Gobind Singh*

|| CORE VALUES ||

INNOVATION | LEADERSHIP | ETHICS | SOCIAL RESPONSIBILITY



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# SYNERGY 2024





**SGT**  
UNIVERSITY  
Shree Guru Gobind Singh Tricentenary University




NAAC  
A+


2017

## SYNERGY OUTCOME


**YOUTH**




**WOMEN**



**FARMER**




**POOR**



**Inspired and Educated**


**1 Lac +**  
School students educated



Synergy Techno Fest:  
The Launchpad for  
Future Innovators!

**Patents**


**480+**  
Patents filed by students  
and faculty members



Innovation Starts Here:  
Create, Patent, Succeed

**Funding**

**100%**  
Funding provided to  
all the SGT students



Innovation Unleashed –  
No Budget Limits

Synergy Tech Fest:  
Igniting the Pillars of Vikshit Bharat 2047!





7 to 2023

# THROUGH THE YEARS



## Projects Participation

**6000+**

Students participated



Be the Change.  
Where Innovation Takes Off!

## Startups

**20+**

Startups launched



Transform Ideas  
into Startups –  
Let Synergy Power Your  
Entrepreneurial Journey!

## Companies Registered

**10+**

Student led companies  
registered



Build Your Future  
Company at Synergy

Synergy Projects aligning with  
**10+ SDG Goals,**  
Prioritizing Healthcare,  
Clean Energy, Climate Action,  
and Sustainable City Development

**THE GLOBAL GOALS**  
For Sustainable Development









**Bandaru Dattatraya**

Governor, Haryana



**बंडारू दत्तात्रेय**

राज्यपाल, हरियाणा

## MESSAGE

I am happy to extend my best wishes to all the participants and organizers of *Synergy-2024*, the international tech fest at SGT University, Gurugram, Haryana, on October 16-18, 2024.

I am told that *Synergy-2024*, a remarkable platform that embodies the spirit of innovation and creativity among our youths, will allow students to showcase their talents, collaborate across disciplines, and engage in groundbreaking research that addresses real-world challenges.

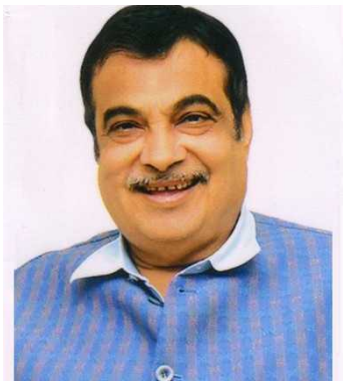
In our rapidly evolving world, we must nurture and harness the intellectual capabilities of our young minds to drive progress and create solutions for a better tomorrow. By providing digital platforms and tools, technology enables greater access to information, services, and opportunities for all, including marginalized and underserved communities.

Technology allows citizens to access essential services like healthcare, education, and financial aid with ease. Digital identities and financial inclusion platforms help bring unbanked populations into the economic mainstream, while online education and telemedicine bridge gaps in remote areas.

Technology enhances transparency and accountability through open data initiatives, enabling citizens to monitor government activities, budgets, and policies in real-time. Ultimately, the use of technology fosters a more equitable society by empowering individuals and promoting inclusive growth. I appreciate SGT University's commitment to encouraging learning and exploration through this significant event. I wish *Synergy 2024* a great success.

**(Bandaru Dattatraya)**

नितिन गडकरी  
NITIN GADKARI



मंत्री  
सड़क परिवहन एवं राजमार्ग  
भारत सरकार  
Minister  
Road Transport and Highways  
Government of India

## Message

I am glad to know that Shree Guru Gobind Singh Tricentenary University (SGTU) is organising its Annual Techno-Festival from 16-18 October, 2024 at the University Campus, Gurugram, along with release of a 'Synergy 2024-Souvenir', aimed at igniting creativity, research and innovation amongst the students.

2. I congratulate the Management, Teachers, Staff and Students of the University on the occasion and wish them every success in their endeavours in promoting excellence in education for a better and greener tomorrow.

NEW DELHI  
Date: 23<sup>rd</sup> September, 2024.

  
(Nitin Gadkari)



## MESSAGE

I am happy to know that **Shree Guru Gobind Singh Tricentenary (SGT) University, Gurugram, Haryana** is bringing out a Souvenir 'Synergy 2024' to mark its three day "Annual Techno Festival" during 16-18 October, 2024.

The need for nurturing and harnessing the intellectual capabilities of our young minds to drive progress and create solutions for a better tomorrow can scarcely be over-emphasized. Techno Festival being a remarkable platform that embodies the spirit of innovation and creativity in our youth, allowing students to showcase their talents by way of collaborating across disciplines, and engaging in original research that addresses real life concerns.

I wish the Annual Techno Festival all success.

  
(Dharmendra Pradhan)

सबको शिक्षा, अच्छी शिक्षा



04/10/2024



## MESSAGE

**Dear Students,**

I extend my warmest congratulations to the SGT University for the successful Synergy 2024" Souvenir for the Annual Techno-Festival. It is truly inspiring to see the University's commitment to fostering innovation and creativity among young minds.

The theme, centered around "AI in Healthcare," alongside advancements in diagnostic and medical devices, and the role of micronutrients, is not only timely but critical. As we navigate an increasingly complex healthcare landscape, leveraging artificial intelligence has the potential to transform patient care, improve diagnostic accuracy, and enhance overall healthcare delivery.

The objectives of "Synergy 2024" are multifaceted:

1. **Igniting Innovation:** We aim to inspire students and professionals alike to explore the intersection of technology and healthcare. By showcasing cutting-edge advancements, we hope to motivate participants to think creatively about how these innovations can be integrated into real-world applications.
2. **Fostering Collaboration:** This event serves as a platform for students, educators, industry leaders, and researchers to collaborate and share ideas. We encourage discussions that bridge gaps between academia and industry, fostering partnerships that can lead to groundbreaking solutions in healthcare.
3. **Enhancing Knowledge:** Through workshops, presentations, and interactive sessions, "Synergy 2024" will provide participants with insights into the latest trends and technologies in AI and healthcare. By focusing on diagnostic and medical devices, we aim to equip attendees with knowledge that empowers them to contribute to advancements in this vital sector.

various centres dedicated to research and innovation, are commendable and essential for nurturing future leaders in technology and education.

Together, we can foster an environment that encourages exploration, innovation, and the pursuit of knowledge, ultimately contributing to the betterment of society.

Wishing the entire team at SGT University all the best for a successful "Synergy 2024."

**Sincerely,**

**Dr Montu Kumar Patel**  
President, Pharmacy Council of India



॥ आयुषे सर्वलोकानाम् ॥

वैद्य जयंत देवपुजारी  
सभापति  
VAIDYA JAYANT DEOPUJARI  
Chairman



भारतीय चिकित्सा पद्धति राष्ट्रीय आयोग  
भारत सरकार  
NATIONAL COMMISSION FOR INDIAN SYSTEM of MEDICINE  
Government of India

## MESSAGE



I am pleased to know that the **Shree Guru Gobind Singh Tricentenary University** Gurugram, Haryana is organizing “**Synergy 2024**” Souvenir, commemorating the Annual Techno-Festival from 16<sup>th</sup> to 18<sup>th</sup> October, 2024 to promote the Indian System of Medicine.

Synergy 2024 stands as a beacon of interdisciplinary learning, bringing together students from diverse backgrounds to explore the boundless possibilities of science and technology. I wish the “**Synergy 2024**” a great success and it will make important contribution to the cause of the system.

I extend my heartiest wishes to the organizer and I am sure that this event will be a grand success.

Vaidya Jayant Deopujari

New Delhi  
10.10.2024

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Office: T-19, 1st Floor and 2nd Floor, Block- IV, Dhanwantari Bhawan, Road No. 66 Punjabhi Bagh (West), New Delhi - 110026  
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# Message from Chancellor



**पद्म श्री राम बहादुर राय**  
चांसलर, एसजीटी विश्वविद्यालय



मुझे यह बताते हुए अत्यंत गर्व हो रहा है कि एसजीटी विश्वविद्यालय में आयोजित होने वाले तीन दिवसीय सिनर्जी टेक फेस्ट का उद्देश्य विद्यार्थियों को नवाचार और तकनीकी प्रगति के माध्यम से सृजनात्मकता, आत्मविश्वास और ज्ञानवर्धन का अवसर प्रदान करना है। आज के युग में तकनीकी नवाचार और प्रगति अत्यंत महत्वपूर्ण हैं, और हमारा यह आयोजन विद्यार्थियों को इस दिशा में आगे बढ़ने के लिए प्रेरित करता है।

सिनर्जी टेक फेस्ट का मुख्य उद्देश्य विद्यार्थियों को एक ऐसा मंच प्रदान करना है जहां वे अपनी नवीनतम वैज्ञानिक और तकनीकी खोजों को प्रस्तुत कर सकें। इस आयोजन से छात्रों में न केवल सृजनात्मकता और आत्मविश्वास बढ़ता है, बल्कि उन्हें आलोचनात्मक सोच और समस्या समाधान कौशल विकसित करने में भी सहायता मिलती है।

विद्यार्थी भविष्य में इन कौशलों का उपयोग करके देश और समाज के विकास में महत्वपूर्ण योगदान दे सकते हैं। सिनर्जी टेक फेस्ट के माध्यम से, हमारे विद्यार्थी भविष्य के आविष्कारक और वैज्ञानिक बनने की दिशा में कदम बढ़ा सकते हैं। यह आयोजन उन्हें यह दिखाने का अवसर प्रदान करता है कि वे अपने नवाचार और तकनीकी ज्ञान के माध्यम से दुनिया में सकारात्मक परिवर्तन ला सकते हैं।

आज के डिजिटल और तकनीकी युग में, नवाचार और तकनीकी प्रगति से जुड़ना अत्यंत आवश्यक है। सिनर्जी टेक फेस्ट इस दिशा में एक महत्वपूर्ण कदम है, जो विद्यार्थियों को अपनी क्षमताओं को पहचानने और उन्हें विकसित करने का अवसर देता है।

मैं सभी विद्यार्थियों और संकाय सदस्यों को इस भविष्यवादी आयोजन के लिए शुभकामनाएं देता हूं। मुझे पूर्ण विश्वास है कि सिनर्जी टेक फेस्ट हमारे विश्वविद्यालय के छात्रों को नई ऊंचाइयों पर ले जाएगा और उन्हें उनके सपनों को साकार करने में सहायता करेगा।



पद्मश्री रामबहादुर राय

# Message from Vice Chancellor



**SGT UNIVERSITY**  
Shree Guru Gobind Singh Tricentenary University



**Prof. (Dr.) Madan Mohan Chaturvedi**  
Vice Chancellor (Officiating)

Date: 09.10.2024

## MESSAGE

I am delighted to welcome all participants to Synergy 2024 - SGT University's international tech fest, which symbolizes creativity, innovation, and academic excellence. This event is a unique platform where students, researchers, and professionals converge to explore new ideas and craft solutions to some of the world's most pressing challenges.

At SGT University, we believe authentic learning happens when knowledge meets practical application, and Synergy 2024 embodies this philosophy. In this event, participants can engage in hands-on projects of their ideas, collaborate across disciplines, and build connections with industry leaders, academics, and innovators. It is not just a competition but an opportunity for growth, discovery, and impactful learning.

The enthusiasm and ingenuity that Synergy nurtures in young minds each year is inspiring. I encourage all participants to embrace this opportunity with passion and determination, knowing that the ideas you develop today can help shape a better tomorrow.

I wish you a successful and enriching experience at Synergy 2024.



Prof. (Dr.) Madan Mohan Chaturvedi



# Message from Chairman - Synergy 2024



Prof. (Dr.) Atul Nasa  
Pro-Vice Chancellor, SGT University

I am thrilled to extend my heartfelt congratulations to each participant of "Synergy Tech Fest 2024", an annual celebration of innovation, creativity, and interdisciplinary collaboration. It is an honor to be part of such an extraordinary event.

Synergy Tech Fest is a shining example of SGT University's unwavering dedication to excellence in education and research. Over the years, it has grown into a premier platform that nurtures creativity, promotes multidisciplinary research, and encourages innovation among our talented students, as well as those from the Delhi NCR region. This event challenges participants to push the boundaries of their knowledge and skills, developing practical solutions to real-world problems through the application of science and technology.

One of the standout features of Synergy Tech Fest is its ability to highlight the incredible diversity of projects our university undertakes. The festival spans a wide array of fields, from Science and Technology to Medical Sciences, Management, Humanities, Arts, Fashion, and Culture. Synergy Tech Fest places a strong emphasis on innovation and research, providing a stage for groundbreaking ideas to captivate our audience and showcase the creativity and ingenuity of our students.

Projects at the festival are categorized into Health and Well-being, Technology and Innovation, and Sustainable Research and Development. The festival enhances critical thinking, fosters interdisciplinary collaboration, and emphasizes project-based learning, addressing the advanced learning needs of our students.

As we embark on this three-day journey of innovation, collaboration, and creativity, I extend my deepest gratitude to all the faculty members, students, and staff, who have worked tirelessly to bring this event to life. Your dedication and hard work are truly commendable. I wish all participants the best of luck in their endeavors and look forward to witnessing the groundbreaking ideas and projects that will emerge from Synergy Tech Fest 2024. SGT University proudly celebrates Synergy as a festival of Innovation and Research by its students.

I strongly encourage all students from our university and neighboring schools to actively engage in the diverse projects showcased at Synergy-2024. This experience promises to be enriching and academically stimulating for everyone involved.

A stylized signature in blue ink, appearing to read "Atul Nasa", written on a black rectangular background.

# Synergy 2024

## Mission

- Flowing Energy of Innovation
- Displaying Diversity

## Objectives

- Enhancing Analytical and Critical Thinking Abilities
- Encouraging Interdisciplinary Cooperation
- Emphasizing Advanced Learning Requirements
- Facilitating Peer Learning and Mentoring
- Raising Awareness about Industry Collaboration

## Themes



### Healthcare

- AI in Healthcare
- Diagnostic of Medical Devices
- Drug Development
- Infectious Diseases
- Nutrition
- Replacements of
  - Multivitamins
  - Micronutrients



### Natural Resources and Sustainability

- Climate Change
- Waste to Wealth
- Superfoods
- Rainwater Harvesting
- Green Energy
- Eco Energy
- Water Security
- Sustainable Fashion



### Future Technology and Innovation

- AgriTech
- FinTech
- Semiconductors
- Digital Technology
- Automation
- Analytics
- Block Chain
- AI / ML
- Data Analytics
- Robotics



### Societal Development

- Tourism Attraction
- Cultural Heritage
- Vocal to Local
- Yoga and Ayurveda
- Rural Transformation
- Law and Order
- Disaster Management
- Gender Diversity
- Financial Awareness
- Rural Transformation





# SYNERGY 2024

A PLATFORM FOR INNOVATIVE, INTER-DISCIPLINARY AND  
TECHNOLOGY DRIVEN PROJECTS

(7th Edition - Techno-Fest)

► Innovative **Projects**

- Healthcare
- Future Tech and Innovation
- Natural Resources and Sustainability
- Societal Development

► Drone **Competition**

► Robo **Competition**

► Nukkad **Natak**

☎ 1800 102 5661    🌐 [www.sgtuniversity.ac.in](http://www.sgtuniversity.ac.in)    ✉ [admissions@sgtuniversity.org](mailto:admissions@sgtuniversity.org)

16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>  
October 2024



Stay Tuned @   

- Ignite fires of creativity in mind
- Open invitation to institutions in Delhi-NCR
- Action packed technical festival for three days
- 250+ Innovative projects



# Golden Glimpses ... 1



*Synergy*

2017

09 - 11 November

With a theme 'Indian Women in Science and Technology', Synergy-2017 had 140+ Interdisciplinary projects. 18,000+ Student(s) from 180 schools witnessed the exhibition. School projects were encouraged with special awards. The best projects were awarded by SGT University in Innovation, Research and Education.

*Synergy*

2018

10 - 12 October

The technical festival Synergy 2018 was envisioned to energize young minds for creative and innovative product development. It inculcated interdisciplinary approaches for building New India. Deserving participants received awards and prizes for their creation and innovation. 19,000+ Student(s) from different pockets of Delhi NCR visited.



# Golden Glimpses ... 2

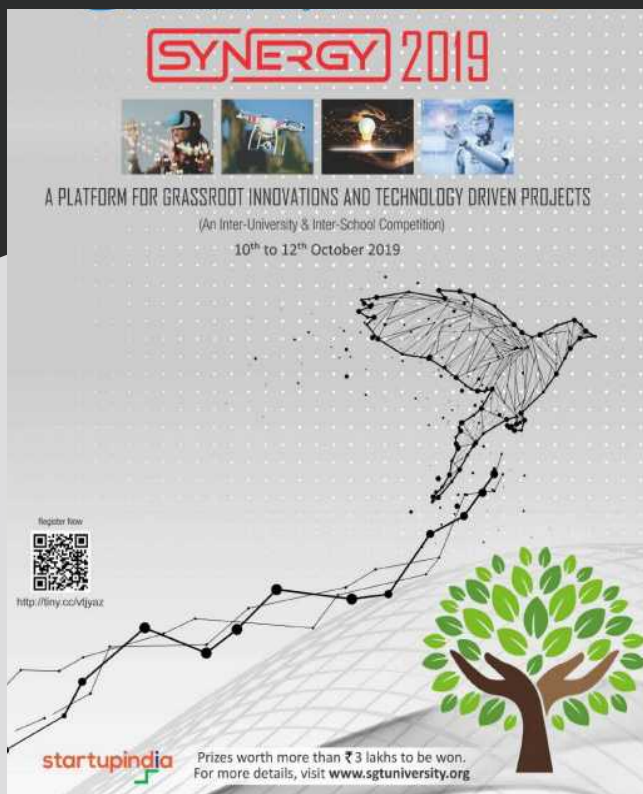
*Synergy*

2019

10 - 12 October

Synergy 2019 was witnessed by 20,000+ Student(s) from 300+ schools and colleges in from Delhi NCR.

Young minds used their innovative minds and ideas in piloting projects associated with real life issues. The projects were proclaimed as interdisciplinary efforts.



*Synergy*

2022

23 - 24 August

Synergy 2022 provided a platform to Student(s) to showcase 160+ projects from various faculties. The three-days event had a footfall of 21,000+ visitors from Haryana & Delhi NCR which included Student(s), academic members, and professionals from different industries.



# Golden Glimpses ... 3

Synergy 2023

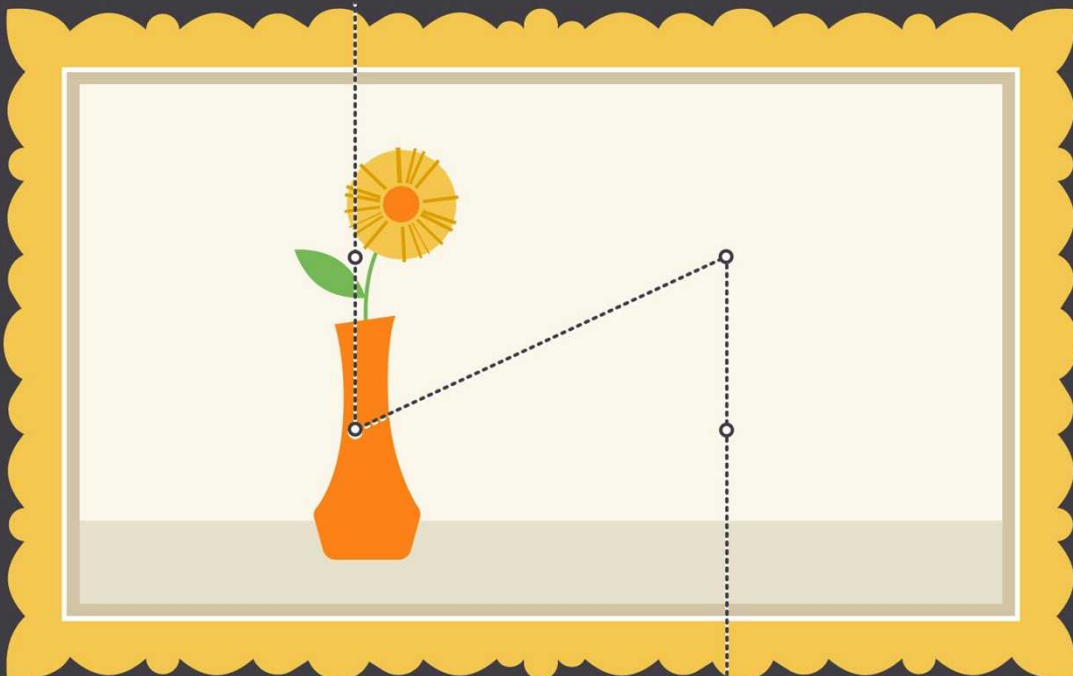
(11 - 13 October)



Themes

(1) Health & Wellbeing (2) Technology & Innovation

(3) Sustainable R&D (3) Competitions





## *Horizon of No-Conventions ...*





# Inaugural Day

16 October 2024



# Inaugural Ceremony



- (1) Chief Guest  
Sh. K. Raja Bhanu  
Director General, Pharmexcil
- (2) Guest of Honour  
Sh. Pranshuman Roy  
Global Director, GenAI Infusion & Automation - Kyndryl
- (3) Guest of Honour  
Sh. Prashant Tandon  
CEO, Tata 1mg



# Felicitations



## Innovative Projects

- Healthcare
- Future Tech and Innovation
- Natural Resources and Sustainability
- Societal Development

## Drone Competition

## Robo Competition

## Nukkad Natak





## Felicitations ...









# Lamp Lighting





# Lamp Lighting





# Inauguration





# Competitions





Drones

Robotics

Nukkad Natak

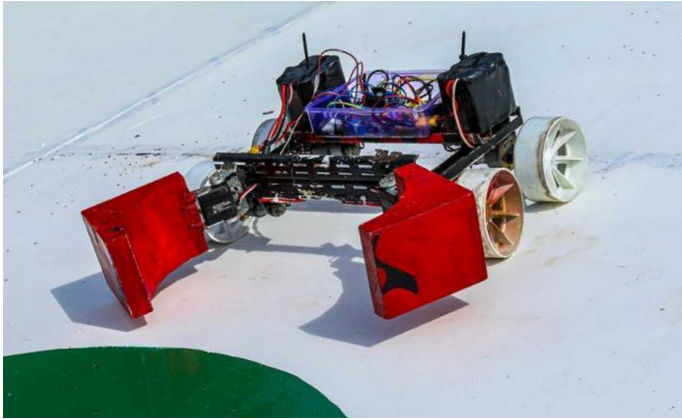
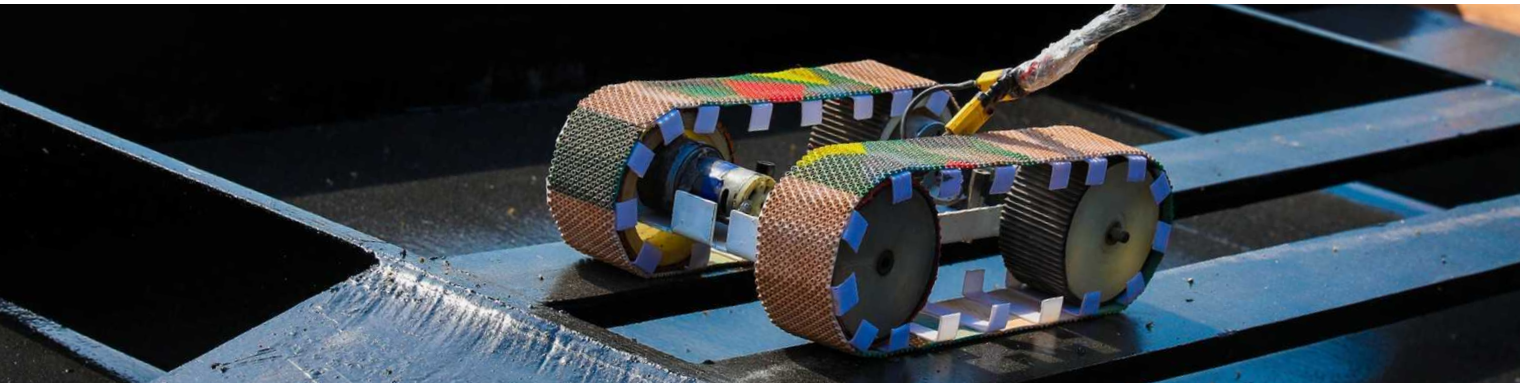
Extra-Curricular

# Drones ... the wings to fly





# Robotics





# Nukkad Natak





# Cultural Activities



We continue to innovate ...



# Initiatives





Community Development

SGT Ka Sparsh

SGT Haat

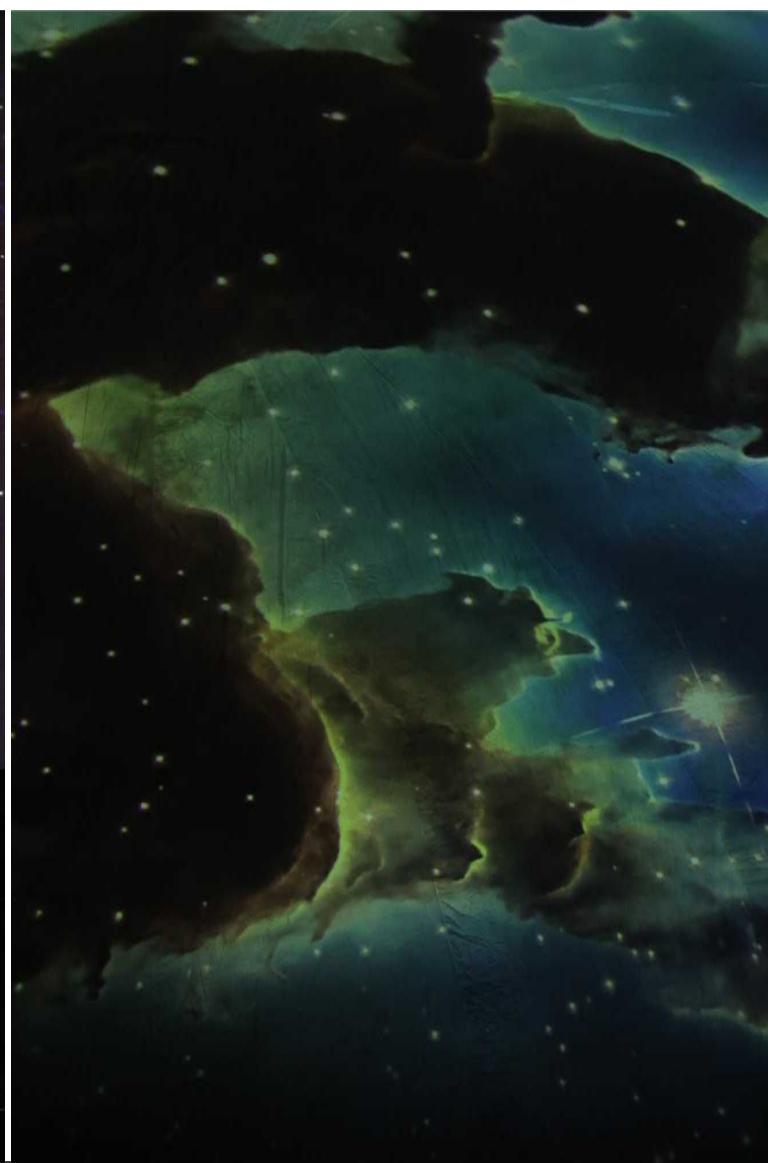
Taramandal







# Tara Mandal - Feel the Universe





*Minds in wonder !*



*We continue to innovate ...*



*Happy time ...*



*We continue to innovate ...*





# Categories



HEALTHCARE

SOCIETAL DEVELOPMENT

FUTURE TECH AND INNOVATION

NATURAL RESOURCE AND SUSTAINABILITY





# PROJECTS

## Research and Development (R&D)

# RESEARCH AND DEVELOPMENT CELL

Stall Id: 001







# PROJECTS

Faculty of  
Applied and Basic Sciences  
(FABS)

# Dental Evidences in Forensic Bite Mark Analysis



Project Id: 042

Stall Id: 070

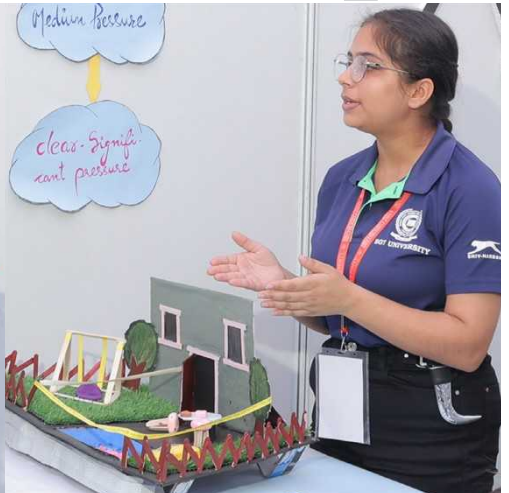
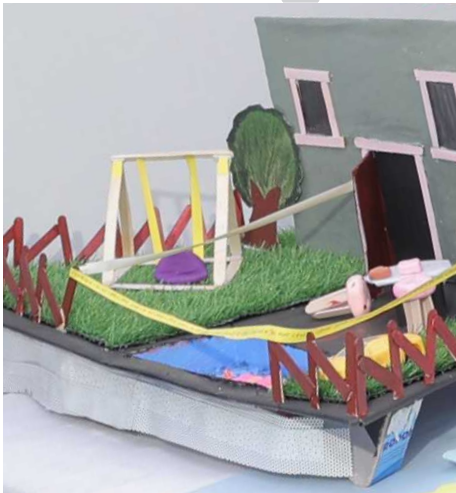
**Abstract** Dental evidence plays a crucial role in forensic bite mark analysis, a subfield of forensic odontology that aids in personal identification and crime scene investigation. This branch of forensic science examines bite marks left on victims or objects to match them with dental records of suspects. By analyzing the unique patterns of dental alignment, bite force, and tooth arrangement, forensic experts can provide valuable insights into the identity of perpetrators or victims. This process complements forensic anthropology, which uses skeletal remains to determine sex, age, stature, and race. Together, forensic odontology and anthropology enhance the accuracy and effectiveness of forensic investigations, providing essential evidence for solving crimes and identifying individuals.



**Novelty** Dental evidence enhances forensic healthcare



**Principal Investigator** Ms. Arunima Dutta





# On-Site Pesticide Residue Detection for Fresh Produce



Project Id: 061

Stall Id: 071

**Abstract** On-Site Pesticide Residue Detection: Advancing Test Strips for Fresh Produce focuses on developing easy-to-use test strips that allow consumers and producers to quickly and accurately assess pesticide residues on fresh produce. This project aims to enhance food safety by providing a rapid, reliable method for detecting harmful pesticide levels at the point of sale or harvest. The advanced test strips are designed to be user-friendly, requiring minimal training and providing immediate results. By improving access to on-site testing, the initiative seeks to empower consumers with better information about their food, support regulatory compliance, and contribute to overall public health and safety by ensuring that produce is free from harmful pesticide residues.



**Novelty** User-friendly test strips enable rapid detection of pesticide residues



**Principal Investigator** Ms. Vaishali



# NanoGuard: Nanosensors for Pollutant Detection



Project Id: 056

Stall Id: 121

**Abstract** NanoGuard: Advanced Nanosensors for Environmental Pollutant Detection is an innovative technology designed to revolutionize how we monitor environmental pollutants. By leveraging the unique properties of nanoparticles, NanoGuard delivers extremely sensitive and real-time detection of various pollutants, including gases, heavy metals, and organic compounds. Its high surface area-to-volume ratio and customizable features enable precise detection at unprecedentedly low concentrations. This enhances early warning systems and supports more effective response strategies. Integrating NanoGuard into environmental monitoring frameworks aims to significantly improve public health and safety by enabling proactive measures against pollution, leading to cleaner, safer environments.



**Novelty** Advanced nanosensors enable real-time, sensitive detection of pollutants



**Principal Investigator** Dr. Navjot

**Student(s)** Mohd Jamshaiya Raza, Ashwani Deepa



*We continue to innovate ...*



# Water-Repellent Windscreens Using Sustainable Material



Project Id: 063

Stall Id: 122

**Abstract** Formulation of Water-Repellent for Windscreens Using Green and Sustainable Materials addresses the challenge of reduced visibility during heavy rainfall by developing an eco-friendly rain repellent for vehicle windshields. Traditional synthetic repellents often rely on harsh chemicals, which can be harmful to the environment. This project focuses on creating a water-repellent compound from organic, sustainable materials that forms a hydrophobic barrier on the windshield. This natural formulation causes raindrops to bead and roll off, enhancing visibility and reducing the need for frequent windshield wiper use, which can cause scratches. By improving safety and reducing environmental impact, it aligns with sustainability goals and offers a greener alternative for automotive care.



**Novelty** Eco-friendly rain repellent enhances visibility, reducing environmental harm



**Principal Investigator** Dr. Simranjeet Singh

**Student(s)** Shiwani, Sophia, Sahil



# Forensic Rover - Evidence Identifier and Protocolar



Project Id: 065

Stall Id: 123



**Abstract** Forensic Rover is a solution designed to enhance forensic investigations through advanced technology. This project involves developing a robotic system equipped with sophisticated sensors and AI capabilities to identify, document, and manage evidence at crime scenes. The Forensic Rover can navigate various terrains, detect and analyze evidence such as fingerprints, DNA, and other trace materials, and automatically record and organize this data according to established protocols. By integrating real-time data processing and secure storage, the Forensic Rover improves the efficiency and accuracy of evidence handling, streamlines investigative workflows, and ensures that critical evidence is preserved and documented comprehensively. It represents a significant leap forward in forensic technology, supporting more effective crime scene analysis and justice.



**Novelty** Robotic system automates evidence management in forensic investigations

**Principal Investigator** Dr. Bhoopesh K Sharma

**Student(s)** Gunjan Chauhan, Garima Joshi, Chirag Arya





# Sustainable Carbon Capture Device



Project Id: 159

Stall Id: 124

**Abstract** A sustainable carbon capture device is a technology designed to capture carbon dioxide emissions from industrial processes and power plants. By removing this harmful greenhouse gas from the atmosphere, these devices can help mitigate climate change and reduce the negative impacts of global warming. Sustainable carbon capture devices often utilize natural or recycled materials to minimize their environmental footprint and ensure long-term viability. Some common approaches include absorption, adsorption, and membrane separation. By incorporating these technologies into industrial operations, we can work towards a cleaner and more sustainable future.



**Novelty** Sustainable carbon capture offers a novel and innovative solution



**Principal Investigator** Dr. Vikram

**Student(s)** Wazir Singh, Mohd. Jamshaiya Raza, Vinti Gulia





# Innovations in Model Rocketry



Project Id: 059

Stall Id: 159

**Abstract** Innovations in Model Rocketry focuses on enhancing the performance of water-powered model rockets by exploring various height-to-width ratios. The project aims to optimize rocket design to achieve different altitudes by adjusting these ratios. By experimenting with modifications to the rocket's dimensions and assessing their impact on performance, this initiative seeks to establish a clear relationship between the rocket's design parameters and the heights it can reach. The findings will contribute to advancements in rocketry technology, improving the efficiency and effectiveness of model rockets. This innovative approach not only enhances educational experiences in aerospace engineering but also paves the way for future developments in rocketry and propulsion systems.



**Novelty** Optimizing design ratios enhances performance and altitude of model rockets



**Principal Investigator** Mr. Avik Dasgupta





# Thermoelectric Metal Chalcogenide in Smart Wearables



Project Id: 062

Stall Id: 198

**Abstract** Thermoelectric Metal Chalcogenide Nanoparticles for Self-Powered Smart Wearables explores the use of advanced thermoelectric materials to power wearable technology. Metal chalcogenide nanoparticles, known for their efficient thermoelectric properties, convert heat differences into electrical energy. This project aims to integrate these nanoparticles into smart wearables, enabling devices to harvest and utilize body heat or environmental temperature gradients to power themselves. The innovation promises a sustainable and self-sufficient power source for wearables, reducing the reliance on external batteries and enhancing convenience. By advancing this technology, the project seeks to drive the future of smart wearables, making them more energy-efficient and autonomous.



**Novelty** Nanoparticles harness body heat, enabling self-powered wearable technology



**Principal Investigator** Dr Sunanda



We continue to innovate ...

# Valorisation of Pharmaceutical Waste



Project Id: 041

Stall Id: 199

**Abstract** The project transforms Unused Medicines into Chelating Filters for Heavy Metals Removal project addresses environmental pollution by repurposing expired medicines. Often discarded improperly, these pharmaceuticals can contribute to contamination in landfills and water bodies. Our research explores converting these unused medicines into effective chelating agents for removing heavy metals from water. By harnessing the chelating properties of expired drugs and incorporating them into polymeric beads or membranes, we aim to develop a sustainable method for water treatment. This approach not only addresses pharmaceutical waste but also offers a novel solution for environmental remediation. It has challenges to scale the interactions between different drug compounds and needs further investigation to optimize this innovative technique.

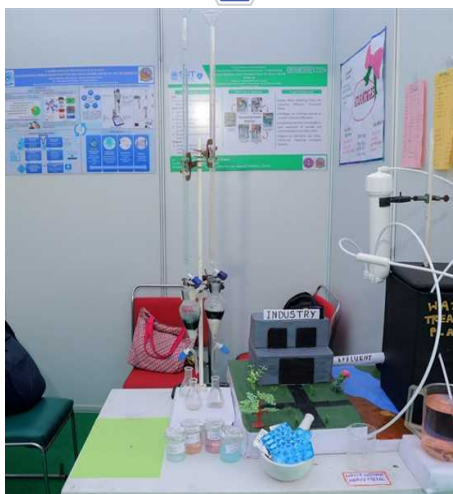


**Novelty** Pharmaceutical waste transforms into sustainability



**Principal Investigator** Dr. Tribhuvan Kumar

**Student(s)** Sakshi Chaudhary, Deepa, Akansh Chaudhary, Prachi



*We continue to innovate ...*



# Manage Post Harvest Losses of Fruits and Vegetables



Project Id: 064

Stall Id: 200

**Abstract** Management of Post-Harvest Losses to Enhance the Shelf Life of Fruits and Vegetables addresses the critical issue of food loss in perishable horticultural products. This project focuses on developing advanced, accessible storage and transportation solutions designed to extend the shelf life of fruits and vegetables. By integrating innovative technologies and materials, such as temperature-controlled storage systems, moisture-regulating packaging, and smart sensors for real-time monitoring, the initiative aims to significantly reduce spoilage and waste. Improved post-harvest management not only helps farmers maximize their yields and profits but also contributes to a more sustainable food supply chain. This forward-thinking approach ensures fresher produce reaches consumers and supports global efforts to combat food insecurity.



**Novelty** Innovative storage solutions reduce post-harvest losses and enhance freshness



**Principal Investigator** Dr. Nitesh Kumar Chourasia



# Develop Submerged Latent Fingerprints from Waste



Project Id: 158

Stall Id: 201

**Abstract** Developing submerged latent fingerprints using waste materials is a promising technique in forensic science. By utilizing repurposed substances like plant-based powders or natural oils, investigators can effectively reveal fingerprints hidden in water or other challenging environments. This innovative approach not only provides a cost-effective alternative to traditional methods but also contributes to a more sustainable and environmentally friendly forensic practice. It can enhance the ability to gather crucial evidence in various criminal investigations, leading to more accurate and just outcomes.



**Novelty** Cost-effective environmentally sustainable alternative to traditional methods



**Principal Investigator** Ms. Megha Walia





# GreenTater: Sustainable Alternative in Plant-Nursery



Project Id: 060

Stall Id: 202

**Abstract** GreenTater: Sustainable Alternative to Plant-Nursery Polybags introduces an eco-friendly solution to replace traditional polybags used in plant nurseries. These polybags, commonly made from non-biodegradable plastics, contribute significantly to environmental pollution. GreenTater aims to address this issue by offering a sustainable alternative, potentially made from biodegradable materials or renewable resources. This innovative approach not only reduces waste and environmental impact but also promotes more sustainable practices in horticulture. By integrating GreenTater into nursery operations, the project supports environmental conservation, enhances soil health, and aligns with global efforts to reduce plastic pollution, fostering a greener and more sustainable future for plant cultivation.

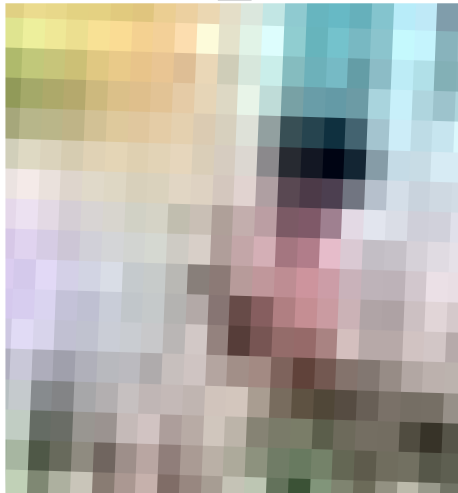


**Novelty** Eco-friendly plant nursery bags reduce waste and promote sustainability



**Principal Investigator** Dr. Saima Hamid

**Student** Sofiya



# Marvels: Differential Equations Shape Our World



Project Id: 057

Stall Id: 219

**Abstract** Mathematical Marvels: How Differential Equations Shape Our World explores the profound impact differential equations have on understanding and solving real-world problems. These equations are fundamental in modeling dynamic systems across various fields, including physics, engineering, economics, and biology. By describing how quantities change in relation to one another, differential equations help us analyze everything from population growth and disease spread to financial markets and climate change. This initiative aims to demystify these mathematical tools for the public, demonstrating their critical role in innovation and decision-making. By highlighting practical applications and fostering a deeper appreciation, the project seeks to inspire greater engagement with mathematics in addressing societal challenges.

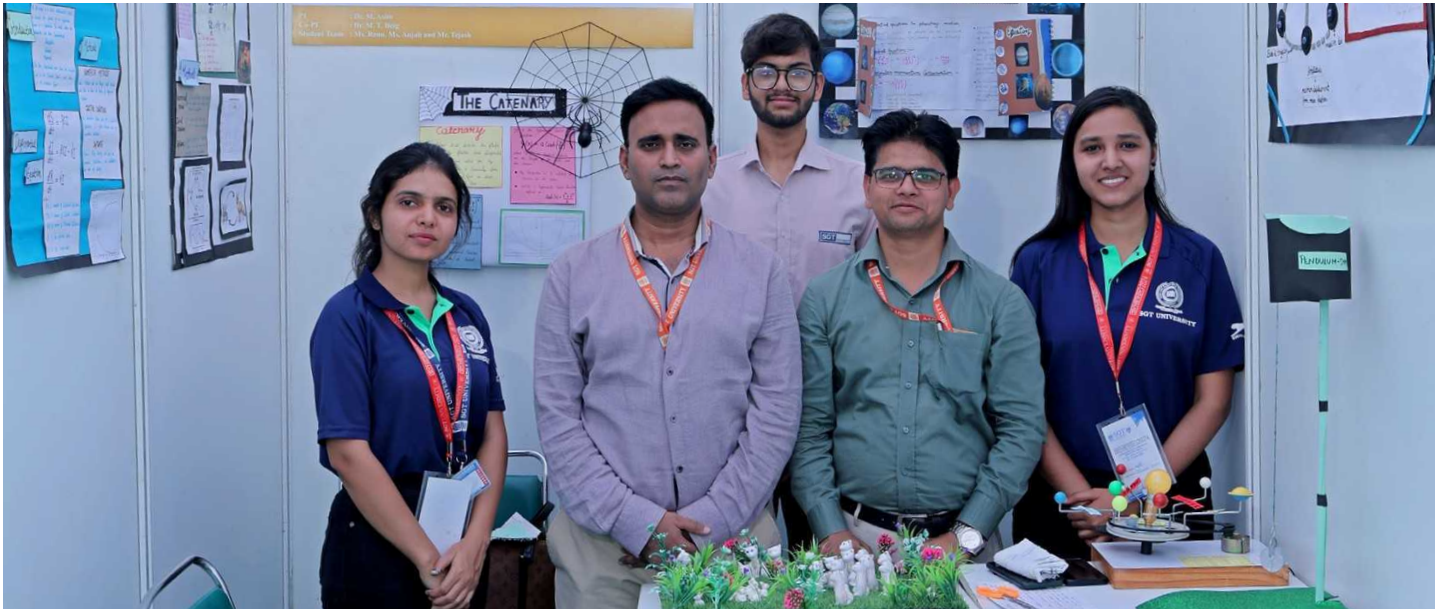


**Novelty** Differential equations reveal dynamic systems' impact on real-world problems



**Principal Investigator** Dr. M. Asim

**Student** Renu





# Random Area Measurement (RAM)



Project Id: 058

Stall Id: 220

**Abstract** Random Area Measurement (RAM) is an initiative designed to simplify and enhance the accuracy of area measurement in diverse applications. By leveraging innovative techniques or technologies, RAM provides a practical solution for measuring irregular or randomly shaped areas, which can be challenging with traditional methods. This project aims to improve efficiency and precision in fields such as land surveying, construction, agriculture, and urban planning. RAM's approach could involve using advanced tools or algorithms to generate accurate measurements quickly and with minimal effort. By making area measurement more accessible and reliable, RAM supports better planning and decision-making, ultimately contributing to more effective and informed societal development.



**.Novelty** Innovative techniques simplify accurate measurement of irregular land areas



**Principal Investigator** Dr. Ashish Tiwari

**Student** Rajveer Singh Rathore









# PROJECTS

Faculty of  
Allied Health Sciences  
(FAHS)

# Anti-mycobacterial Activity of Natural Plant Extracts



Project Id: 037

Stall Id: 045

**Abstract** The Anti-Mycobacterial Activity of Natural Plant Extracts project investigates the potential of various plant extracts to combat mycobacterial infections, particularly those caused by *Mycobacterium tuberculosis*, the bacterium responsible for tuberculosis (TB). This research focuses on identifying and evaluating natural plant compounds with antimicrobial properties that could serve as effective treatments or complementary therapies. By exploring plant-based solutions, the project aims to discover alternative or adjunct therapies that are potentially less toxic and more sustainable than conventional antibiotics. This approach not only supports the search for novel anti-mycobacterial agents but also promotes the use of natural resources in enhancing healthcare outcomes and addressing global health challenges related to mycobacterial diseases.



**Novelty** Plant extracts advance mycobacterial treatments



**Principal Investigator** Dr Swati Singh

**Student(s)** Nikhil, Tanya, Tashya, Meenakshi





# Synergistic Natural Products Against MRSA



Project Id: 066

Stall Id: 046

**Abstract** The activity aims to explore and harness the combined antibacterial properties of various natural substances to combat Methicillin-resistant Staphylococcus Aureus (MRSA). MRSA is a formidable pathogen that poses significant treatment challenges due to its resistance to conventional antibiotics. This project investigates how natural products, such as herbal extracts, essential oils, and plant-derived compounds, can be used synergistically to enhance their effectiveness against MRSA. By formulating a composite solution from these natural agents, the project seeks to develop a potent, sustainable alternative to synthetic antibiotics. The goal is to create a treatment option that is both environmentally friendly and effective, addressing the growing issue of antibiotic resistance while promoting the use of natural resources in healthcare.



**Novelty** Combining natural substances provides a sustainable alternative to antibiotics



Principal Investigator Dr. Sandhya





# Buckwheat Bite Enriched with Muskmelon Seeds



Project Id: 036

Stall Id: 047

**Abstract** Nutrient-Dense Buckwheat Bites, enriched with carob powder and muskmelon seeds, offer a health-conscious alternative to traditional sweet snacks like chocolates. Traditional chocolates often contain high levels of fat, sugar, caffeine, and stabilizers, which can negatively impact health and sleep patterns when consumed frequently. This innovative snack utilizes buckwheat flour, making it suitable for those with celiac disease, and incorporates figs and dates as natural sweeteners. Muskmelon seeds provide healthy fats, while carob powder serves as a caffeine-free chocolate substitute. By combining these nutrient-rich ingredients, the Buckwheat Bites provide a wholesome, tasty option that supports better health and well-being without the drawbacks of conventional sweet treats.



**Novelty** Buckwheat Bite promotes nutritious healthcare



**Principal Investigator** Dr. Akanksha Yadav

**Student(s)** Sapna, Pranjali, Suhani, Shreya, Neha





# Decoding Aphasia



Project Id: 096

Stall Id: 048

**Abstract** Decoding Aphasia aims to advance our understanding and treatment of aphasia, a communication disorder resulting from brain damage. This project focuses on developing innovative diagnostic and therapeutic tools to enhance language recovery for individuals affected by aphasia. By integrating cutting-edge technologies such as neuroimaging, speech therapy software, and AI-driven analysis, the project seeks to improve the accuracy of aphasia diagnosis and tailor personalized rehabilitation strategies. The goal is to decode the complexities of aphasia, offering new insights into brain-language relationships and providing effective interventions to support language restoration and communication skills for those impacted.



**Novelty** Innovative tools enhance aphasia diagnosis and personalized recovery strategies



**Principal Investigator** Mrs. Ritika Gautam

**Student(s)** Adityesh, Zufashan, Somya Shandilya, Keshvi



# Snuggle Board in Radiology



Project Id: 095

Stall Id: 049

**Abstract** Snuggle Board in Radiology is designed to improve patient comfort and imaging accuracy during radiological procedures. This innovative board provides support and stabilization, reducing patient movement and enhancing the quality of diagnostic images. It is particularly useful for patients who experience discomfort or difficulty maintaining a specific position during scans. The Snuggle Board's ergonomic design ensures that patients are securely positioned, minimizing motion artifacts and the need for repeat scans. By improving patient comfort and image quality, the Snuggle Board aims to enhance the efficiency and effectiveness of radiological imaging, ultimately contributing to better diagnostic outcomes and patient care.



**Novelty** Enhanced patient comfort improves imaging accuracy and diagnostic outcomes



**Principal Investigator** Mr. Arshad Alam Khan

**Student(s)** Sahil, Swapnil Satapathy





# Eco-Smart Breast Phantom in Biopsy Simulation



Project Id: 098

Stall Id: 050

**Abstract** The Eco-Smart Breast Phantom project is designed to advance ultrasound training and biopsy simulation with a focus on sustainability and realism. This innovative breast phantom replicates human tissue characteristics to provide a highly accurate simulation experience for medical professionals. Made from eco-friendly materials, it offers a cost-effective and environmentally conscious alternative to traditional training models. By integrating realistic texture and imaging properties, the Eco-Smart Breast Phantom enhances the precision of ultrasound training and biopsy procedures, improving diagnostic skills and procedural confidence. This approach not only supports effective learning but also aligns with sustainable practices in medical education.



**Novelty** Sustainable breast phantom enhances ultrasound training and biopsy simulation



**Principal Investigator** Mr. Arshad Alam Khan

**Student(s)** Lakshita, Saurav Gusain, Jumdi Kino



# Sensory Spectrum to Enhance Color Perception



Project Id: 068

Stall Id: 139

**Abstract** Sensory Spectrum: Enhancing Color Perception through Tactile Innovation is an innovative project designed to aid individuals with color deficiency by leveraging tactile sensations to enhance color perception. The project involves developing a prototype that translates color information into tactile feedback, allowing users to feel different colors through a specially designed device or wearable. By incorporating various textures, vibrations, or pressure patterns, the device aims to provide a tangible representation of colors, helping color-deficient individuals distinguish and recognize them more effectively. This approach seeks to improve the quality of life for those with color vision deficiencies, making everyday tasks and interactions more accessible and inclusive.



**Novelty** Translating color information into tactile feedback enhances color recognition



**Principal Investigator** Ms. Nikita Sethi

**Student** Satyam





# Writing gripper for Children with Autism Disorder



Project Id: 097

Stall Id: 140

**Abstract** The Writing Gripper for Improving Touch Sensitivity in Children with Autism Spectrum Disorder (ASD) project aims to develop an innovative tool designed to enhance tactile feedback and fine motor skills in children with ASD. This adaptive writing gripper is engineered to provide improved sensory input and comfort, helping children better control their writing instruments. By incorporating adjustable textures and ergonomic features, the gripper addresses individual sensory preferences and motor needs. The goal is to foster greater writing proficiency, reduce frustration, and support developmental progress in children with ASD, ultimately contributing to their academic success and everyday functioning.



**Novelty** Adaptive gripper enhances tactile feedback and fine motor skills



**Principal Investigator** Neha Banerjee

**Student** Neha Gupta



# Assistive Technology for Visually Impaired



Project Id: 093

Stall Id: 141

## Abstract

**Bridging the Gap:** Assistive Technology for the Visually Impaired aims to develop cutting-edge solutions that enhance independence and quality of life for individuals with visual impairments. This project focuses on creating advanced assistive technologies, such as smart navigation aids, tactile feedback systems, and voice-controlled applications, designed to address the diverse needs of the visually impaired community. By integrating innovations like AI and IoT, the project seeks to provide more accessible and intuitive tools for everyday tasks, from reading and navigation to communication and personal organization. The goal is to bridge existing gaps in accessibility and empower visually impaired individuals with greater autonomy and inclusion in their daily lives.



## Novelty

Innovative technologies empower visually impaireds for greater independence



Principal Investigator Chetna

Student(s) Dipesh Baral, Sudarshan Paudel, Saurav Baniya, Ritesh Rohilla



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# Starch-based Bioplastics



Project Id: 094

Stall Id: 196

**Abstract** Starch-Based Bioplastics explores the development of sustainable alternatives to conventional plastics using starch as a primary raw material. This project aims to create biodegradable bioplastics that address the environmental issues associated with traditional plastic waste. By leveraging the natural properties of starch, the bioplastics will offer a reduced carbon footprint and enhanced biodegradability. The project focuses on optimizing the formulation and processing techniques to ensure the bioplastics are viable for commercial use, providing an eco-friendly option for packaging, disposable items, and other applications. The ultimate goal is to contribute to environmental sustainability and reduce plastic pollution.



**Novelty** Sustainable bioplastics from starch offer eco-friendly alternatives to plastics



**Principal Investigator** Varsha Suryan

**Student** Prachi, Shruti



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# Enzymatic Cleanup of Antibiotics from Wastewater



Project Id: 092

Stall Id: 197

**Abstract** The Enzymatic Cleanup of Antibiotics Detected in Wastewater project focuses on developing a sustainable method for removing antibiotics from wastewater. Antibiotics in wastewater can contribute to environmental pollution and antibiotic resistance, posing risks to ecosystems and human health. This project explores the use of specific enzymes to break down and neutralize these antibiotics, offering an eco-friendly and efficient solution for wastewater treatment. By integrating enzymatic processes, the project aims to enhance the degradation of pharmaceutical contaminants, improve water quality, and support environmental sustainability. The ultimate goal is to establish a practical, scalable approach to manage and mitigate the impact of antibiotics in wastewater systems.



**Novelty** Utilizing enzymes effectively reduces antibiotic pollution in wastewater systems



**Principal Investigator** Dr. Shruti Ahlawat

**Student** Soumya Gupta





# Respect in Action: Gender Sensitization in Workplaces



Project Id: 035

Stall Id: 214

**Abstract** Respect in Action: Navigating POSH and Gender Sensitization for Safer Workplaces is an initiative aimed at fostering safer and more respectful work environments through effective implementation of the Prevention of Sexual Harassment (POSH) Act and comprehensive gender sensitization training. This program focuses on educating employees and management about legal rights, creating awareness about gender biases, and promoting a culture of respect and inclusivity. By addressing issues of sexual harassment and gender inequality, the initiative seeks to empower individuals, prevent misconduct, and support a positive, equitable workplace. Respect in Action plays a crucial role in societal development by advancing workplace safety, equality, and respect for all.



**Novelty** “Respect in Action” enhances workplace safety



**Principal Investigator** Dr. Barkha Bhatnagar

**Co-PI** Prof. Susanta Kundu

**Student** Kashish





# Electrostimulation-A Cutting Edge Technology



Project Id: 067

Stall Id: 215

**Abstract** Electrostimulation: A Cutting-Edge Technology aims to revolutionize agricultural practices by using electric fields to enhance seed germination and crop yield. The project focuses on developing and implementing electrostimulation techniques to break seed dormancy and accelerate the growth process. By applying controlled electric fields, the technology stimulates biochemical processes within seeds, leading to earlier sprouting and more robust plant development. This innovative approach promises to address the challenges of feeding a growing global population by improving crop productivity and efficiency. By integrating electrostimulation into agricultural practices, the project seeks to advance food production capabilities and contribute to sustainable farming solutions.



**Novelty** Using electric fields enhances seed germination and crop yields effectively



**Principal Investigator** Dr. Latika Bhayana

**Student(s)** Jefry, Shivani, Mansi







# PROJECTS

Faculty of  
Agricultural Sciences  
(FASC)

# Automated Irrigation in Urban Concrete Gardens



Project Id: 151

Stall Id: 134

**Abstract** This automated irrigation system is designed for efficient water management in urban kitchen gardens, particularly in concrete environments. It uses sensors to monitor soil moisture levels and adjusts water delivery accordingly, ensuring plants receive the optimal amount of water without waste. The system includes programmable timers and smart controllers that can be accessed via mobile apps for remote management. It is compact and discreet, fitting seamlessly into urban settings while minimizing water usage and maintenance. The integration of weather data allows the system to adapt to changing conditions, promoting healthy plant growth and sustainability in limited urban spaces.



**Novelty** Smart sensors and remote controls optimize water use in urban gardens



**Principal Investigator** Dr. Bhawna Kalra

**Student(s)** Aman, Gutta Prudhvinadh, Prashant





# Plant Health Monitoring System



Project Id: 150

Stall Id: 135

**Abstract** This advanced system is designed to monitor and optimize plant health through real-time data collection. Equipped with sensors, it measures key factors such as soil moisture, nutrient levels, temperature, and light conditions. The system uses this data to assess plant well-being and detect early signs of stress or disease. Alerts and recommendations are provided to guide intervention, such as adjusting irrigation or fertilization. The platform often integrates with mobile apps or web interfaces for easy access to information and remote management. By enabling precise and timely care, this system supports improved crop yields and sustainable agricultural practices.



**Novelty** Real-time data and alerts optimize plant care and disease detection



**Principal Investigator** Dr Suman

**Student(s)** Ritik, Sristi, Riya and Aryan



# Summer Sustainable Smart Bee Hive



Project Id: 148

Stall Id: 136

**Abstract** This innovative bee hive design focuses on sustainability and advanced technology to support beekeeping in summer conditions. Constructed from eco-friendly materials, the hive features a smart monitoring system that tracks temperature, humidity, and hive activity in real-time. Integrated sensors provide data to ensure optimal conditions for the bees, promoting their health and productivity. The hive includes ventilation and insulation features to regulate temperature and prevent overheating during hot weather. Additionally, it incorporates an automated feeding system to support bee nutrition. This design enhances beekeeping practices, supports bee conservation, and improves honey production efficiency while being environmentally responsible.

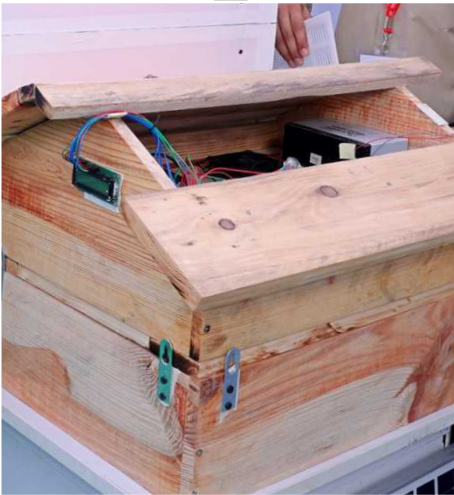


**Novelty** Smart sensors and eco-friendly design optimize hive conditions and productivity



**Principal Investigator** Dr. Surendra S.Shekhawat

**Student** Piyush Jakhar





# Smart Grain Storage Bin



Project Id: 149

Stall Id: 137

**Abstract** This advanced storage bin is designed specifically for agricultural settings to manage organic waste and farm by-products efficiently. Equipped with smart sensors, it monitors fill levels and reports data to optimize waste collection schedules. The bin features an automatic compaction system, increasing storage capacity and reducing the need for frequent emptying. Built from durable, weather-resistant materials, it is suitable for various agricultural environments. Additionally, it includes odor control mechanisms to prevent unpleasant smells and maintain hygiene. This smart solution enhances waste management on farms, supports sustainable practices, and streamlines the handling of organic materials for composting or disposal.



**Novelty** Smart sensors and compaction improve organic waste management on farms



**Principal Investigator** Dr. S.S Sharma

**Student(s)** Mansi, Kajal, Arya



# Automated Fruit Ripeness Assessment System

Project Id: 152

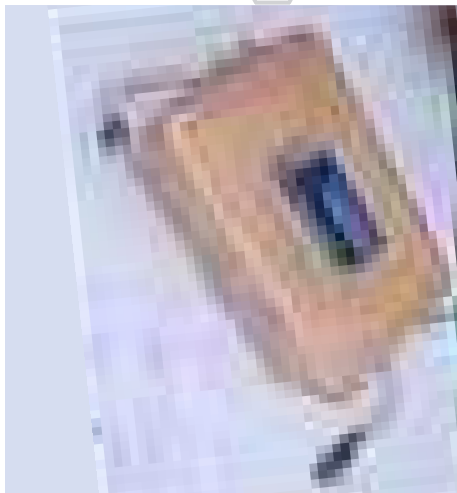
Stall Id: 138

**Abstract** This advanced system is designed to accurately assess fruit ripeness using automated technology. Equipped with sensors and imaging tools, it evaluates various ripeness indicators such as color, texture, and firmness. The system uses machine learning algorithms to analyze the data and determine the optimal harvesting time. It provides real-time feedback and alerts, ensuring that fruits are picked at their peak quality. The integration of this technology reduces human error and improves consistency in fruit quality. Additionally, it helps in managing inventory more efficiently by predicting ripeness, reducing waste, and enhancing overall supply chain effectiveness.

**Novelty** Automated sensors and AI ensure precise fruit ripeness assessment

**Principal Investigator** Dr. Sachin

**Student(s)** Rishav, Suryansh, Ankush





# Cycle Operated Plough



Project Id: 188

Stall Id: 167

**Abstract** The cycle-operated plough is an innovative agricultural tool designed to enhance farming efficiency while reducing manual labor. Utilizing a bicycle mechanism, this plough enables farmers to cultivate land with minimal effort, making it particularly beneficial for small-scale and community farming. The design is lightweight and easy to maneuver, allowing for effective tilling in tight spaces. It requires no fuel or electricity, making it an eco-friendly alternative to traditional tractors. The cycle-operated plough not only saves time but also promotes sustainable practices by minimizing soil compaction and erosion. This user-friendly equipment encourages more people to engage in agriculture, fostering food security and self-sufficiency.



**Novelty** Eco-friendly, pedal-powered tool enhances efficiency in small farming



**Principal Investigator** R. Abhishek

**Student** Raviyansh



# Seed Driller for Vegetables



Project Id: 189

Stall Id: 168

**Abstract** A seed driller for vegetables is an essential agricultural tool designed to enhance planting efficiency and accuracy. This device enables farmers to plant seeds in straight rows at optimal depths, ensuring uniform spacing and better germination rates. By automating the seeding process, it significantly reduces labor time and effort compared to manual planting. The adjustable settings allow for various seed sizes and types, making it versatile for different vegetable crops. Additionally, the design minimizes soil disturbance, promoting healthier root development. With improved planting precision, this tool contributes to higher yields and sustainable farming practices, ultimately supporting food production.

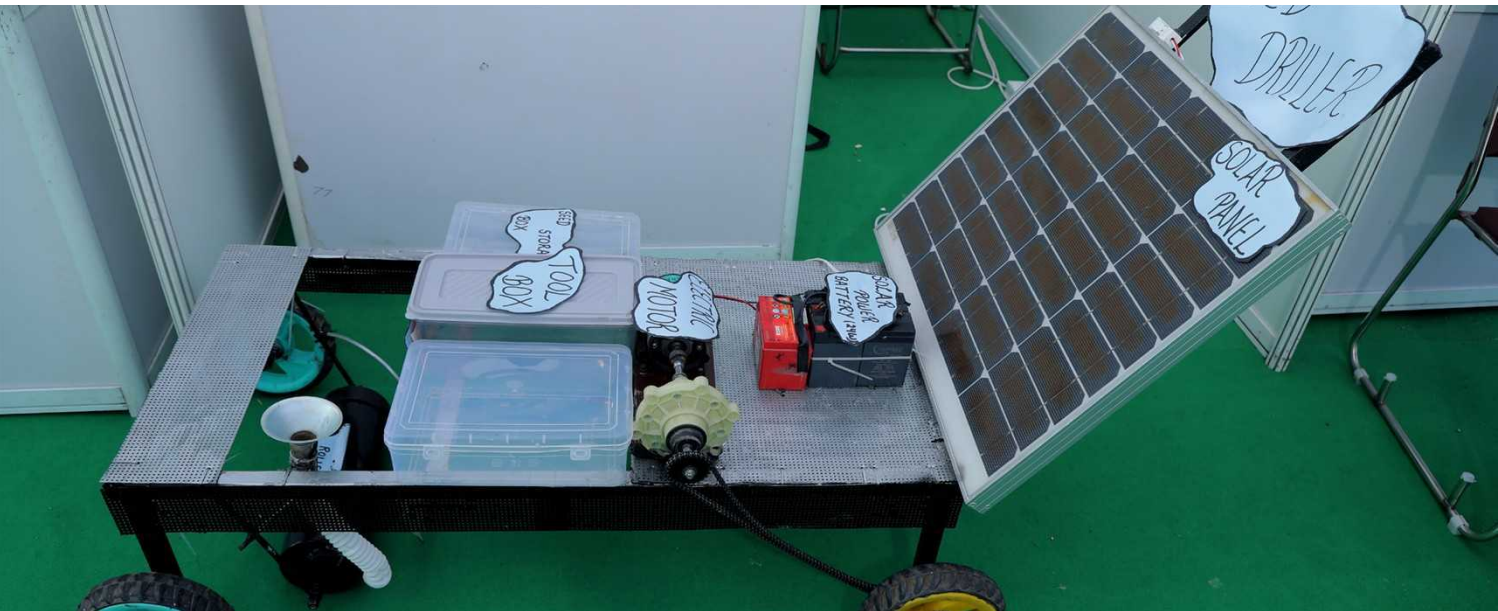


**Novelty** Automated tool ensures precise planting for improved vegetable yields



**Principal Investigator** Dr. Bhawna Kalra

**Student(s)** Aman, Namita





# Product Development from Fruits and Vegetable Waste



Project Id: 147

Stall Id: 169

**Abstract** Developing products from fruit and vegetable waste involves converting organic by-products into valuable resources. This process includes collecting waste from food production and processing it into innovative products like biodegradable packaging, natural dyes, or nutritious supplements. Techniques such as fermentation, extraction, and enzymatic treatment are used to enhance the properties of the waste materials. The development not only reduces environmental impact by minimizing waste but also creates sustainable alternatives to conventional products. This approach contributes to a circular economy, where waste materials are repurposed, and promotes eco-friendly practices in various industries. The end products often retain high nutritional value and offer practical benefits.



**Novelty** Repurposing organic waste into valuable, eco-friendly products



**Principal Investigator** Dr. Meenakshi Devi

**Student(s)** Ritik, Ayush, Sanjeev



*We continue to innovate ...*

# Green fertilizer- Panchgavya ‘Pashuon se Khet tak’



Project Id: 157

Stall Id: 170

**Abstract** Panchgavya is a traditional Indian biofertilizer made from a mixture of five cow products: cow urine, cow dung, milk, curd, and ghee. It is a nutrient-rich organic substance that can be used to enhance soil fertility and promote plant growth. Panchgavya contains a wide range of beneficial microorganisms, including beneficial bacteria and fungi, which can help to improve soil health and suppress plant diseases. It is also a good source of essential nutrients like nitrogen, phosphorus, and potassium, which are vital for plant growth and development. By using Panchgavya as a fertilizer, farmers can reduce their reliance on chemical fertilizers, promote sustainable agriculture, and improve the overall health and productivity of their crops.

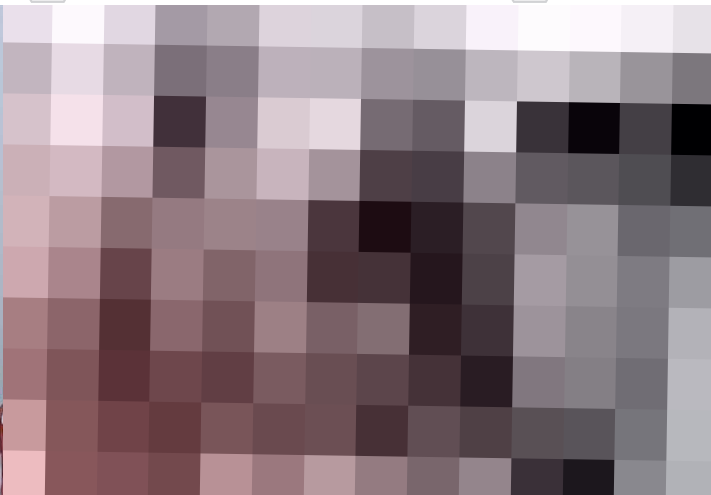


**Novelty** Panchgavya offers a novel approach to sustainable agriculture



**Principal Investigator** Dr. Sucheta Dahiya

**Student(s)** Ankush, Ritik





# Justification of Soil Settlement with Soil Liquidity



Project Id: 153

Stall Id: 171

**Abstract** This approach involves assessing soil settlement by examining soil liquidity, a key factor influencing soil stability and structural integrity. Soil liquidity, or the ability of soil to flow under stress, impacts how soil settles over time, particularly in construction and geotechnical projects. By analyzing soil liquidity, engineers can predict potential settlement issues and make informed decisions about foundation design and soil treatment. The process typically includes measuring parameters such as moisture content and plasticity. This justification helps ensure that structures are built on stable ground, minimizing risks of uneven settlement and associated damage. Accurate soil liquidity assessment is crucial for effective soil management and construction safety.



**Novelty** Evaluates soil stability through liquidity analysis for settlement prediction



**Principal Investigator** Dr. Debabrata Dhar

**Student(s)** Bikesh, Sumit, Bharti Yadav, Aastha, Kumud



# Vegetable and Flower Seed Kit for Student(s)



Project Id: 155

Stall Id: 172

**Abstract** This educational seed kit is designed to introduce Student(s) to gardening and plant biology through hands-on experience. It includes a variety of vegetable and flower seeds, along with detailed instructions on planting, nurturing, and harvesting. Each kit comes with biodegradable pots, soil pellets, and markers to track growth. The seeds selected are easy to grow, making it suitable for all age groups. The kit aims to teach Student(s) about plant life cycles, the importance of agriculture, and environmental stewardship. By engaging in the process of growing their own plants, Student(s) gain practical knowledge and develop a deeper appreciation for nature.



**(Novelty)** Hands-on kit teaches gardening basics and plant biology to Student(s)



**Principal Investigator** Dr. Manjeet

**Student(s)** Meenakshi, Muskan, Mohit





# Display of Soil Fertility Map in Haryana



Project Id: 154

Stall Id: 173

**Abstract** This project involves creating a detailed map that displays soil fertility across Haryana. Utilizing data from soil samples, satellite imagery, and field surveys, the map provides insights into nutrient levels, pH, and soil texture across different regions. It highlights areas with high fertility and those needing amendments, supporting targeted agricultural practices. The map also integrates with GIS technology to offer interactive features, allowing users to zoom in on specific areas and view detailed soil characteristics. By presenting this information visually, it helps farmers make informed decisions on fertilization and crop selection, ultimately enhancing agricultural productivity and sustainability in the region.

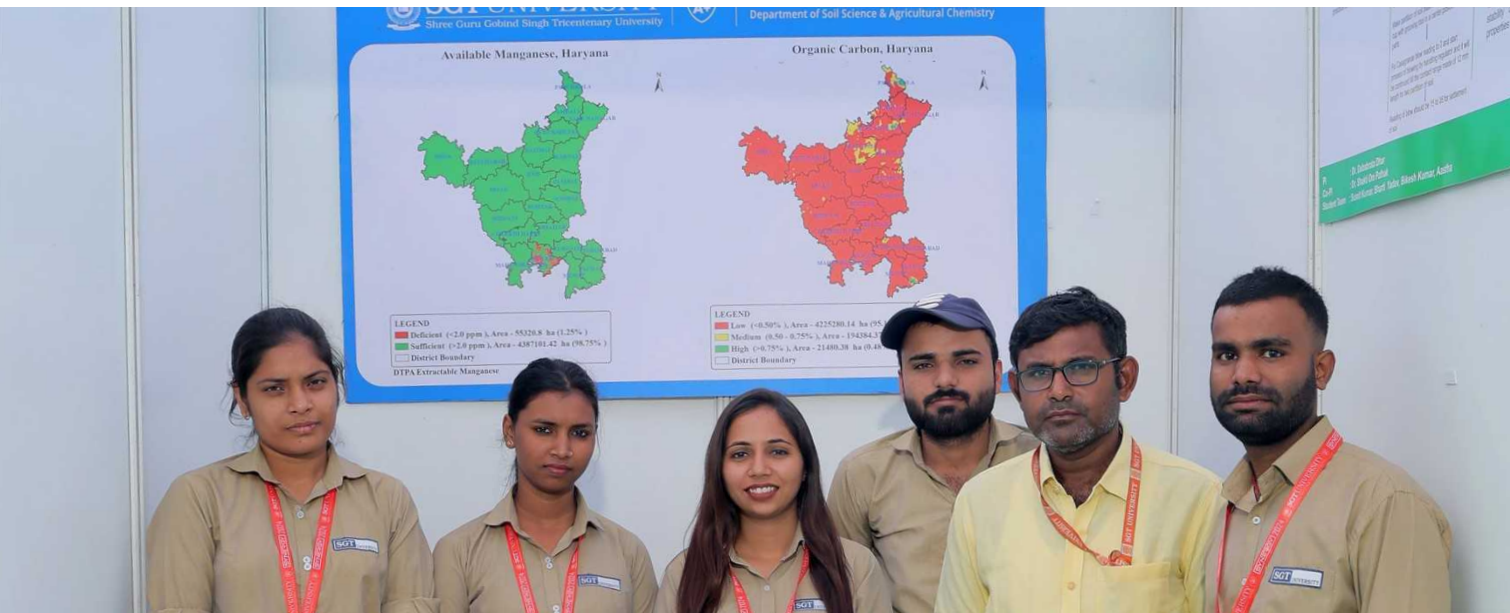


**Novelty** Interactive map visualizes soil nutrients, aiding targeted agricultural practices



**Principal Investigator** Dr. Shakti Om Pathak

**Student(s)** Adarsh, Muskan, Megha



# Super Food for Babies and Adults

Project Id: 187

Stall Id: 174

**Abstract** This superfood is designed to nourish both babies and adults, offering a balanced blend of essential nutrients for optimal health. Packed with vitamins, minerals, and antioxidants, it supports immune function and promotes overall growth and development. The formula is easy to digest, making it suitable for infants transitioning to solid foods, while also providing energy and vitality for adults. Rich in protein and healthy fats, it helps maintain muscle mass and supports brain health. Additionally, its natural flavors make it appealing to all ages. Incorporating this superfood into daily diets can enhance nutritional intake and foster lifelong healthy habits.

**Novelty** Nutrient-rich blend caters to health needs of all ages

**Principal Investigator** Dr. Preeti Singh

**Student(s)** Jyoti, Ritik and Pooja





# Seed Biopriming Technique to Supercharge Seeds



Project Id: 156

Stall Id: 175

**Abstract** Seed biopriming is a revolutionary agricultural practice that involves treating seeds with specific microorganisms or substances to enhance their performance. By creating a favorable environment for the seed, biopriming can significantly improve germination rates, seedling vigor, and overall plant health. This pre-treatment helps to accelerate growth, improve nutrient uptake, and increase resistance to various stress factors such as drought, salinity, and diseases. Additionally, biopriming can contribute to more sustainable agricultural practices by reducing the need for chemical inputs and promoting biodiversity. This innovative approach offers a promising solution for increasing crop yields and ensuring food security in the face of growing global challenges.



**.Novelty** Seed biopriming provides a innovative approach to optimize seed performance



Principal Investigator Dr. Priyanka

Student(s) Mohit, Nishant, Vivek









# PROJECTS

Faculty of  
Behavioral and Social Sciences  
(FBSS)

# Mind Aid Kit



Project Id: 069

Stall Id: 040

**Abstract** Mind Aid Kit is a comprehensive wellness tool designed to support mental health and cognitive function. The kit combines various components, such as mindfulness exercises, stress-relief techniques, cognitive-behavioral tools, and mental health resources, to offer a holistic approach to mental well-being. It includes guided meditation sessions, stress management strategies, mood tracking, and educational materials on mental health. The goal of the Mind Aid Kit is to provide individuals with accessible, practical tools to manage stress, enhance mental clarity, and promote emotional resilience. By integrating these resources into daily routines, the kit aims to support overall mental health and well-being.



**Novelty** A holistic wellness tool integrating mindfulness and cognitive resources



**Principal Investigator** Ms. Prachi Saini

**Student(s)** Sakshi, Ishita, Kanika





# Mood Modifier Tool



Project Id: 140

Stall Id: 041

**Abstract** This innovative tool is designed to help users manage and improve their mood through interactive and personalized strategies. It utilizes mood-tracking features to monitor emotional patterns and identify triggers. Based on this data, the tool offers tailored activities, such as relaxation exercises, mindfulness techniques, and positive affirmations, to address specific mood concerns. It also provides real-time feedback and progress reports, enabling users to track their emotional well-being over time. With a user-friendly interface and customizable options, this tool supports mental health by promoting emotional balance and resilience, making it a valuable resource for daily mood management.



**Novelty** Personalized strategies and real-time feedback enhance emotional well-being



**Principal Investigator** Dr. Anita Manglani

**Student(s)** Priyanka Singhal, Rishika Bhatnagar, Neel Setya, Vandana Raghuvanshi



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# Creativity Assessment Tool for Indian Youth



Project Id: 142

Stall Id: 042

**Abstract** Developing a creativity assessment tool for Indian youth involves creating a framework that accurately measures creative potential and diverse thinking skills. This tool should incorporate various creative domains, such as problem-solving, artistic expression, and innovative thinking. To enhance creativity, the tool can be paired with methods that encourage exploration and experimentation, such as workshops, mentorship programs, and project-based learning. Cultural relevance is crucial, ensuring that the tool and methods align with local contexts and values. Providing feedback and guidance based on assessment results can further support individual growth. This approach aims to foster a more creative and innovative generation, better equipped for future challenges.



**Novelty** Culturally tailored tool and methods boost creativity in Indian youth



**Principal Investigator** Jai Prakash Kushvah

**Student(s)** Gurbaani, Anushka



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# Emotional Valence in Word Processing: An Insight



Project Id: 141

Stall Id: 043

**Abstract** Investigating emotional valence in word processing reveals its impact on learning and education. Emotional valence, which refers to the intrinsic attractiveness or aversiveness of stimuli, influences how individuals process and retain information. Positive emotional valence can enhance engagement, motivation, and memory retention, while negative valence may hinder learning outcomes. Understanding these dynamics allows educators to design more effective instructional materials that leverage emotional cues to improve comprehension and recall. For instance, incorporating emotionally engaging content can make learning experiences more memorable. Insights into emotional valence offer valuable strategies for optimizing educational approaches and enhancing student learning experiences.

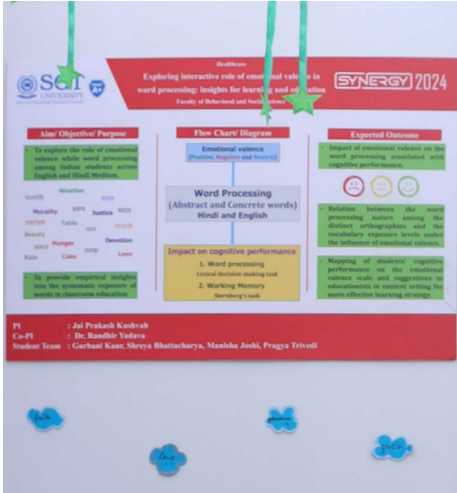


**Novelty** Emotional valence enhances learning by improving engagement and retention



**Principal Investigator** Jai Prakash Kushvah

**Student** Kamakshi



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# Self Enhancement of Emotional Well-being



Project Id: 143

Stall Id: 044

**Abstract** This journal is designed to support emotional well-being through structured self-reflection and personal growth exercises. It includes prompts for daily emotional check-ins, helping users identify and understand their feelings. Sections on goal-setting and personal achievements encourage self-improvement and track progress. Techniques such as mindfulness practices, gratitude lists, and positive affirmations are incorporated to enhance emotional resilience and self-awareness. Users can explore coping strategies and record their responses to various life events, fostering emotional intelligence and self-management. The journal's holistic approach aims to create a comprehensive tool for maintaining and improving emotional health over time.



**Novelty** Structured self-reflection and growth exercises enhance emotional resilience



**Principal Investigator** Dr. Akshita

**Student** Lakshay





# Suicide: Preventions, Awareness & Sensitization



Project Id: 139

Stall Id: 216

**Abstract** Addressing suicide involves a multifaceted approach that includes prevention strategies, awareness campaigns, and sensitization efforts. Prevention focuses on identifying and supporting individuals at risk through mental health services, counseling, and crisis intervention. Awareness campaigns aim to educate the public about the warning signs of suicidal behavior and the importance of seeking help. Sensitization efforts work to reduce stigma and encourage open discussions about mental health, fostering a supportive environment for those in distress. Training programs for healthcare providers, educators, and community leaders further enhance their ability to recognize and respond to suicidal tendencies. Together, these initiatives work to save lives and improve mental health outcomes.



**Novelty** Integrates prevention, awareness, and sensitization for comprehensiveness



**Principal Investigator** Akhilesh K. Mishra

**Student(s)** Shruti, Pooja





# Seven Up



Project Id: 137

Stall Id: 217

**Abstract** This engaging tool combines extempore speaking and language quizzes to enhance communication skills and language proficiency. Users are prompted to speak spontaneously on various topics, improving their ability to think and articulate ideas quickly. Concurrently, the language quiz component challenges users with grammar, vocabulary, and comprehension questions, reinforcing their language skills. Real-time feedback and scoring help users track their progress and identify areas for improvement. Designed for both learners and professionals, this tool fosters fluency, boosts confidence, and provides a comprehensive approach to language development. It's ideal for educational settings, language practice, and skill-building activities.



**Novelty** Interactive cognitive exercises adapt to users, enhancing mental function



**Principal Investigator** Dr. Shweta T. Sharma

**Student** Priyanshu





# Extempore/Language Quiz



Project Id: 138

Stall Id: 218

**Abstract** This engaging tool combines extempore speaking and language quizzes to enhance communication skills and language proficiency. Users are prompted to speak spontaneously on various topics, improving their ability to think and articulate ideas quickly. Concurrently, the language quiz component challenges users with grammar, vocabulary, and comprehension questions, reinforcing their language skills. Real-time feedback and scoring help users track their progress and identify areas for improvement. Designed for both learners and professionals, this tool fosters fluency, boosts confidence, and provides a comprehensive approach to language development. It's ideal for educational settings, language practice, and skill-building activities.



**Novelty** Combines spontaneous speaking with quizzes to enhance language skills



**Principal Investigator** Diksha Beniwal

**Student** Chanchal









# PROJECTS

Faculty of  
Commerce and Management  
(FCAM)

# AyurVani Essentials Herbal Tea



Project Id: 003

Stall Id: 098

**Abstract** AyurVani Essentials Herbal Tea offers a promising solution for women dealing with lifestyle disorders such as PCOD/PCOS. With the rise in these conditions and the limitations of modern medical treatments, which often come with side effects, there is a growing need for alternative, sustainable options. This herbal tea blend revisits traditional remedies, merging time-tested ingredients with contemporary taste preferences. Designed to address PCOD/PCOS symptoms, it provides a natural, holistic approach to wellness. By combining therapeutic benefits with an enjoyable flavor, AyurVani Essentials ensures that women can manage their health in a way that is both effective and appealing.



**Novelty** AyurVani herbal tea enhances healthcare



**Principal Investigator** Dr. Reetika Dadheech

**Student** Vanshika





# Budget Gamification



Project Id: 002

Stall Id: 126

**Abstract** Budget gamification is revolutionizing financial management by turning budgeting into an engaging, game-like experience. By incorporating elements such as points, levels, and rewards, users are motivated to track and manage their finances more effectively. This approach leverages the principles of game design to encourage savings, smart spending, and investment. For example, individuals might earn rewards for meeting savings goals or completing financial education modules. This technique not only makes budgeting more enjoyable but also fosters better financial habits. As technology advances, integrating AI and AR could further enhance these gamified experiences, making financial management even more interactive and personalized.



**Novelty** Tech-driven gamification enhances budgeting



**Principal Investigator** Dr. Rahul Khurana

**Student(s)** Kanishka, Sukriti Gupta, Harsh Goyal



# Investment Challenges (Financial Awareness)



Project Id: 001

Stall Id: 131

**Abstract** Financial literacy is crucial for navigating the evolving landscape of future tech and innovation. As technology rapidly transforms industries, individuals must develop a deep understanding of financial principles to make informed investment decisions. Emerging technologies like blockchain, AI, and fintech disrupt traditional markets, creating both opportunities and risks. Financial awareness empowers individuals to capitalize on these innovations while managing uncertainty. By enhancing skills such as budgeting, saving, and investment strategies, people can navigate the complexities of tech-driven economies. This blend of financial literacy and tech-savviness ensures informed decisions, fostering personal growth and societal advancement in a rapidly changing world.



**Novelty** Innovation demands financial literacy mastery



**Principal Investigator** Dr. Rajesh Poonia

**Student(s)** Lalit Sharma, Sachin, Priyanshu





# AyurVani Essentials: Face Pack, Hair Hydrosol, Cream



Project Id: 004

Stall Id: 176

**Abstract** AyurVani Essentials is bridging the gap in the market for practical and affordable Ayurvedic products. With a focus on daily use and accessibility, the range includes customized and general face packs, hair hydrosols, and face creams, all crafted to fit seamlessly into busy lifestyles. As an Ayurveda scholar, my mission is to deliver high-quality, luxurious solutions that democratize the benefits of Ayurveda. By prioritizing sustainability and natural resources, AyurVani Essentials ensures that these products are not only effective but also environmentally responsible, making Ayurveda's rich heritage accessible to every household.



**Novelty** AyurVani promotes sustainable Ayurvedic skincare



**Principal Investigator** Dr. Yogesh Mehta

**Student(s)** Vanshika, Tushar, Harsh



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# ShineGourd Scrub



Project Id: 005

Stall Id: 177

**Abstract** ShineGourd Scrub is an innovative cleaning product tailored for eco-conscious consumers who value sustainability and affordability. Crafted from 100% natural sponge gourd (luffa), this biodegradable scrub serves as an eco-friendly alternative to synthetic sponges and exfoliators. Its natural composition minimizes environmental impact while offering a durable solution that outlasts traditional cleaning tools. By reducing the frequency of replacements, ShineGourd Scrub not only supports a greener lifestyle but also proves to be cost-effective. Embracing natural resources, ShineGourd Scrub is a practical choice for both body care and household cleaning, aligning with principles of sustainability



**Novelty** ShineGourd Scrub promotes sustainable exfoliation



**Principal Investigator** Ms. Namrata Yadav

**Student** Nimit





# Green Finance Instruments

Project Id: 099

Stall Id: 207

**Abstract** The project aims to integrate environmental sustainability into financial decision-making processes, focusing on healthcare investments. By developing and implementing green finance policies, this initiative seeks to promote investments in eco-friendly healthcare technologies and practices, such as energy-efficient medical equipment and sustainable facility management. The project will design financial instruments like green bonds and eco-loans to support healthcare institutions in adopting environmentally responsible practices. Additionally, it will provide guidelines for assessing the environmental impact of healthcare investments, ensuring that financial resources contribute to both health outcomes and environmental preservation. This approach strives to align financial strategies with the broader goals of sustainability and public health.

**Novelty** Integrating sustainability in healthcare finance enhances eco-friendly investments

**Principal Investigator** Dr. Niyati Chaudhary

**Student(s)** Muskan, Gursheen, Vrinda



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# PROJECTS

Faculty of  
Dental Sciences  
(FDSC)

# Nano-AG Cones: Nano Particles in Collagen Matrix

Project Id: 023

Stall Id: 027

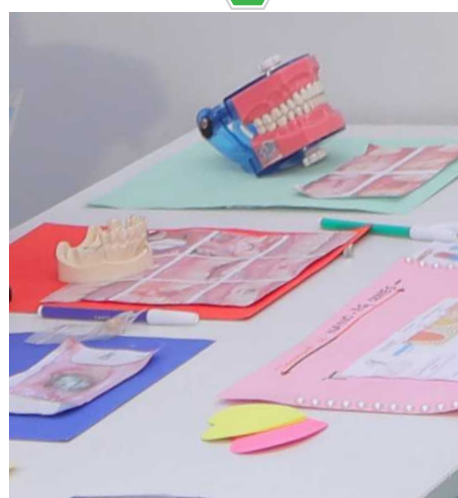
**Abstract** Nano-AG Cones manages intra-oral wounds by incorporating silver nanoparticles into a collagen matrix. Traditional intra-oral medicaments often suffer from drawbacks such as a metallic taste, frequent reapplication, and the potential for being washed away by saliva or food. Additionally, the inappropriate use of antibiotic gels can disturb oral flora and contribute to antibiotic resistance. Silver nanoparticles are renowned for their broad-spectrum bactericidal, antiviral, and antifungal properties, making them an ideal choice for oral wound care. When suspended in a collagen matrix, Nano-AG Cones provide a novel, one-time application dressing that offers a sustained release of silver particles. The design ensures continuous antimicrobial protection without relying on patient compliance, reducing the risk of infection, faster healing of extraction sockets and other oral wounds.

**.Novelty** Nano-AG Cones innovate oral healthcare

Principal Investigator Dr. Minerva Singh

Co-PI Dr. Mohammad Sabir Alam

Student(s) Kavya Sivakumar, Lishica Kapoor, Dr. Isha Singla, Saloni Mishra





# Power of Boric Acid in Periodontal Therapy

Project Id: 018

Stall Id: 028

**Abstract** This study explores the use of boric acid chips as an adjunct to mechanical periodontal therapy for managing 5mm periodontal pockets. The focus is on providing a pocket-sized, non-invasive solution that enhances periodontal treatment for patients who are unable or unwilling to undergo surgery due to systemic health issues or personal preferences. Boric acid, known for its antimicrobial and anti-inflammatory properties, offers a cost-effective alternative to traditional treatments. By integrating these chips into periodontal care, the study aims to improve disease management, making advanced therapeutic options more accessible and effective for a broader range of patients.

**Novelty** Boric acid enhances periodontal healthcare

**Principal Investigator** Dr. Shilpa Kamra

**Co-PI** Dr. Anurag Bhatnagar

**Student(s)** Dr. Aayushee Gupta





# Ergosmart NeckVibe



Project Id: 026

Stall Id: 029

**Abstract** The Ergosmart NeckVibe is an ergonomically designed device aimed at enhancing workplace comfort and reducing the risk of musculo-skeletal injuries. By promoting a neutral head and neck position, it helps employees maintain proper posture during long hours of work. The device features adjustable settings to fit individual needs and provides gentle vibration therapy to alleviate neck tension and improve circulation. This innovative solution not only enhances comfort but also supports overall well-being by minimizing strain on the neck and upper back. The Ergosmart NeckVibe is a proactive tool for fostering a healthier and more productive work environment.



**Novelty** Ergosmart NeckVibe revolutionizes neck care



**Principal Investigator** Dr. Gourav Thapak

**Co-PI** Dr. Ashtha Arya

**Student(s)** Dr. Meera Nair





# Linguo Buccal Retractor



Project Id: 025

Stall Id: 030

**Abstract** The Linguo Buccal Retractor is an advanced dental tool designed to enhance the visibility and accessibility of the oral cavity during various dental procedures. This innovative device provides effective retraction of both the tongue (lingual side) and the buccal mucosa (cheek side), allowing dental professionals to work with greater precision and comfort. The retractor's ergonomic design ensures minimal discomfort for patients while maintaining a clear view of the treatment area. By improving access and visibility, the Linguo Buccal Retractor facilitates more efficient and accurate dental procedures, contributing to better patient outcomes and streamlined dental care.



**Novelty** Linguo Buccal Retractor enhances dental care



**Principal Investigator** Dr. Apna Yadav

**Co-PI** Dr. Varun Arya

**Student** Kajol Gupta



# Scrubby Dubby (Smart Toothbrush)

Project Id: 028

Stall Id: 031

**Abstract** Scrubby Dubby is a cutting-edge smart toothbrush designed to help children develop healthy brushing habits and prevent early onset of caries. This technologically advanced toothbrush features interactive elements that engage kids and guide them through proper brushing techniques. With built-in sensors and feedback mechanisms, Scrubby Dubby monitors brushing time, pressure, and technique, providing real-time guidance to ensure thorough cleaning. The device supports the transition from supervised to independent brushing, offering parents peace of mind while empowering children to take charge of their oral hygiene. By combining education with technology, Scrubby Dubby promotes long-term dental health and effective self-care from a young age.

**Novelty** Scrubby Dubby transforms oral healthcare

**Principal Investigator** Dr. Mahima Shokhanda

**Co-PI** Dr. Shrehya Shekhar

**Student** Dr. Minakshi Gogne





# Myosleep



Project Id: 029

Stall Id: 032

**Abstract** Myosleep is a cutting-edge orthodontic device designed to address snoring and sleep apnea, significantly improving patients' quality of sleep and overall well-being. This innovative device works by gently adjusting the position of the jaw to keep the airway open during sleep, reducing or eliminating obstructive sleep apnea and snoring. Tailored for individual needs, Myosleep offers a comfortable and effective solution that supports better breathing patterns and more restful sleep. By targeting the root causes of these sleep disorders, Myosleep enhances both sleep quality and daily health, offering a non-invasive alternative to traditional treatments.



**Novelty** Myosleep revolutionizes sleep healthcare



**Principal Investigator** Dr. Pranav Vaid

**Co-PI** Dr. Shivani & Dr. Apurva

**Student(s)** Dr Hardik, Dr. Poloumi, Pearl, Diksha



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# Lesion sterilization and Tissue Repair Primary Teeth

Project Id: 027

Stall Id: 033

**Abstract** The Novel Endodontic Material for Lesion Sterilization and Tissue Repair (LSTR) focuses on advancing treatment methods for primary teeth with resorption and regenerative therapy for permanent teeth. This approach involves the preparation and clinical assessment of a double antibiotic paste combined with macrogol. The paste is designed for lesion sterilization and tissue repair in primary teeth, potentially salvaging teeth otherwise indicated for extraction due to resorption. Additionally, it serves as a disinfection agent in regenerative therapy for permanent teeth. By enhancing lesion management and promoting tissue regeneration, this innovative material aims to improve outcomes in endodontic treatments and extend the longevity of both primary and permanent teeth.

**Novelty** LSTR material advances endodontic care

**Principal Investigator** Dr. Anushi Mehendiratta

**Co-PI** Dr. Shalini Garg

**Student(s)** Dr. Lata, Dr. Prince Rathee, Dr. Neetika





# PEN-FLOSS - A Daily Routine Oral Hygiene



Project Id: 024

Stall Id: 034

**Abstract** PEN-FLOSS is a revolutionary oral hygiene tool designed to complement traditional tooth brushing by addressing the challenge of interdental plaque removal. Since up to 40% of tooth surfaces are interdental and often missed with brushing alone, PEN-FLOSS combines the functionality of a pen with integrated floss to facilitate daily flossing. This compact, hygienic device is cost-effective and easy to carry, making it readily available and convenient for users to incorporate into their daily routine. By merging the efficacy of brushing and flossing into a single device, PEN-FLOSS encourages better oral health practices and improves gum health. This innovative solution aims to increase flossing adherence and enhance overall oral hygiene.



**Novelty** PEN-FLOSS revolutionizes daily oral care



**Principal Investigator** Dr. Monika Tanwar

**Co-PI** Dr Manu and Dr Sanjeev Kumar

**Student** Dr. Habiba



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# Ortho-Splash- Modified Electric Toothbrush



Project Id: 030

Stall Id: 035

**Abstract** Ortho-Splash is an innovative project aimed at revolutionizing oral hygiene by integrating a water flosser into an electric toothbrush. This dual-function device combines the brushing and flossing processes into a single, efficient appliance, eliminating the need for separate devices and reducing overall costs. The built-in water flosser uses high-pressure water jets to enhance interdental cleaning, improving oral hygiene by reaching areas that traditional brushing alone may miss. By streamlining the oral care routine and providing comprehensive cleaning, Ortho-Splash ensures a more effective and convenient approach to maintaining dental health.



**Novelty Ortho-Splash enhances dental healthcare**



Principal Investigator Dr. Risabh Nagill

Co-PI Dr. Jitendra, Dr. Archana Jaglan

Student(s) Dr. Renu Yadav, Dr. Tanvi Dagar, Dr. Sakshi Tyagi, Dr. Ashi Shookeen





# Biovibe Dentapatch

Project Id: 144

Stall Id: 036

**Abstract** This innovative dental product is designed to provide targeted oral care and comfort. The patch is infused with therapeutic agents that gradually release to address specific dental issues such as gum irritation, tooth sensitivity, or oral inflammation. It adheres comfortably to the gums, delivering consistent relief and promoting healing over time. The product's design allows for discreet use, ensuring convenience and ease of application. Its biocompatible materials ensure safety and effectiveness, making it suitable for various oral health needs. By providing localized treatment, this patch enhances oral health management and offers a practical solution for everyday dental concerns.

**Novelty** Therapeutic patch delivers targeted, gradual relief for oral health issues

Principal Investigator Dr. Drishti

Co-PI Dr. Mamta

Student(s) Dr. Aishley, Sidhyant Katyal



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# Toothbrush Disinfection Spray



Project Id: 033

Stall Id: 037

**Abstract** The Toothbrush Disinfection Spray project aims to develop a specialized disinfectant to address the issue of microbial growth on toothbrushes. Residues left in the bristles often create an environment conducive to the proliferation of harmful microorganisms. This spray is formulated to effectively eliminate these microbes, reducing the risk of oral infections and improving the hygiene of toothbrushes. By targeting moist and damp areas where bacteria thrive, the spray enhances the longevity and cleanliness of the toothbrush, contributing to better oral health and overall well-being. This innovation offers a simple yet effective solution for maintaining superior hygiene standards in daily oral care.



**Novelty** Toothbrush Disinfection Spray improves healthcare



Principal Investigator Dr. Navodita Jamwal

Co-PI Dr. Shourya Tandon

Student Kusum, Harman





# Orthotic Bio-Feedback Appliance for TMD

Project Id: 017

Stall Id: 039

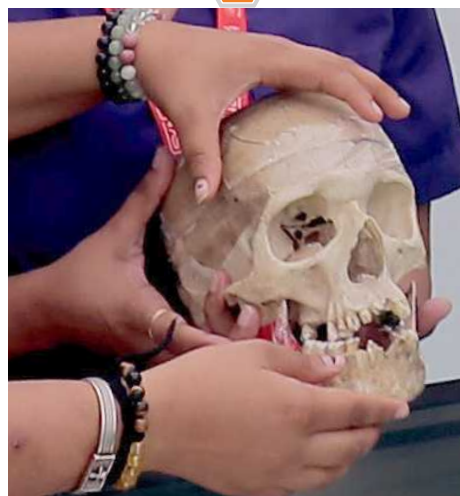
**Abstract** The Orthotic Biofeedback Appliance project addresses Temporomandibular Disorders (TMD), which impact the masticatory muscles, temporomandibular joints (TMJ), and associated structures. TMD's complex etiology includes factors like unsatisfactory occlusion, missing teeth, trauma, and stress, leading to myalgia. This project seeks to enhance the diagnosis and management of TMD by integrating biofeedback technology, offering a novel approach to understanding and treating the disorder. By providing real-time data on muscular activity and occlusal stability, the appliance guides patients toward the most stable occlusion and helps manage bruxism. This innovation aims to improve both the diagnostic accuracy and therapeutic outcomes for TMD patients, complementing existing treatments such as occlusal splints.

**Novelty** Biofeedback appliance innovates TMD

Principal Investigator Dr. Bhawna Saini

Co-PI

Student(s) Indrani Borah, Palak Mittal



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# Virtual Reality: Cavity Preparation in Dentistry



Project Id: 146

Stall Id: 114

**Abstract** This innovative training system uses virtual reality (VR) to enhance the skills of dental Student(s) and professionals in preparing Class I and Class II cavities. The VR simulation provides a realistic, interactive environment where users can practice cavity preparation techniques with high precision. It includes detailed anatomical models and tactile feedback, replicating the feel of dental instruments and materials. The system allows users to perform procedures repeatedly, receiving instant feedback and guidance to improve their technique. This immersive training tool helps build confidence and competence, bridging the gap between theoretical knowledge and practical application in a risk-free setting.



**Novelty** Immersive VR simulation enhances precision and skill in cavity preparation



Principal Investigator Dr. Pulin Saluja

Co-PI Dr. Aparna Dave





# Lumi-Motion Headgear



Project Id: 021

Stall Id: 115

**Abstract** Lumi-Motion Headgear represents a groundbreaking advancement in dental and medical illumination. Traditional loupes with integrated lights often suffer from static illumination, which fails to adapt to the precise movements of professionals' hands during procedures. This misalignment can compromise lighting quality, making intricate tasks more challenging and potentially affecting the efficiency and accuracy of treatments. Lumi-Motion Headgear addresses this issue with an advanced system featuring motor-driven lighting that dynamically follows hand movements. By ensuring optimal lighting conditions at all times, this innovative headgear enhances precision and efficiency in procedures, setting a new standard for adaptable, high-performance illumination in clinical environments.



**Novelty** Lumi-Motion Headgear exemplifies future tech



**Principal Investigator** Dr. Ananya

**Co-PI** Dr. Diksha

**Student** Dr. Pranav



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# Superjump



Project Id: 145

Stall Id: 116

**Abstract** This advanced dental technology focuses on improving oral health and patient care. It utilizes innovative materials and methods to address specific dental issues, such as enhancing tooth restoration or providing targeted treatments. The system integrates seamlessly with existing dental practices, offering precise, effective solutions for a range of dental conditions. Features may include improved adhesion techniques, durability enhancements, or advanced diagnostic capabilities. Its design aims to increase patient comfort, reduce procedure times, and deliver high-quality results. By advancing dental science, this technology supports better outcomes in both routine and complex dental treatments.



**Novelty** Advanced technology enhances dental treatments with precision for patients



Principal Investigator Dr. Mohit

Co-PI Dr. Naresh Tanwar

Student Dr. Sumit





# Flexiscaler : All In One Scaler

Project Id: 019

Stall Id: 117

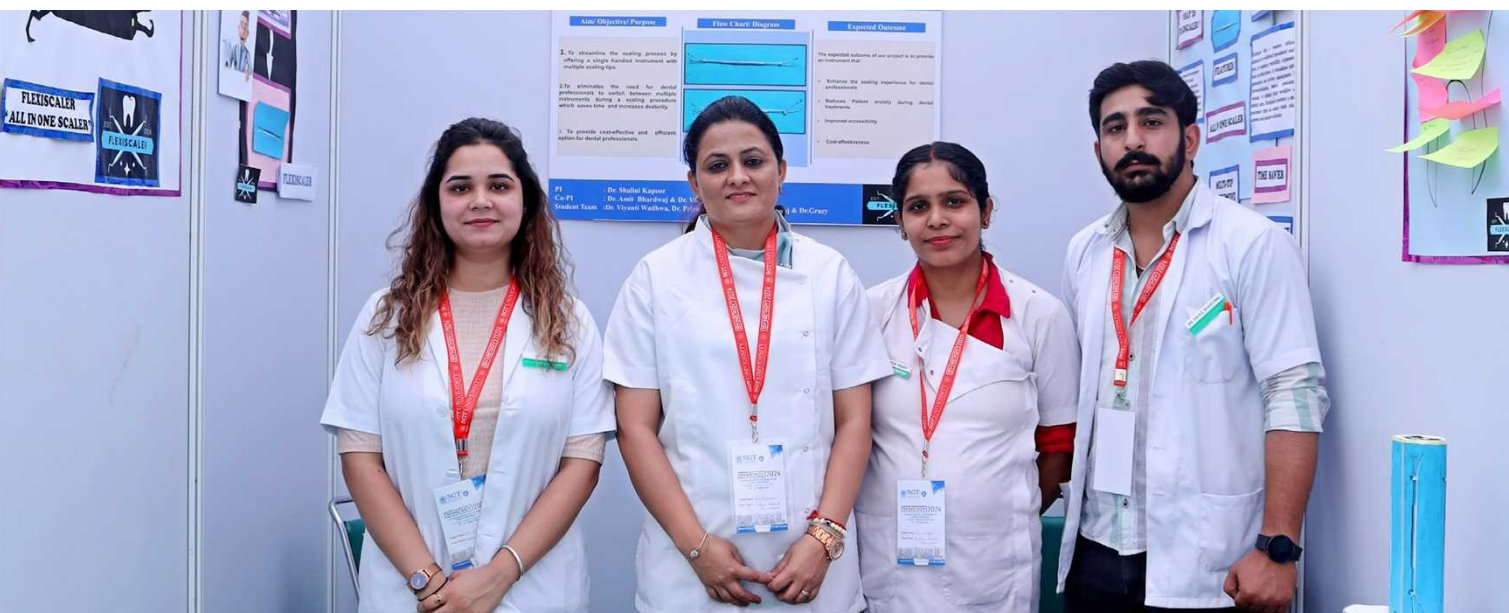
**Abstract** The “Anti-Mycobacterial Activity of Natural Plant Extracts” project investigates the potential of various plant extracts to combat mycobacterial infections, particularly those caused by *Mycobacterium tuberculosis*, the bacterium responsible for tuberculosis (TB). This research focuses on identifying and evaluating natural plant compounds with antimicrobial properties that could serve as effective treatments or complementary therapies. By exploring plant-based solutions, the project aims to discover alternative or adjunct therapies that are potentially less toxic and more sustainable than conventional antibiotics. This approach not only supports the search for novel anti-mycobacterial agents but also promotes the use of natural resources in enhancing healthcare outcomes and addressing global health challenges related to mycobacterial diseases.

**Novelty** Plant extracts advance mycobacterial treatments

**Principal Investigator** Dr. Shalini Kapoor

**Co-PI** Dr. Amit Bhardwaj

**Student** Dr. Viyanti Wadhwa



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# UV DENTCASE - A Portable UV Sterilization Case



Project Id: 020

Stall Id: 118

**Abstract** UV DENTCASE is a cutting-edge portable sterilization solution designed to enhance hygiene and safety in dental practices. With around 400 dental colleges and 25,000 new graduates annually, traditional storage methods like green pouches and plastic bags often lead to cross-contamination and potential damage to instruments. The UV DENTCASE addresses these issues by providing a compact, lightweight case equipped with UV sterilization technology, ensuring optimal hygiene between appointments. Its portability makes it ideal for dental Student(s) and professionals, allowing them to maintain high standards of cleanliness and safety throughout their daily workflows. This innovative device offers a reliable, convenient solution for safeguarding dental instruments and improving overall patient care.



**Novelty** UV DENT CASE advances sterilization technology



**Principal Investigator** Dr. Vidushi **Co-PI** Dr. Amit Bhardwaj

**Student** Dr. Eshika Godar





# Safety Guardian System: Infant/Child in Distress

Project Id: 022

Stall Id: 119

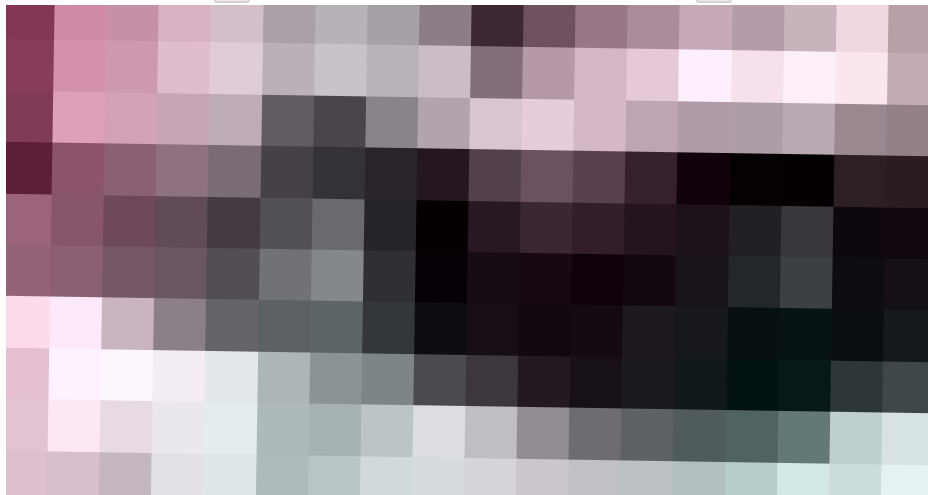
**Abstract** The Safety Guardian System addresses the critical issue of vehicle-related hyperthermia by preventing children from being accidentally left in cars. Recognizing that over 25% of parents with children under 3 have unintentionally lost track of their child during a drive, this system leverages advanced technology to tackle the problem. The Safety Guardian System integrates sensors and real-time monitoring to detect the presence of a child in the car and alert caregivers if they inadvertently leave the vehicle. By combining stress, sleep deprivation, and routine changes into its design, this system addresses the cognitive challenges highlighted by research, such as those identified by psychology professor Stephen Cowen. It ensures enhanced safety and peace of mind for parents, significantly reducing the risk of heatstroke and other vehicle-related dangers.

**Novelty** Safety Guardian System pioneers future tech

**Principal Investigator** Dr. Kunal Nischal

**Co-PI** Dr. Bhupender Yadav

**Student** Dr. Kirti Lochav



# DentaBalm - A Herbal Whitening Oral Product



Project Id: 034

Stall Id: 178

**Abstract** DentaBalm is an innovative herbal oral product designed to enhance teeth whitening and support overall oral hygiene. Formulated with natural herbal ingredients, this product serves as an adjunct to existing oral care methods, offering a gentle yet effective whitening solution. By incorporating sustainable and eco-friendly herbal components, DentaBalm aligns with principles of natural resource conservation and sustainability. This approach not only helps maintain good oral hygiene but also reduces reliance on synthetic chemicals, promoting a healthier and more environmentally conscious oral care routine. DentaBalm aims to provide a natural, sustainable alternative for achieving and maintaining a brighter, healthier smile.



**Novelty** DentaBalm combines whitening and sustainability



**Principal Investigator** Dr. Rangoli Srivastava

**Student(s)** Isha, Yogyatha, Sakshi, Shaily





# Empowering visually impaired: Touch, Learn and Shine



Project Id: 031

Stall Id: 208

**Abstract** Ortho-Splash is a groundbreaking project designed to enhance oral hygiene by integrating a water flosser with an electric toothbrush. This innovative dual-function device simplifies the oral care routine by combining brushing and flossing into a single, efficient appliance, thus eliminating the need for separate devices and reducing overall costs. The built-in water flosser utilizes high-pressure water jets to effectively clean interdental spaces and remove plaque, reaching areas that traditional brushing alone may miss. By streamlining both brushing and flossing, Ortho-Splash offers a more convenient and comprehensive approach to maintaining optimal dental health.



**Novelty** Empowering visually impaired boosts development



**Principal Investigator** Dr. Charu Khurana

**Co-PI** Dr. Shourya Tandon

**Student** Mehak



We continue to innovate ...



# Automated Toothpaste Dispenser



Project Id: 032

Stall Id: 209

**Abstract** The Automated Toothpaste Dispenser is a user-friendly innovation designed to streamline the daily oral hygiene routine. This device automates the process of dispensing toothpaste onto a toothbrush, allowing users to specify the amount and type of toothpaste desired. By reducing the physical effort and time required for this task, it enhances convenience and efficiency in personal care. The dispenser is particularly beneficial for individuals with mobility issues or those seeking to simplify their routines. Beyond improving daily hygiene practices, this innovation promotes a more accessible and time-efficient approach to maintaining oral health, contributing positively to societal development and quality of life.



**Novelty** Automated Dispenser enhances oral hygiene



**Principal Investigator** Dr. Surbhi Priyadarshi

**Co-PI** Priyakshree, Samiksha, Aditi, Gaurav

**Student(s)** Lalit, Sachin, Priyanshu







# PROJECTS

Faculty of  
Engineering and Technology  
(FEAT)

# Pneumonia Detection App Using Machine Learning

Project Id: 176

Stall Id: 038

**Abstract** This innovative app leverages machine learning algorithms to detect pneumonia from medical images, such as chest X-rays. By analyzing patterns and anomalies in the images, it can accurately identify signs of pneumonia, often with higher precision than traditional methods. The app is designed to be user-friendly, enabling healthcare professionals and even non-specialists to use it effectively. It provides quick results, facilitating timely diagnosis and treatment. Additionally, the app continuously improves its accuracy through data input and machine learning updates. This technology aims to enhance early detection, reduce diagnostic errors, and improve patient outcomes.

**Novelty** Detects pneumonia swiftly using advanced machine learning from X-rays

Principal Investigator Mr. Manpreet Singh Bajwa

Co-PI Dr. Vivek Srivastava

Student Rohit Korpai





# Hyper-realistic Virtual Reality Gloves



Project Id: 167

Stall Id: 099

**Abstract** These innovative gloves offer an immersive experience by allowing users to interact with virtual environments using their hands. Equipped with advanced haptic feedback technology, they simulate the sensation of touch, making virtual objects feel real. The gloves use precise finger tracking to capture natural hand movements, enhancing the sense of presence in VR. This technology is ideal for applications like training simulations, gaming, and virtual prototyping. By eliminating the need for traditional controllers, these gloves provide a more intuitive and engaging way to navigate virtual worlds. They represent a significant step forward in the evolution of virtual reality.



**Novelty** Experience touch in VR with advanced haptic feedback and tracking



**Principal Investigator** Ms. Poonam

**Student(s)** Manmeet, Shakshi, Harsh, Kunal



# Wireless Charging Station



Project Id: 164

Stall Id: 100

## Abstract

A wireless charging station is a device that allows you to charge your electronic devices without the need for a physical cable. It utilizes electromagnetic induction, where a magnetic field is created by the charging station, which induces an electrical current in the compatible device placed on top of it. This technology offers convenience and eliminates the hassle of tangled cables. Wireless charging stations are available in various sizes and designs, from small pads for smartphones to larger stations for multiple devices. As the technology continues to evolve, wireless charging is becoming increasingly popular and accessible, offering a more streamlined and user-friendly charging experience.



## Novelty

A traditional biofertilizer as a sustainable nutrient-rich option



Principal Investigator Mr. Dinesh Deshwal

Student(s) Robin, Vishal Kumar, Nikhil, Ayush





# 3 D Printed Pencil Gripper for Children with Autism



Project Id: 174

Stall Id: 101

## Abstract

This innovative pencil gripper is designed to assist children with autism in improving their writing skills. Utilizing 3D printing technology, it offers a customizable and ergonomic design that fits comfortably in small hands. The gripper promotes proper finger placement, enhancing control and reducing hand fatigue. Its durable and lightweight material ensures long-lasting use without adding extra weight. By providing a stable grip, it helps children focus on their writing tasks, boosting their confidence and independence. This tool is a valuable aid in educational settings, supporting the development of fine motor skills and handwriting proficiency.



**Novelty** Enhances writing skills for autistic children with customizable design



Principal Investigator Ms. Deepika Singh S

Co-PI Dr. Vivek Shrivastava

Student(s) Aryan Bhat, Rohit Birhman



*We continue to innovate ...*

# Anti Theft Camera

Project Id: 165

Stall Id: 102

**Abstract** An anti-theft camera is a surveillance device designed to deter theft and vandalism. These cameras often feature advanced features such as motion detection, night vision, and remote monitoring capabilities. By strategically placing anti-theft cameras in vulnerable areas, businesses and homeowners can create a more secure environment. These cameras can capture high-quality footage that can be used to identify potential suspects and assist law enforcement in investigations. Additionally, the mere presence of anti-theft cameras can act as a deterrent, discouraging criminal activity.

**Novelty** providing a valuable layer of protection against theft

**Principal Investigator** Mr. Pushpinder

**Co-PI** Dr. Sandeep Bansal

**Student(s)** Vivek, Tanish Bansal, Aditya Ray



Future Tech and Innovation

**Anti Theft Camera**

Faculty of Engineering and Technology

In collaboration with Napiro Auto & Electronic Ltd

SYNERGY 2024

Aim/ Objective/ Purpose	Flow Chart/ Diagram	Expected Outcome
<ul style="list-style-type: none"><li>❖ Facial Recognition un-authorization Detection</li><li>❖ Real-Time Alerts</li><li>❖ Motion Detection and Analysis</li><li>❖ AI-Based Threat Detection</li><li>❖ Audio and Visual Alarm</li><li>❖ 24/7 Remote Monitoring</li><li>❖ Storage for Evidence</li><li>❖ Integration with Security Systems</li></ul>		<ul style="list-style-type: none"><li>❖ Immediate Detection</li><li>❖ Enhanced Premises Security</li><li>❖ Peace of Mind</li></ul> 

PI : Dr. Pushpinder Kumar

Co-PI : Dr. Sandeep Bansal

Student Team : Tanish Bansal, Vivek Kumar Mishra, Aditya Ray

NAPIRO





# Banana Leather

Project Id: 166

Stall Id: 103

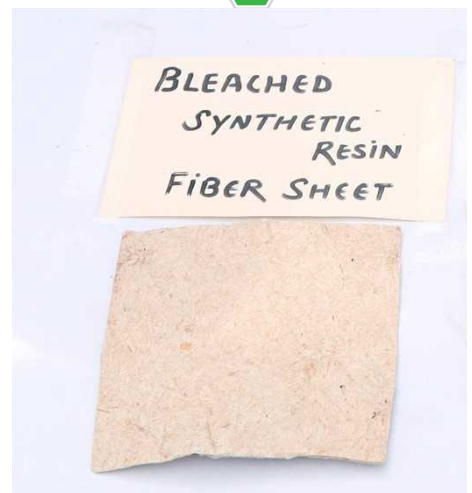
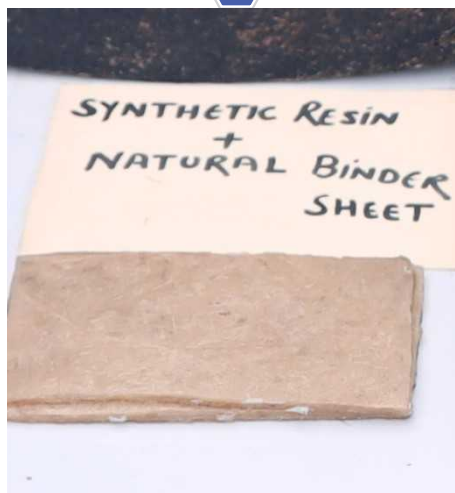
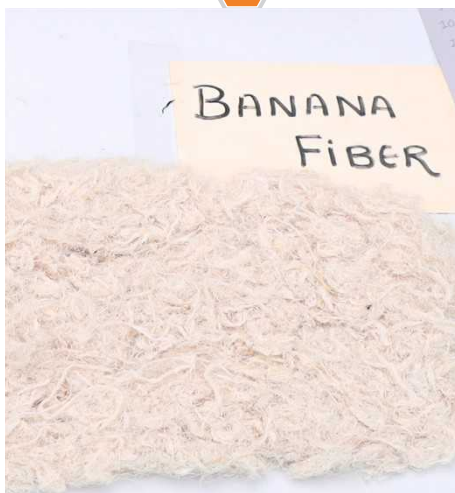
**Abstract** Banana leather is a sustainable and biodegradable material made from banana peels. It is a promising alternative to traditional leather, offering a more environmentally friendly option for various applications. The process of producing banana leather involves extracting the fibers from the peels, drying them, and then pressing them into sheets. The resulting material is strong, flexible, and has a natural texture. Banana leather can be used to create a variety of products, including handbags, wallets, belts, and even shoes. This innovative material offers a sustainable and ethical alternative to traditional leather, contributing to a more eco-friendly future.

**Novelty** Banana leather is a sustainable and innovative material

**Principal Investigator** Mr. Sunny

**Co-PI** Dr. Sandeep Bansal/Ms. Deepika Singh

**Student** Ayush Kumar Jha, Vivek, Adity Ray



# Comparative Analysis: Modern and Old Masonry Bricks



Project Id: 163

Stall Id: 104

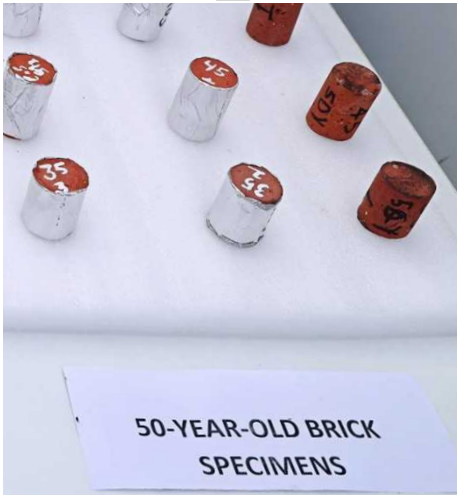
**Abstract** Modern brick masonry has undergone significant advancements in recent years, resulting in improved properties compared to traditional methods. Modern bricks are often manufactured using standardized processes, ensuring consistent quality and dimensions. They also incorporate additives that enhance their strength, durability, and resistance to moisture. The mortar used in modern masonry is typically formulated to provide superior adhesion and structural integrity. In contrast, old-age brick masonry often relied on handcrafted techniques and materials that varied in quality. While traditional methods produced durable structures, modern advancements have led to improvements in terms of efficiency, strength, and energy efficiency.



**Novelty** Modern brick masonry is superior to traditional methods



**Principal Investigator** Dr. Muhammad Kamran





# Home Augmentation with Smart Switch Board



Project Id: 161

Stall Id: 106

**Abstract** Home augmentation through the conversion of existing switchboards into smart switchboards offers a convenient and efficient way to upgrade residential spaces. By incorporating advanced technology, these smart switchboards can be controlled remotely, allowing homeowners to manage their lighting, appliances, and other devices from anywhere. This feature not only provides greater convenience but also contributes to energy efficiency and cost savings. Additionally, smart switchboards can be integrated with other smart home devices, creating a connected and automated living environment. This innovative solution offers a simple yet powerful way to enhance the functionality and comfort of modern homes.

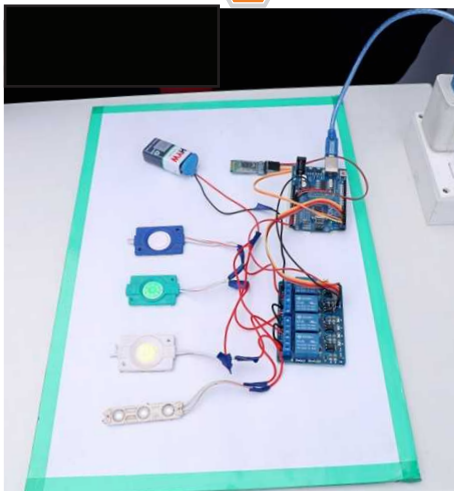


**Novelty** Smart switchboards offer a novel and innovative home solution



**Principal Investigator** Mr. Sandeep Singh

**Student(s)** Devyansh Dev Pathak, Mayank, Raunak



## DENTFINITY X1

Project Id: 010

Stall Id: 105



**Abstract** Dentfinity X1 Part-1 is a cutting-edge robotic dental patient simulator designed to bridge the gap between theoretical knowledge and practical skills in dental education. This lifelike simulator incorporates advanced robotics and artificial intelligence to provide a realistic and interactive training experience for dental Student(s). By mimicking the nuances of real dental procedures, Dentfinity X1 enhances student learning and clinical proficiency, allowing for hands-on practice without the need for live patients. This innovative approach ensures that future dentists gain critical experience and develop their skills in a controlled, high-fidelity environment, revolutionizing dental training and preparing Student(s) for real-world challenges.



## Novelty DENTFINITY X1 showcases future dental innovation



Principal Investigator Dr. Pardeep Lamba

Student Sidhant Katyal





# Graphene Based Concrete Incorporating LC3 Cement

Project Id: 198

Stall Id: 107

**Abstract** It explores the innovative use of graphene-based concrete incorporating LC3 cement, aimed at enhancing construction sustainability and durability. By integrating graphene, the concrete gains improved tensile strength and reduced permeability, leading to longer-lasting structures. The use of LC3 cement, which combines limestone and clay, lowers carbon emissions compared to traditional cement, making it an eco-friendly alternative. This initiative not only addresses environmental concerns but also promotes social development through the creation of resilient infrastructure in underserved communities. By collaborating with local builders and engineers, the project seeks to educate stakeholders on the benefits of this advanced material, fostering sustainable construction practices. Ultimately, it aims to improve living conditions while reducing the carbon footprint of the construction industry.

**Novelty** Enhances sustainable construction with graphene for eco-friendly concrete

**Principal Investigator** Dr. Mohammad Karmran

**Co-PI** Dr. Shobhit Maheshwari

**Student(s)** Harsh Verma, Jatin



# 3D Printed Pencil Gripper for Children with Autism

Project Id: 173

Stall Id: 108

**Abstract** This innovative device empowers blind individuals by providing real-time object recognition and navigation assistance. Utilizing advanced sensors and AI technology, it identifies obstacles and landmarks, offering audio feedback for safe and efficient movement. Its compact and wearable design ensures ease of use and comfort. The device seamlessly integrates with smartphones, enhancing accessibility and connectivity. By promoting independence and confidence, it significantly improves the quality of life for its users. This assistant is a game-changer, transforming daily navigation into a smoother and more secure experience.

**Novelty** Empowers blind individuals with real-time AI-driven navigation assistance

**Principal Investigator** Ms. Arunima

**Student** Devyansh Pathak





# QR for Entry and Exit



Project Id: 170

Stall Id: 109

**Abstract** Using QR codes for entry and exit streamlines access control by allowing users to scan a unique code at designated points. This code is verified by a system to grant or deny access, enhancing security by ensuring only authorized individuals can enter or exit. It eliminates the need for physical keys or cards, reducing the risk of loss or theft. The system logs entry and exit times, providing valuable data for monitoring and analytics. Additionally, it offers a contactless solution, promoting hygiene and convenience in various environments. This method is efficient, secure, and adaptable to different settings, from offices to residential complexes.



**Novelty** Streamlined access with QR codes, enhancing security and efficiency



**Principal Investigator** Arunima Sengupta

**Co-PI** Dr. Rohit Yadav, Dr. Rahul Khurana

**Student(s)** Aditya, Nitin, Tanishk, Ankit, Sanyam



# App for Sign Language Recognition and Translation



Project Id: 160

Stall Id: 110

**Abstract** A web app for sign language recognition and translation is a valuable tool that can bridge the communication gap between hearing and deaf individuals. By utilizing advanced computer vision and machine learning algorithms, this technology can accurately recognize and interpret sign language gestures, translating them into text or speech in real time. This innovative application can empower deaf people to interact more effectively with the hearing world, fostering inclusivity and accessibility. Additionally, it can serve as a valuable educational resource for those learning sign language, providing a convenient and interactive way to practice and improve their skills.



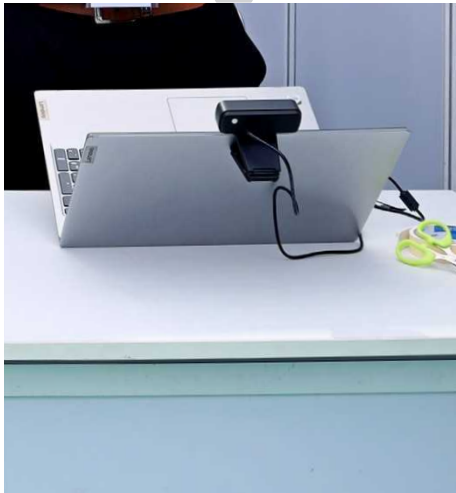
**Novelty** Sign language recognition offers a novel and innovative communication tool



Principal Investigator Mr. Hilal Ahmed Shah

Co-PI Ms. Syed Zoofa Rufi

Student(s) Himanshu Singh, Rohit Korpai





# 5G Voice Call: Bridging Telecom Practices



Project Id: 205

Stall Id: 156

**Abstract** It focuses on implementing 5G voice calls using a Network-in-a-Box (NIB) to bridge theoretical telecom knowledge with practical applications. It explores the use of gNodeB for Radio Access and a 5G Core system to establish voice communication over 5G networks. This hands-on approach allows for a deeper understanding of the evolving telecom landscape, highlighting the advancements in network infrastructure and mobile connectivity. By integrating real-world telecom scenarios into an academic setting, the project aims to enhance technical expertise and problem-solving skills. It also prepares Student(s) for the future of telecom innovation and 5G technology deployment.



**Novelty** 5G voice implementation merges theory with real telecom applications



**Principal Investigator** Prof. Susanta Kundu

**Student(s)** Arjun, Krishna, Mohit, Ansh



We continue to innovate ...

# Revolutionizing Road Safety



Project Id: 200

Stall Id: 157

**Abstract** Revolutionizing road safety involves the integration of advanced technologies, public awareness campaigns, and innovative infrastructure improvements. Smart traffic management systems utilize real-time data to optimize traffic flow and reduce congestion, while vehicle-to-vehicle communication enhances awareness of potential hazards. Autonomous vehicles are being developed to minimize human error, a leading cause of accidents. Public education initiatives emphasize responsible driving behaviors, such as the importance of seatbelt use and the dangers of distracted driving. Furthermore, improved road design, including better signage and pedestrian crossings, contributes to safer environments for all users. By combining these elements, communities can significantly reduce accidents and save lives, paving the way for a safer future on the roads.



**Novelty** Advanced technologies and infrastructure enhance safety to reduce accidents



**Principal Investigator** Dr. Amit Asthana

**Student(s)** Kunal, Ashok, Mallishka, Muskan, Ronak



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# Ecofriendly Cooling System



Project Id: 071

Stall Id: 180

**Abstract** Ecofriendly Cooling System aims to develop a sustainable, low-cost cooling storage unit using hydro ceramic materials. These materials leverage their ability to absorb and retain moisture, facilitating evaporative cooling without relying on electrical energy. The project focuses on designing and testing this innovative cooling system to preserve food items effectively, minimizing spoilage and reducing energy consumption. By providing a viable solution for food storage in off-grid areas and decreasing reliance on conventional refrigeration in urban environments, the system promotes environmental sustainability and sets a precedent for future eco-friendly cooling technologies.



**Novelty** Transforming Expired Medicines into Chelating filters for heavy metals removal



Principal Investigator Dr. Kiran Devi

Co-PI Mr. Nitin Lamba

Student(s) Shubham, Ajay Kashyap, Harsh



# Permeable Pavement



Project Id: 171

Stall Id: 181

**Abstract** Permeable pavement is a sustainable solution designed to manage stormwater runoff. It allows water to pass through its surface, reducing the burden on drainage systems and minimizing flooding risks. This type of pavement is composed of materials like porous asphalt, pervious concrete, or interlocking pavers, which facilitate water infiltration into the ground. By promoting natural groundwater recharge, it helps maintain the water table and reduces surface pollutants. Additionally, permeable pavement can mitigate the urban heat island effect by allowing cooler temperatures to prevail. Its application is ideal for parking lots, driveways, and walkways in urban areas.



**Novelty** Reduces runoff, recharges groundwater, and mitigates urban heat islands



Principal Investigator Dr. Neeraj Saini

Co-PI Mr. Neeraj Verma



*We continue to innovate ...*



# Portable Hybrid Wind Turbine



Project Id: 072

Stall Id: 182

**Abstract** Portable Hybrid Wind Turbine aims to create a compact, urban-friendly energy solution by combining wind and solar power technologies. This project addresses the gap in small-scale, portable renewable energy options, focusing on reducing greenhouse gas emissions and environmental pollution. The hybrid turbine will generate electricity using natural resources, offering a sustainable power source for urban areas. Its portability ensures accessibility and convenience, making it a viable option for individuals and communities seeking to harness renewable energy efficiently and effectively. This innovative approach contributes to sustainable energy practices and promotes a greener future.



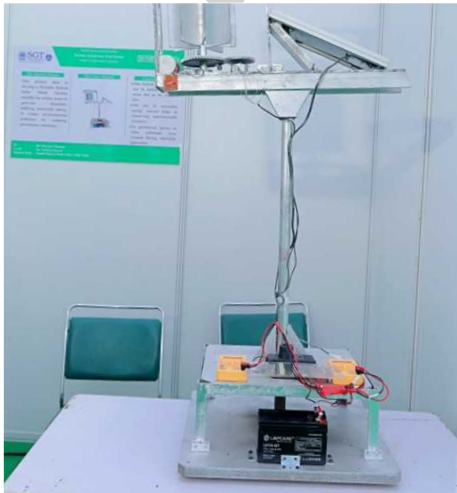
**Novelty** Transforming Expired Medicines into Chelating filters for heavy metals removal



**Principal Investigator** Dr. Mayank Choubay

**Co-PI** Dr. Sandeep Bansal

**Student** Shubam



# Ultimate Beast Banisher



Project Id: 172

Stall Id: 183

**Abstract** The Ultimate Beast Banisher is a powerful tool designed to eliminate even the most formidable threats. It combines advanced technology with user-friendly features, ensuring both efficiency and ease of use. Its sleek design and robust build make it a reliable companion in any challenging situation. With precision targeting and high-impact capabilities, it guarantees swift and effective results. Whether facing a minor nuisance or a major adversary, this device stands ready to restore peace and safety. Its versatility and durability make it an essential addition to any arsenal, providing confidence and security in every encounter.

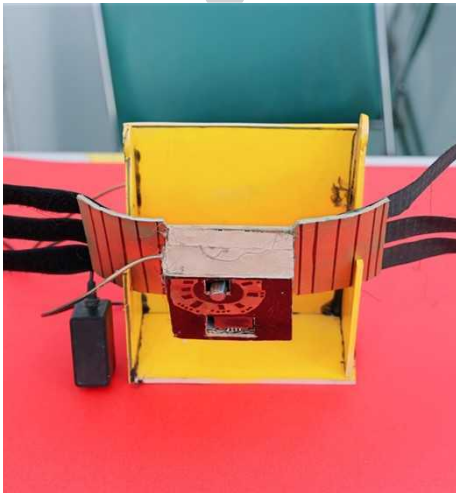


**Novelty** Eliminates formidable threats with advanced technology and precision targeting



**Principal Investigator** Dr. ASHIMA GAMBHIR

**Student** Sidhant Katyal





# Solar Power Operated Refrigeration of Vaccine Storage



Project Id: 168

Stall Id: 184

**Abstract** This innovative system ensures reliable vaccine storage by utilizing solar power, making it ideal for remote areas with limited electricity access. It operates efficiently using photovoltaic panels to harness solar energy, which is then converted to power the refrigeration unit. The system maintains a consistent temperature, crucial for preserving vaccine efficacy. Its compact design allows for easy transportation and deployment in various settings. By relying on renewable energy, it reduces dependency on traditional power sources and minimizes environmental impact. This technology plays a vital role in improving healthcare delivery in underserved regions



**Novelty** Reliable vaccine storage using solar power for remote areas



Principal Investigator Dr Atul Raj

Co-PI Mr Sunny Misra

Student(s) Harsh and Ravi



We continue to innovate ...

# Retrofitting of an RC Expired Car to an EV



Project Id: 169

Stall Id: 185

**Abstract** Converting a Maruti 800 with an expired RC to an electric vehicle involves several steps. First, the internal combustion engine, transmission, and exhaust system are removed. A high-torque AC induction motor is then installed, typically at the rear, while the battery pack is placed in the front. The chassis may need modifications to accommodate these components. Electrical systems, including the motor controller and battery management system, are integrated. The car's pedals are adjusted for single-pedal operation, similar to automatic vehicles. This transformation not only extends the car's life but also makes it eco-friendly.



**Novelty** Transforms a classic car into a sustainable, eco-friendly vehicle



**Principal Investigator** Asad Habeeb **Co-PI** Dinesh Deshwal, Sunny Misra

**Student(s)** 10 Student(s) from BTech Mechanical 3rd sem





# Model of Portable STP



Project Id: 175

Stall Id: 186

**Abstract** A portable sewage treatment plant (STP) is a compact, mobile unit designed to treat wastewater on-site. It typically includes primary, secondary, and tertiary treatment stages to remove contaminants and produce clean, reusable water. These units are ideal for remote locations, temporary sites, or areas lacking permanent infrastructure. They operate using advanced filtration, biological treatment, and disinfection processes. The portability allows for easy transportation and quick setup, making them highly versatile. Additionally, they are energy-efficient and environmentally friendly, reducing the ecological footprint of wastewater management. This innovation ensures safe water disposal and reuse, promoting sustainability.



**Novelty** Transforms wastewater treatment with mobile, efficient, and eco-friendly design



Principal Investigator Dr. Neeraj Saini

Co-PI Dr. Kaushal Sharma

Student(s) AMIT KUMAR, BRIJESH ANAND, Kunal



We continue to innovate ...

# Assessment of change in Landcover and Landuse



Project Id: 070

Stall Id: 187

**Abstract** Assessment of Change in Landcover and Landuse over India explores the transformation of land use and land cover (LULC) across India from 2017 to 2023, with a specific focus on the impact of the COVID-19 lockdown in 2020. Utilizing high-resolution Sentinel-2 satellite data, this study provides a detailed analysis of LULC dynamics, identifying patterns and shifts in land use over the seven-year period. The research highlights changes in urban expansion, agricultural practices, and natural landscapes, offering insights into how the pandemic-induced lockdown may have influenced these trends. The findings aim to inform sustainable land management strategies and enhance understanding of environmental impacts on a national scale.



**Novelty** Pandemic-induced lockdown may have influenced trends



**Principal Investigator** Dr. Shobhit Maheshwari

**Co-PI** Dr. Neeraj Saini

**Student(s)** Pranjal, Pushkar, Rishabh





# Construction of bricks Using Waste Plastics and Sand



Project Id: 007

Stall Id: 188

**Abstract** The construction of bricks using waste plastics and sand addresses two pressing environmental issues: plastic waste and soil depletion. Plastic waste, which persists for centuries and contributes to pollution, can be repurposed into durable bricks, offering a sustainable alternative to traditional brick-making. By incorporating plastic waste into the brick-making process, this project not only diverts plastic from landfills but also reduces the demand for soil, thereby preserving fertile land and preventing erosion. This innovative approach aligns with principles of natural resource conservation and sustainability, providing a practical solution to environmental challenges while promoting eco-friendly construction practices.



**Novelty** Waste plastics create sustainable bricks



Principal Investigator Dr. Sandeep Bansal

Co-PI Dr. Mayank Choubey

Student(s) Ayush Jha, Vivek Mishra, Aditya Ray, Shubham Saini



# CART WIZ

Project Id: 008

Stall Id: 204

**Abstract** CART WIZ aims to revolutionize societal development through an integrated system that harnesses the power of AI, IoT, and data management technologies. By combining these advanced tools, CART WIZ streamlines processes and enhances efficiency across various sectors. AI algorithms analyze data in real-time, IoT devices collect and transmit vital information, and robust data management systems ensure seamless integration and accessibility. This holistic approach improves decision-making, optimizes resource use, and fosters innovation. As a result, CART WIZ supports more efficient public services, smarter urban planning, and improved community engagement, driving forward societal progress and enhancing quality of life.

**Novelty** CART WIZ drives societal progress

**Principal Investigator** Ms. Malini Soman

**Co-PI** Dr. Neeraj Saini

**Student** Yatin Arora





# DIGI Sakha



Project Id: 162

Stall Id: 205

**Abstract** DIGI Sakha is a digital platform that provides a range of services to rural communities in India. It aims to bridge the digital divide and empower rural residents by offering access to essential information and resources. Through DIGI Sakha, individuals can access government services, healthcare information, education materials, and agricultural advice. The platform also facilitates digital payments and financial transactions, making it easier for rural people to participate in the modern economy. By leveraging technology to improve the lives of rural populations, DIGI Sakha plays a crucial role in promoting social and economic development.



**Novelty** DIGI Sakha empowers rural India digitally



**Principal Investigator** Ms. Monika Deshwal

**Student(s)** Ravi Kumar, Ayush, Tushar, Faiyaz



*We continue to innovate ...*

# VIGIL VOGUE



Project Id: 009

Stall Id: 206

**Abstract** Vigil Vogue is a groundbreaking safety gadget designed to elevate women's security and empowerment through cutting-edge technology. This innovative device combines advanced features to offer rapid assistance during emergencies, aiming to significantly reduce incidents of violence. Its user-friendly design ensures it seamlessly integrates into everyday life, making it an accessible tool for enhancing personal safety. Vigil Vogue also serves to raise awareness about women's safety issues, setting new industry standards and inspiring global conversations about security. By prioritizing both functionality and societal impact, Vigil Vogue is poised to redefine personal security solutions and contribute to broader societal development.



**Novelty** VIGIL VOGUE enhances societal progress



**Principal Investigator** Ms. Charvi

**Student** Sidhant Katyal







# PROJECTS

Faculty of  
Education  
(FEDU)

# Labeling of Pharmaceutical Products in Braille

Project Id: 074

Stall Id: 051

**Abstract** The Labeling of Pharmaceutical Products in Braille project focuses on enhancing accessibility for visually impaired individuals by integrating Braille into medication packaging. This initiative aims to empower users to independently identify and manage their medications, reducing the risk of errors and promoting self-reliance. By advocating for inclusive labeling practices, the project seeks to raise awareness among pharmaceutical companies and healthcare providers about the needs of visually impaired patients. The expected outcome is a standardized approach to accessible labeling across the industry, fostering greater independence and safety in medication management. This project champions equal access to health information and improves overall patient care.

**Novelty** Transforming Expired Medicines into Chelating filters for heavy metals removal

**Principal Investigator** Mr. Ravinder Saini

**Co-PI** Mr. Awadhesh & Ms. Poonam

**Student(s)** Sanjana, Tanisha & Anshu





# QR Aid



Project Id: 073

Stall Id: 052

**Abstract** QR Aid is designed to improve accessibility for blind and visually impaired individuals by utilizing QR codes to provide detailed information about cosmetic products. This innovative project will enable users to independently access crucial product details such as names, descriptions, prices, and expiry dates. By leveraging a modest budget of ₹10,000, the initiative focuses on enhancing safety and decision-making for visually impaired consumers. The system aims to empower these individuals, promoting greater independence and a more inclusive shopping experience.



**Novelty** Improve accessibility for blind and visually impaired



**Principal Investigator** Mr. Sandeep Kumar

**Student(s)** Geetanjali, Ritika, Khushi, Sachin





# IEPilot - Navigating Individualized Learning Journey



Project Id: 193

Stall Id: 111

**Abstract** It develops an application-based software platform designed to personalize the educational experience for each learner. By leveraging advanced algorithms and AI, it assesses individual strengths, weaknesses, and learning preferences to create tailored learning pathways. The software provides interactive resources, adaptive assessments, and real-time feedback, fostering a more engaging and effective learning environment. Users can track their progress and set personalized goals, enhancing motivation and ownership of their education. Additionally, the platform encourages collaboration among peers and educators, creating a supportive community. Ultimately, it aims to revolutionize traditional learning models, making education more accessible and responsive to diverse needs.



**(Novelty)** Personalizes education through AI-driven, adaptive learning for Student(s)



Principal Investigator Abhra Mukhopadhyay

Co-PI Hilal Ahmad Shah

Student(s) Tanishka, Riya





# Signalys



Project Id: 077

Stall Id: 112

**Abstract** Signalys is an innovative project designed to revolutionize the evaluation of Indian Sign Language (ISL) by creating a standardized, technology-based assessment system. Addressing gaps in current evaluation methods, which often lack consistency and inclusivity, Signalys aims to establish a reliable and accessible system for measuring ISL proficiency. The project will leverage advanced technology to provide accurate assessments and constructive feedback to learners, enhancing the quality of ISL education and certification. By fostering fair evaluation practices, Signalys seeks to promote greater acceptance and accessibility of ISL, contributing to a more inclusive society.



**Novelty** Revolutionize evaluation of sign language



**Principal Investigator** Mr. Praveen Kumar

**Co-PI** Chandan Kumar Dubey

**Student(s)** Himanshi, Sapna





# Adapted Taylor Frame for Inclusion



Project Id: 075

Stall Id: 113

**Abstract** The Directional-Based Adapted Taylor Frame for Inclusion project aims to enhance mathematics education for Student(s) with disabilities through an innovative instructional framework. By adapting the traditional Taylor frame to incorporate directional-based methods, this project addresses unique learning needs, improving accessibility and engagement. The goal is to foster better comprehension and independence in mathematics for special education Student(s). With a budget of ₹20,000, the initiative seeks to transform educational practices, ensuring that Student(s) with disabilities receive effective, inclusive instruction. This approach is expected to significantly improve educational outcomes and promote greater inclusivity in learning environments.



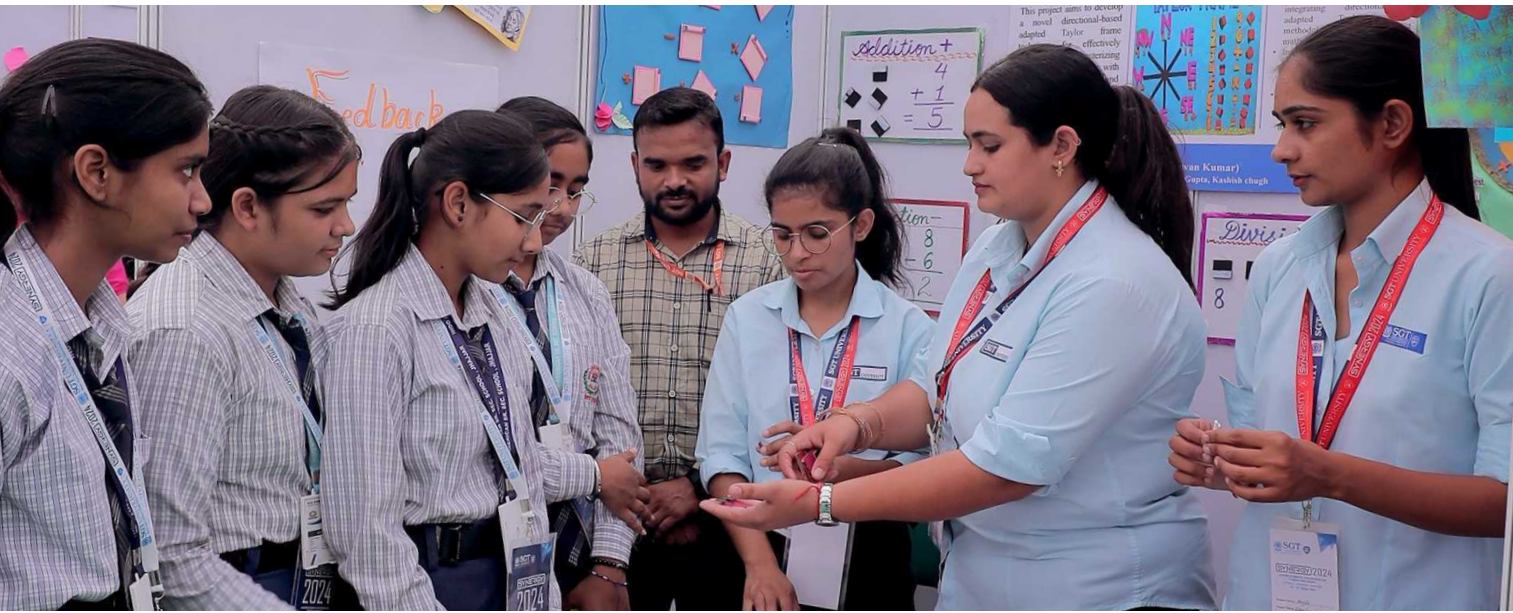
(Novelty Mathematics for disabled Student(s)



Principal Investigator Dr. Sarfaraz Equbal

Co-PI Mr.Awadhesh, Mr.Shravan Kumar

Student(s) Himansi, Anshu







# PROJECTS

Faculty of  
Hotel & Tourism Management  
(FHTM)

# Flavored Ghee

Project Id: 015

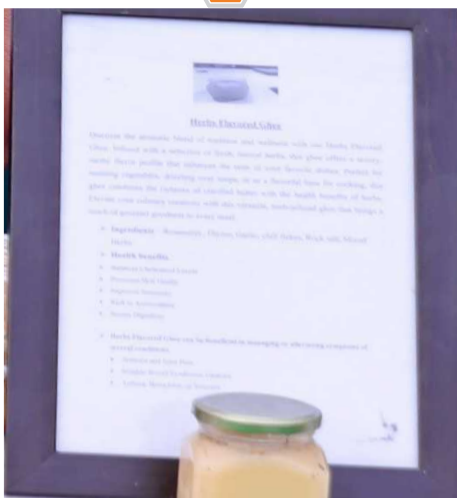
Stall Id: 53

**Abstract** Flavored Ghee is an innovative product that merges traditional health benefits with modern culinary appeal. Ghee, known for its rich nutritional profile and digestive benefits, is enhanced with natural flavors to cater to diverse tastes and dietary needs. This approach not only makes it easier to incorporate ghee into daily meals but also adds a gourmet touch that can promote healthier eating habits. By leveraging high-quality, natural ingredients and avoiding artificial additives, Flavored Ghee supports overall wellness while offering a delicious alternative to standard cooking oils. This product exemplifies a thoughtful integration of health and taste, aiming to improve dietary choices and contribute to better overall health.

**Novelty** Flavored ghee enhances health care

**Principal Investigator** Mr. Amit Gusain

**Student(s)** Monalisa , Ashish, Palak, Ayush Negi, Aman, Robin





# Jackfruit Food Products to Market as Ready to Eat



Project Id: 016

Stall Id: 193

**Abstract** The development of plant-based food products, specifically using jackfruit, aims to create a healthy and sustainable alternative to traditional patties. Jackfruit, known for its versatility and nutritional benefits, is ideal for crafting ready-to-eat (RTE) and ready-to-cook (RTC) food options. This project focuses on formulating innovative jackfruit-based patties that are not only delicious but also align with natural resource conservation and sustainability principles. By utilizing jackfruit, a resource-efficient crop, the initiative reduces reliance on animal products and minimizes environmental impact. The marketing strategy emphasizes the health benefits and eco-friendly aspects of these products, appealing to increasingly health-conscious and environmentally aware consumers.



**Novelty** Jackfruit products support sustainable eating



**Principal Investigator** Mr. Ritwik Patnaik

**Student(s)** Ayush, Vinayak Rao, Nishita



*We continue to innovate ...*

# Nutri Ball



Project Id: 014

Stall Id: 194

**Abstract** Nutri Ball is an innovative dietary solution designed to promote health and sustainability. These nutrient-packed, eco-friendly balls are crafted using sustainable, natural ingredients that provide a balanced mix of essential vitamins, minerals, and proteins. By focusing on high-quality, locally sourced materials, Nutri Ball minimizes environmental impact and supports sustainable agriculture. Each ball is designed to offer a convenient, on-the-go option for maintaining nutritional balance while reducing food waste and packaging. This approach aligns with principles of natural resource conservation and promotes a healthier, more eco-conscious lifestyle. Nutri Ball represents a forward-thinking solution in both nutrition and sustainability.



**Novelty** Nutri Ball promotes sustainable nutrition



**Principal Investigator** Ms. Aishwarya Srivastava

**Student(s)** Asmi Parihar, Muskan, Nishant Sharma, Bhavesh Kumar







# PROJECTS

Faculty of  
Indian Medical System  
(FIMS)

# Veda Blossom



Project Id: 080

Stall Id: 054

## Abstract

Veda Blossom is a groundbreaking cosmology product inspired by ancient Ayurvedic wisdom. Designed to streamline skincare routines, this multipurpose product functions as a face pack, cleanser, and mask, providing a comprehensive solution for various skin concerns. Infused with traditional Ayurvedic ingredients, Veda Blossom offers a holistic approach to skincare, focusing on nourishment, purification, and rejuvenation. Its all-in-one versatility simplifies beauty routines, eliminating the need for multiple products and reducing the burden of carrying various items. By harnessing the core principles of Ayurveda, Veda Blossom helps skin blossom with radiant, healthy, and vibrant health, embodying the essence of natural beauty.



## Novelty

Multipurpose skincare product combines Ayurvedic principles for beauty



Principal Investigator Dr. Sunidhi Kaundal

Student(s) Riya, Mehak, Kriti, Shilpa





# Positive Sips (Herbal Tea for Menstrual Cramps)



Project Id: 082

Stall Id: 055

**Abstract** Positive Sips is an innovative herbal tea formulated to alleviate menstrual cramps and associated symptoms. Dysmenorrhea, characterized by painful menstruation that disrupts daily activities, affects 50% of menstruating women, with 10% experiencing severe pain. Conventional treatments, such as NSAIDs and hormonal contraceptives, often come with side effects. This herbal tea aims to provide a safer, more effective alternative by utilizing indigenous herbs known for their ability to regulate pelvic region discomfort. The tea, prepared in 5-gram tea bags, also addresses bloating, appetite loss, and indigestion. A pilot study with 30 participants will assess its efficacy in alleviating menstrual pain and improving overall well-being.



**Novelty** Herbal tea offers safe relief from menstrual cramps and discomfort



**Principal Investigator** Dr Jyoti Kumber

**Student(s)** Suganshu, Zorawar Singh, Reetika, Anchal



We continue to innovate ...



# Dhoopana Karma as Disinfectant



Project Id: 100

Stall Id: 56

**Abstract** Dhoopana Karma as Disinfectant explores the use of traditional Ayurvedic practice—dhoopana karma (fumigation)—as a modern disinfectant method. This project aims to harness the antimicrobial properties of specific herbs and resins used in dhoopana karma to develop a natural, effective disinfectant. By integrating this ancient technique with contemporary scientific methods, the goal is to create a disinfectant that is both eco-friendly and effective in eliminating pathogens. The project will involve testing the efficacy of dhoopana karma against various microorganisms, optimizing the formulation, and validating its safety and effectiveness for use in healthcare settings. This approach offers a sustainable alternative to chemical disinfectants, promoting health and wellness through traditional wisdom.



**Novelty** Harnessing traditional fumigation methods creates eco-friendly disinfectants



**Principal Investigator** Dr. Monica Dhiman

**Student(s)** Sapna, Sonam, Liza, Tanushika





Project Id: 103

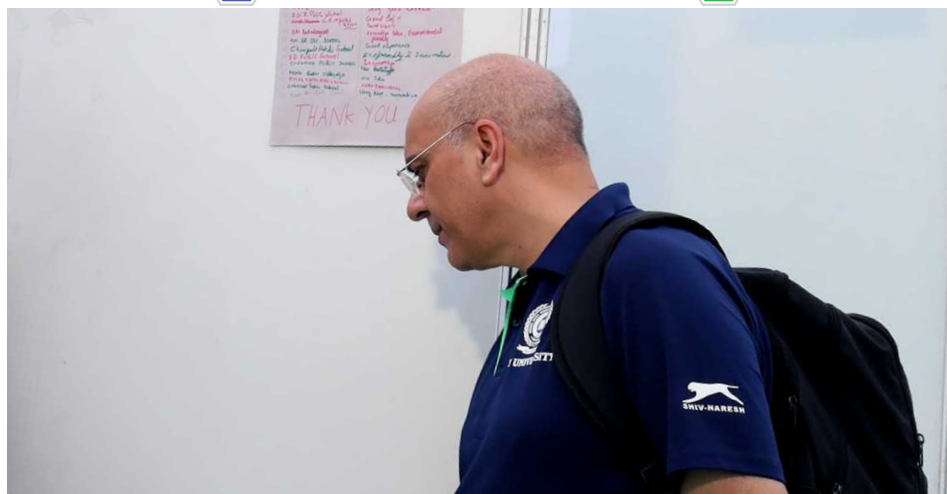
Stall Id: 057

**Abstract** Takra – Energy Drink is a revitalizing beverage designed to boost energy and support overall health with a focus on natural ingredients. Rooted in traditional Ayurvedic practices, Takra combines potent herbs and natural compounds known for their energizing properties. The drink aims to provide a sustained energy boost without the crashes associated with conventional energy drinks. Key ingredients include Ashwagandha for stress relief, Brahmi for cognitive support, and natural sources of vitamins and minerals to enhance vitality. Takra is crafted to improve mental alertness, reduce fatigue, and support overall wellness, offering a holistic alternative to synthetic energy drinks.

**Novelty** Holistic energy drink combines traditional herbs for sustainable vitality

**Principal Investigator** Dr. Avinash Choudahry

**Student(s)** Komal, Megha, Parul



# Network Assisted Ayurvedic Drug Advice (NAADA)



Project Id: 101

Stall Id: 058

**Abstract** Network Assisted Ayurvedic Drug Advice (NAADA) aims to modernize Ayurvedic healthcare by leveraging technology to provide personalized drug advice. This project involves creating a networked system that integrates Ayurvedic principles with digital tools to offer tailored recommendations for herbal treatments and dietary adjustments. By utilizing a comprehensive database of Ayurvedic knowledge and patient-specific data, NAADA will assist practitioners and patients in making informed decisions about herbal medicine. The system will feature an intuitive interface for accessing drug information, dosage guidelines, and potential interactions, enhancing the efficacy and safety of Ayurvedic therapies. This innovation seeks to bridge the gap between traditional practices and modern technology, improving accessibility and precision in Ayurvedic healthcare.

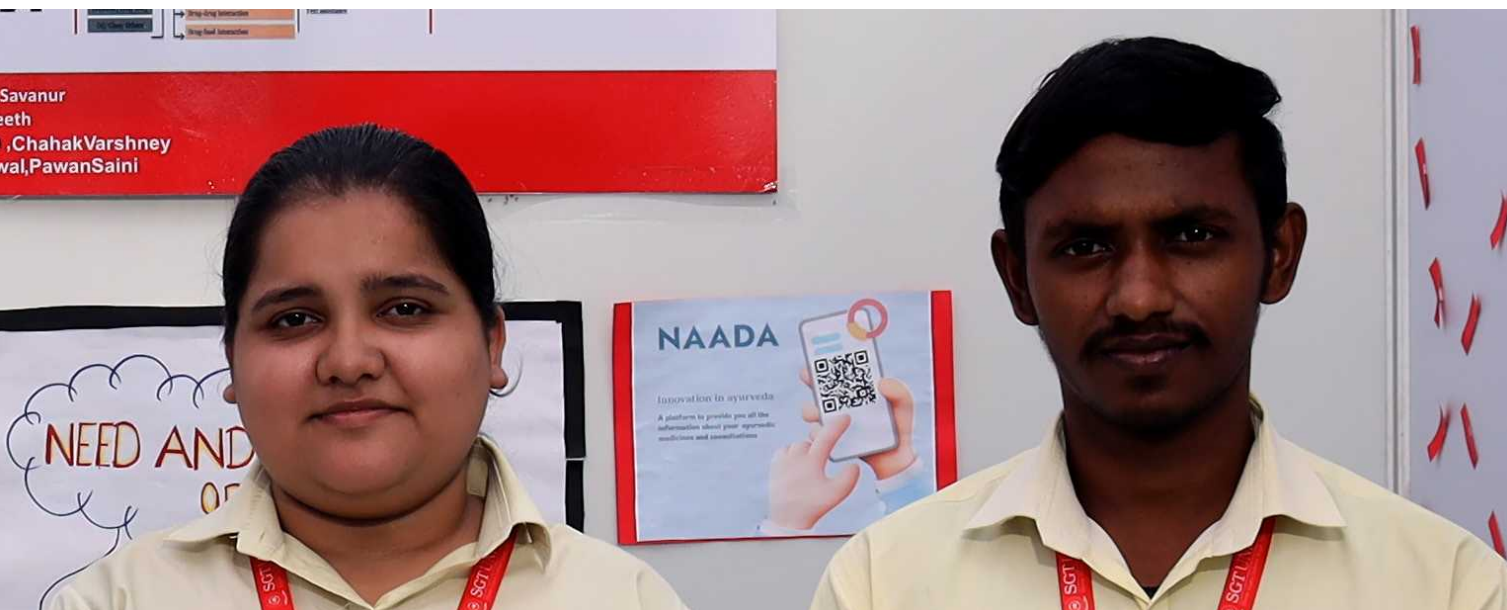


**Novelty** Integrating technology enhances personalized Ayurvedic drug recommendations



**Principal Investigator** Dr. Prasanna V Savanur

**Student(s)** Chehak, Jasleen, Sneha, Pawan



*We continue to innovate ...*



# Restart after Lunch



Project Id: 081

Stall Id: 059

**Abstract** Restart After Lunch addresses the common issue of post-lunch drowsiness, which impacts productivity and alertness, especially in academic settings. This decline in wakefulness is linked to the digestive process and changes in neurochemicals like orexin, which regulates arousal and wakefulness. The project aims to develop a cost-effective Ayurvedic formulation designed to enhance productivity and alertness after lunch. By leveraging traditional Ayurvedic principles, the formulation seeks to counteract the natural dip in energy levels, improving overall performance and well-being in individuals affected by postprandial drowsiness.



**Novelty** Cost-effective Ayurvedic solution targets post-lunch drowsiness effectively



**Principal Investigator** Dr. Arvind

**Student(s)** Yukti, Komal, Harkirat, Azka



# Ayurvedic Mouth Freshening Dispersible Tablets



Project Id: 046

Stall Id: 060

**Abstract** Ayurvedic Mouth Freshening Dispersible Tablets are designed to enhance oral hygiene using traditional Ayurvedic remedies. Poor oral care and junk food consumption can lead to various oral health issues, including stomatitis and dental caries. This project focuses on leveraging the benefits of specific Ayurvedic herbs known for their effectiveness in maintaining oral health. By selecting and formulating the best-suited herbal ingredients into dispersible tablets, the product aims to provide a convenient and effective solution for freshening breath and supporting oral hygiene. With both preclinical and clinical data backing the chosen ingredients, these tablets offer a natural approach to promoting oral wellness and preventing common dental problems.



**Novelty** Ayurvedic tablets enhance oral care



**Principal Investigator** Dr. Mukesh

**Student(s)** Nishu, Vidhi, Nishant, Yogesh





# Ayuventure - Learning Prakriti Made Fun



Project Id: 045

Stall Id: 061

**Abstract** Ayuventure - Learning Prakriti Made Fun is an engaging educational project designed to simplify and enhance the understanding of Ayurvedic body constitution, or prakriti. Recognizing one's prakriti is essential in Ayurveda for personalized health assessments and treatment planning. This project aims to make the learning process enjoyable and accessible by integrating interactive tools, gamified learning modules, and visual aids. By offering a user-friendly approach to understanding prakriti, Ayuventure helps individuals grasp their unique body constitution more effectively. This initiative promotes better self-awareness and informed health decisions, ultimately supporting personalized wellness and effective Ayurvedic practices.

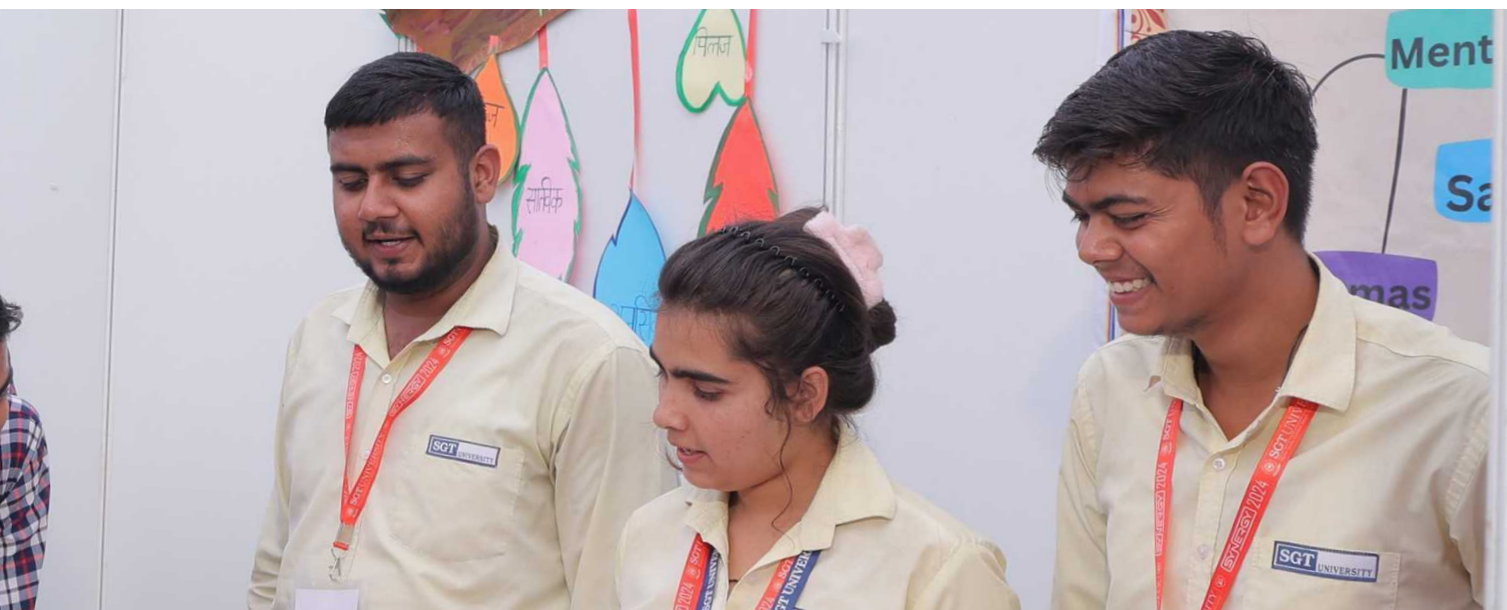


**Novelty** Ayuventure makes learning prakriti fun



**Principal Investigator** Dr. Anupam Sharma

**Student(s)** Nishu, Vidhi, Nishant, Yogesh



# Nirmal Ayu Diaper Rash Powder



Project Id: 102

Stall Id: 062

**Abstract** Nirmal Ayu Diaper Rash Powder is designed to provide soothing relief and effective protection for babies experiencing diaper rash. Formulated with natural Ayurvedic ingredients, this powder combines traditional remedies known for their anti-inflammatory and healing properties. Key components include herbal extracts such as neem, turmeric, and chamomile, which work together to reduce redness, irritation, and discomfort caused by diaper rash. The powder is designed to be gentle on sensitive skin while promoting healing and preventing future rashes. With its natural formulation, Nirmal Ayu offers a safe and effective solution for maintaining healthy skin in infants, aligning with Ayurvedic principles of gentle care and holistic health.

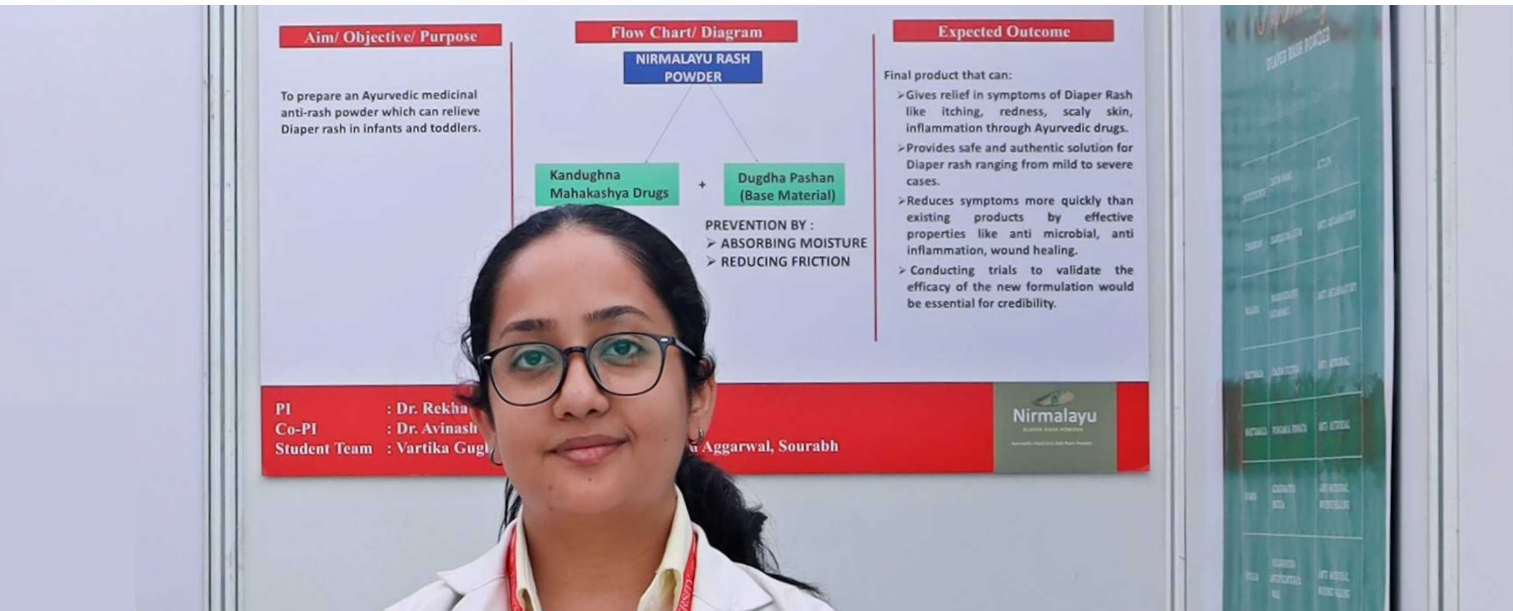


**Novelty** Natural Ayurvedic formulation offers effective relief for diaper rash



**Principal Investigator** Dr. Rekha Phull

**Student(s)** Vartika, Khushi, Saurabh, Himanshu Aggarwal





# Skin-o-Care Soap



Project Id: 105

Stall Id: 063

**Abstract** Skin-O-Care Soap is designed to address various skin concerns with a focus on enhancing skin health and providing effective care. This soap is formulated with a blend of natural ingredients known for their therapeutic properties, such as soothing herbs, essential oils, and skin-nourishing compounds. It aims to cleanse the skin gently while addressing issues like dryness, irritation, and acne. The unique formulation helps maintain skin's natural moisture balance, promotes healing, and offers protection against environmental stressors. Ideal for daily use, Skin-O-Care Soap provides a holistic approach to skincare, combining efficacy with gentle care for a healthier, more radiant complexion.



**Novelty** Holistic soap formulation combines natural ingredients for enhanced skin health



**Principal Investigator** Dr. Jagjeet Singh

**Student(s)** Bhawna, Monika, Kapil, Garvesh



# Ashoka (Saraca asoca) Arka for Uterine Bleeding



Project Id: 104

Stall Id: 064

**Abstract** This project focuses on developing an Ashoka (Saraca asoca) Arka, a herbal formulation, to address adolescent dysfunctional uterine bleeding (DUB). Ashoka, known for its uterine tonic properties, is traditionally used in Ayurvedic medicine to manage menstrual disorders. The aim is to prepare an Arka, a potent aqueous extract, which enhances the therapeutic effects of Ashoka. This formulation seeks to regulate menstrual cycles and reduce excessive bleeding in adolescents, providing a natural remedy with minimal side effects. By combining traditional knowledge with modern preparation techniques, the project aims to offer an effective and safe treatment option for managing DUB in young women..



**Novelty** Innovative herbal formulation enhances traditional Ashoka's effects on DUB



**Principal Investigator** Dr. Jyoti

**Student(s)** Mansi, Jyoti, Jagriti, Itishree





# Insomnil Eye Pillow



Project Id: 079

Stall Id: 065

**Abstract** Insomnil Eye Pillow addresses the widespread issue of insomnia, which impacts approximately one in three adults globally and 10 million people annually in India. Unlike habit-forming sleeping pills, this product offers a natural alternative. The Insomnil Eye Pillow is a herbal, weighted eye mask designed as a non-habit-forming sleep aid and relaxation tool. It combines the benefits of herbal therapy with a soothing, weighted design to enhance sleep quality and promote relaxation. By providing a drug-free solution with cosmetic value, the Insomnil Eye Pillow aims to offer a safe, effective remedy for improving sleep without side effects.



**Novelty** Natural, weighted eye mask enhances sleep quality without medications



**Principal Investigator** Dr. Chitral

**Student(s)** Jyoti, Shrishti, Abhay, Yash





# Intelli Pill



Project Id: 078

Stall Id: 066

**Abstract** Intelli Pill is a sophisticated medication management system tailored to enhance adherence and accessibility for visually impaired individuals. Utilizing an Arduino microcontroller, it integrates voice assistance, personalized reminders, GPS tracking, and braille features. This system ensures timely and accurate medication intake through customized alarms and voice prompts. Braille labels and tactile feedback improve accessibility, while GPS tracking allows caregivers to monitor the user's location for added safety. Intelli Pill also logs medication use, analyzes adherence, and provides feedback to optimize health outcomes, promote independence, and elevate the overall quality of life.

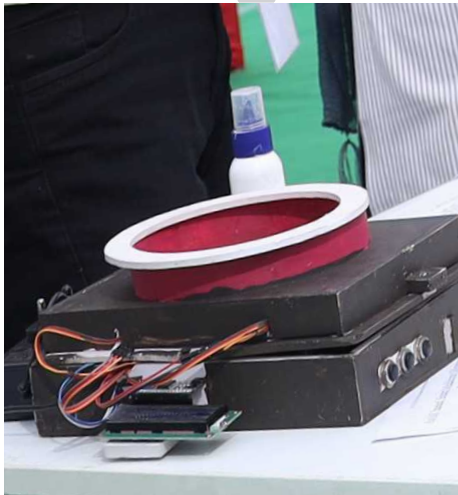


**Novelty** Sophisticated system enhances medication adherence for visually impaired users



**Principal Investigator** Dr. Karuna

**Student(s)** Ritu, Priyanjali, Mandeep, Siddhant Katyal





# Shirodard Haari Lepa - A Dermal Patch for Headache



Project Id: 043

Stall Id: 067

**Abstract** Shirodard Haari Lepa is a natural dermal patch designed to provide relief from all types of headaches. This innovative product incorporates traditional herbal ingredients known for their therapeutic properties into a convenient, easy-to-use patch format. Applied directly to the skin, the patch releases its active compounds gradually, targeting headache pain at its source. The formulation leverages natural remedies to offer a holistic approach to headache relief, reducing reliance on pharmaceutical treatments. By combining traditional knowledge with modern convenience, Shirodard Haari Lepa aims to enhance patient comfort and well-being, offering an effective and non-invasive solution for headache management.



**Novelty** Shirodard Haari Lepa relieves headaches naturally



**Principal Investigator** Dr. Anupama Patra

**Student(s)** Deepika, Mehak, Himani, Kajali





# Jeevan Shrut (Ayurvedic Energy Drink)



Project Id: 044

Stall Id: 068

**Abstract** Jeevan Shrut is an Ayurvedic energy drink designed to combat fatigue and exhaustion without the adverse effects commonly associated with conventional energy drinks. Formulated with a blend of rejuvenating herbal ingredients such as Kutaj, Vidanga, Daru Haridra, Samudra Lavana, Nimbu Satva, Sharkara, and Haritki, Jeevan Shrut offers a natural and safe alternative for sustained energy. Unlike traditional energy drinks, which may lead to dehydration and cardiovascular issues, Jeevan Shrut leverages the healing properties of these herbs to enhance overall well-being and vitality. This energy drink supports a healthy lifestyle by providing a balanced boost of energy while minimizing potential side effects, making it a superior choice for maintaining daily energy levels and overall health.



**Novelty** AyuOH combines Ayurveda and hydration



**Principal Investigator** Dr. Shweta Huddar

**Student(s)** Kunal, Naman, Komal, Ritik



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# Goodbye Diabetic Complications



Project Id: 106

Stall Id: 069

**Abstract** Addressing diabetic complications is crucial for improving the quality of life and reducing the risk of long-term damage. Diabetes can lead to severe issues such as neuropathy, retinopathy, cardiovascular disease, and kidney failure if not managed effectively. Early intervention, regular monitoring, and personalized treatment plans help control blood sugar levels and minimize complications. Advances in medical technology, such as continuous glucose monitors and insulin pumps, provide better management tools. Additionally, lifestyle modifications, including a balanced diet and exercise, play a significant role in mitigating risks. Collaborative healthcare approaches can significantly reduce the burden of diabetic complications.

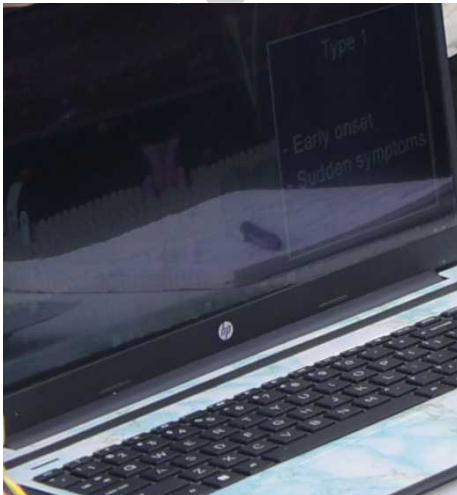


**Novelty** Advanced tools and strategies reduce diabetic complications significantly



**Principal Investigator** Dr. Ravi

**Student(s)** Vishal, Neha, Versha, Sonam











# PROJECTS

Faculty of  
Law  
(FOL)

# Right to Clean and Safe Environment



Project Id: 108

Stall Id: 195

**Abstract** Right to Clean and Safe Environment focuses on advocating and ensuring access to a healthy, unpolluted environment as a fundamental human right. This project aims to address environmental degradation and its impacts on public health by promoting sustainable practices, stricter pollution controls, and effective waste management systems. It involves raising awareness about environmental rights, pushing for policy reforms, and supporting community initiatives that enhance environmental quality. The project seeks to empower individuals and communities to demand and protect their right to clean air, water, and land, thereby fostering a healthier, more sustainable future for all.

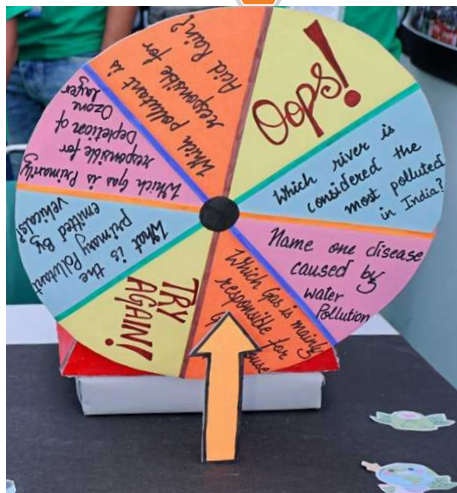


**Novelty** Empowering communities to advocate for their right to environment



**Principal Investigator** Ms. Chippy

**Student(s)** Shivaay, Deepanshi, Manish, Kanishika, Tisha, Priyal





# The Cyber Crimes of Stalking and Morphing



Project Id: 038

Stall Id: 210

**Abstract** The Cyber Crimes of Stalking and Morphing project aims to address and mitigate the issues surrounding these digital offenses. By developing a working model to demonstrate the mechanisms of cyberstalking and digital morphing, this initiative seeks to educate the public about these growing threats. The project will focus on illustrating how these crimes operate, the potential risks involved, and effective precautionary measures individuals can take to protect themselves. Through comprehensive awareness campaigns and educational resources, the project intends to enhance understanding and vigilance, fostering a safer digital environment and contributing to societal development by empowering individuals to navigate and secure their online interactions.



**Novelty** Cyber crimes demand updated legal frameworks



**Principal Investigator** Ms. Rakhi Tewari

**Student(s)** Shweta, Kanchan, Annu, Uttkarsh , Pragma





# Preventing and Addressing Cyberbullying



Project Id: 039

Stall Id: 211

**Abstract** The “Preventing and Addressing Cyberbullying” project aims to develop an engaging web application designed to educate users about cyberbullying and foster empathy. The application will feature an interactive quiz that tests users’ knowledge of cyberbullying and provides informative feedback on their responses. Complementing the quiz, a compelling short story will depict a realistic scenario illustrating the profound impact of cyberbullying on individuals. By combining interactive learning with emotional storytelling, the project seeks to raise awareness, promote understanding, and encourage proactive measures against cyberbullying. This approach aims to empower users with the knowledge and empathy needed to effectively address and combat this pervasive issue, contributing to a safer and more supportive online community.



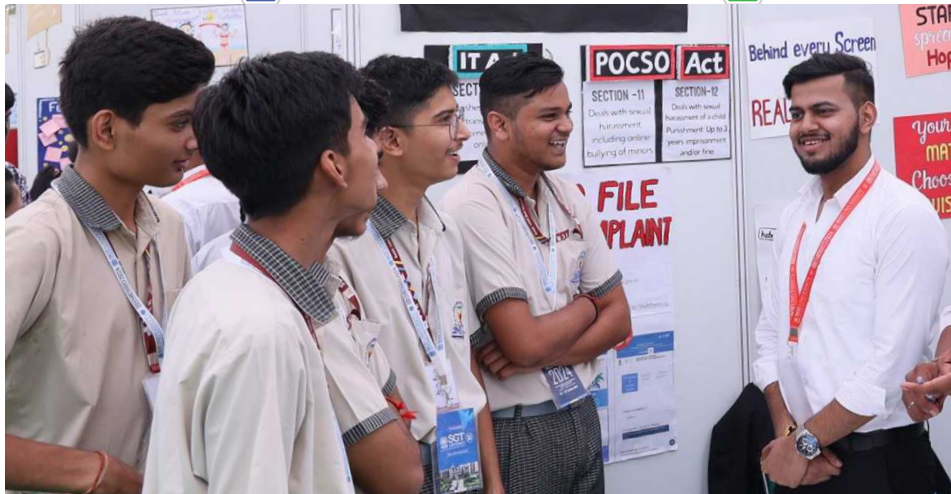
**Novelty** Cyberbullying prevention strengthens legal order



**Principal Investigator** Ms. Smiti

**Co-PI** Dr. Anchal Mittal

**Student(s)** Neha Yadav, Arpan, Deepika and Avni



We continue to innovate ...



# Digital Arrest



Project Id: 107

Stall Id: 212

**Abstract** Digital Arrest aims to address the escalating issue of online crime and digital misconduct through innovative technological solutions and legal reforms. This project focuses on developing advanced digital tools and platforms for monitoring, detecting, and responding to cybercrimes such as hacking, identity theft, and online harassment. By integrating machine learning algorithms and real-time data analysis, Digital Arrest enhances the ability of law enforcement agencies to track and apprehend cybercriminals effectively. Additionally, the initiative seeks to raise public awareness about online safety and promote better practices for protecting personal information. Ultimately, Digital Arrest strives to create a safer digital environment, fostering trust and security in online interactions.



**Novelty** Innovative tools enhance law enforcement's response to online crime



**Principal Investigator** Mr. Tabrej Alam

**Student(s)** Komal, Shivang, Komal, Shivang, Aaditya, Abhishek and Sophia



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# PROJECTS

Faculty of  
Medicine Health Sciences  
(FMHS)

# Elimination of TB by 2025 - PM Vision



Project Id: 199

Stall Id: 072

**Abstract** The vision to eliminate tuberculosis (TB) by 2025 represents a bold and strategic initiative aimed at eradicating this deadly disease. This comprehensive plan focuses on early detection, improved treatment protocols, and heightened awareness campaigns to reduce TB incidence and mortality rates. Key components include enhancing access to healthcare services, ensuring the availability of effective medications, and implementing robust surveillance systems. Additionally, the initiative emphasizes the importance of community engagement and education to dispel myths surrounding TB. By leveraging technology and promoting public-private partnerships, the government aims to mobilize resources and expertise for a unified response. This ambitious goal underscores the commitment to global health and the necessity for collaborative efforts to combat i

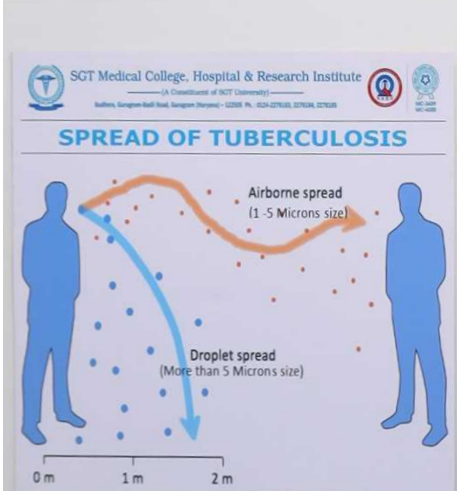


**Novelty** Strategic initiative targets early detection and treatment of tuberculosis



**Principal Investigator** Dr. Amit Kumar

**Student(s)** Dr. Srikar, Dr. Devashish, Dr. Paras, Dr. Sakshi





# Respiratory Biofeedback During CT-guided Procedures



Project Id: 090

Stall Id: 073

**Abstract** The In-house Respiratory Biofeedback System during CT-guided Procedures project aims to develop a sophisticated biofeedback mechanism to enhance the precision of imaging and interventions involving moving organs such as the lungs or liver. This system addresses the challenge of motion artifacts during CT scans, which can compromise image quality and necessitate repeat procedures, increasing radiation exposure and resource usage. By providing real-time feedback on breathing patterns, the system helps patients maintain a stable breath hold, improving the accuracy of CT imaging and minimizing motion blur. Additionally, for image-guided procedures like Fine Needle Aspiration Cytology (FNAC), the system ensures that organs remain stable, facilitating precise targeting and accurate diagnosis. The development of this biofeedback system aims to enhance



**Novelty** Real-time biofeedback improves imaging accuracy during respiratory procedures



**Principal Investigator** Dr. Monu Sarin

**Student(s)** Dr Nikhil Sharma, Dr Aditya Jain



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# Basic Life Support (BLS) & Ventricular Fibrillation (VF)



Project Id: 091

Stall Id: 074

**Abstract** The Basic Life Support (BLS) & Ventricular Fibrillation (VF) project aims to enhance survival rates and improve outcomes for individuals experiencing sudden cardiac arrest due to ventricular fibrillation (VF). VF is a critical arrhythmia that impairs the heart's ability to pump blood effectively, leading to rapid collapse and death if not promptly treated. Despite advances in medical technology, VF remains a leading cause of death outside hospital settings. This project focuses on increasing awareness and proficiency in Basic Life Support (BLS) techniques, including cardiopulmonary resuscitation (CPR) and the use of automated external defibrillators (AEDs). By improving the effectiveness and timeliness of BLS interventions, the project seeks to provide life-saving assistance and better outcomes for individuals facing cardiac emergencies.

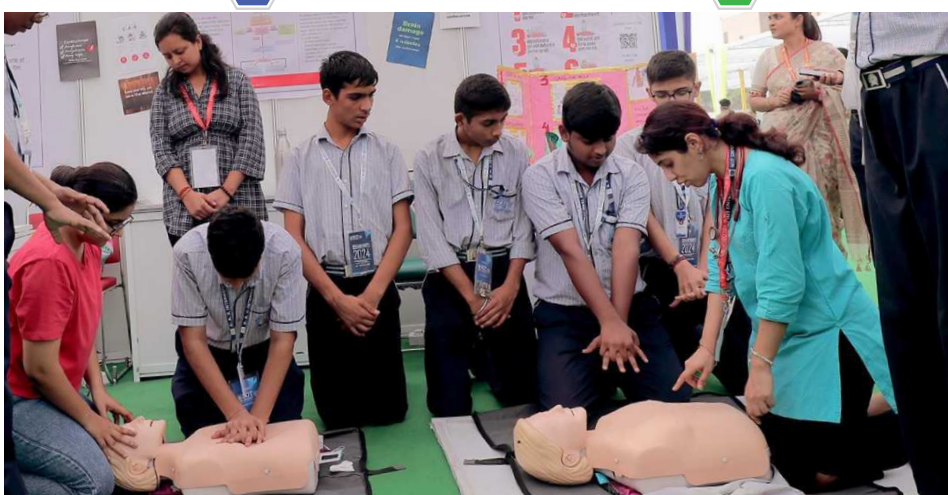


**Novelty** Enhancing BLS training improves survival rates in cardiac emergencies



**Principal Investigator** Dr. Priyanka Gulia

**Student(s)** Dr. Shivam Singla, Dr. Parth Gangwar, Dr. Sakshi, Dr. Simran





# Adolescents on Retinol Serum & Topical Steroid Abuse



Project Id: 125

Stall Id: 075

**Abstract** Cosmetic concerns among adolescents are common, influenced by peer pressure, social media, and body image perceptions. This age group often experiences heightened self-awareness, leading to anxiety about appearance, acne, weight, and skin tone. These concerns can impact self-esteem and mental health, sometimes leading to unhealthy behaviors such as excessive dieting or the misuse of cosmetic products. Media portrayals of beauty standards further exacerbate these issues, creating unrealistic expectations. Addressing these concerns through education on self-acceptance, healthy habits, and critical media literacy can help adolescents navigate this phase with a more balanced and positive outlook on their appearance.

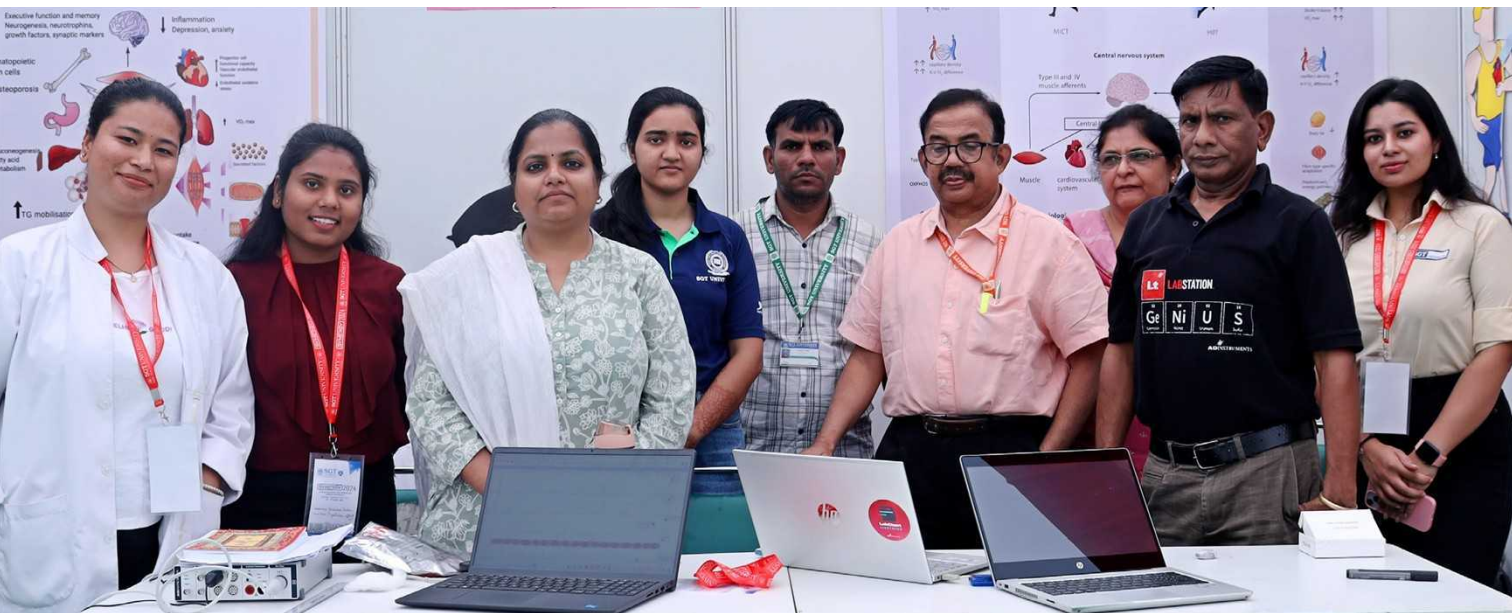


**Novelty** Addressing adolescent cosmetic concerns improves self-esteem and mental health



**Principal Investigator** Dr. Zenith Ranga

**Student(s)** Dr. Anjali singh, Dr. Aditya, Dr. Tejpal, Dr. Vibhuti



# Neuro-spark: Revitalize Mind through Electrotherapy



Project Id: 128

Stall Id: 076

**Abstract** Neuro-spark!! focuses on revitalizing cognitive function through advanced electrotherapy techniques. By applying targeted electrical stimulation to specific brain regions, this innovative approach aims to enhance neural activity and improve mental clarity, memory, and overall cognitive performance. Electrotherapy can stimulate neural pathways, potentially benefiting individuals with cognitive decline or mental fatigue. The therapy is non-invasive and customizable, offering a personalized treatment experience. Neuro-spark!! represents a cutting-edge method in neurorehabilitation, merging technology with neuroscience to foster brain health and optimize mental function. This approach holds promise for advancing cognitive therapy and supporting brain vitality in diverse populations.



**Novelty** Innovative electrotherapy enhances cognitive function and brain health



**Principal Investigator** Dr. Ashwani Saini

**Student(s)** Dr. Kunal Puri, Dr. Shivangi Singh





# Deaf Child and Cochlear Implant



Project Id: 129

Stall Id: 077

**Abstract** A cochlear implant is a transformative device for children with severe to profound hearing loss. It works by bypassing damaged parts of the inner ear and directly stimulating the auditory nerve, enabling sound perception. For deaf children, early implantation can significantly improve language development, communication skills, and overall quality of life. The process involves a surgical procedure to place the implant and extensive auditory training to help the child adapt to new sounds. Cochlear implants offer a valuable opportunity for children to integrate better into hearing communities and achieve milestones in speech and social interactions. Ongoing support and therapy are crucial for maximizing the benefits.

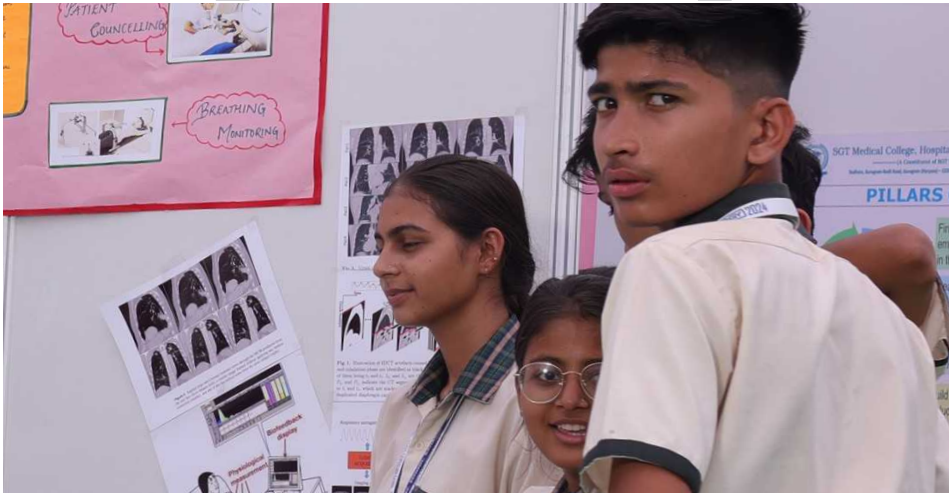
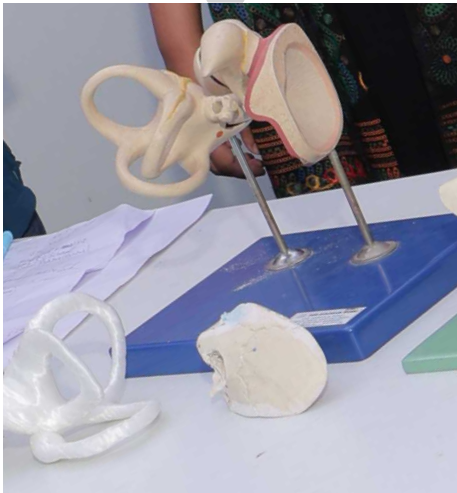


**Novelty** Cochlear implants enhance language development and communication in deaf



**Principal Investigator** Dr Divya Joy

**Student(s)** Dr Sumit, Dr Ayushi, Dr Dhruvesh, Dr Kritika





# Body Painting Competition



Project Id: 089

Stall Id: 078

**Abstract** Body Painting Competition is an innovative educational project designed to enhance the understanding of surface anatomy for medical Student(s). By engaging in colorful body painting, participants visually represent the arrangement of anatomical structures on the human body. This hands-on approach helps Student(s) grasp the spatial relationships and positioning of organs and tissues, which are crucial for clinical diagnosis and surgical planning. The competition not only makes learning anatomy more interactive and engaging but also fosters a deeper appreciation for the complexity of human anatomy. This method aims to bridge theoretical knowledge with practical application, making anatomical education both effective and enjoyable.



**Novelty** Engaging body painting enhances medical Student(s)' understanding of anatomy



**Principal Investigator** Dr. Ruchika Yadav





# Efficacy and Safety of Newly Targeted Drugs in Cancer



Project Id: 122

Stall Id: 079

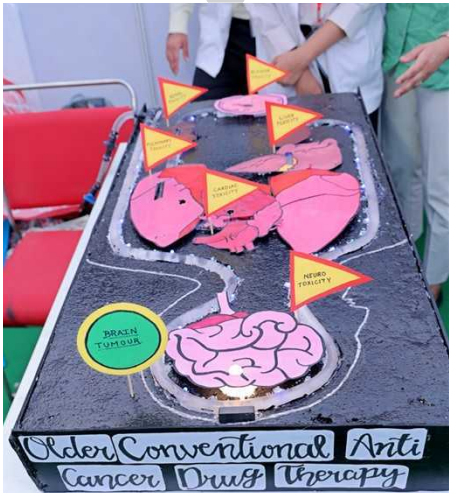
**Abstract** Educating about the efficacy and safety of new targeted cancer drugs involves providing comprehensive information on their mechanisms, benefits, and potential risks. These drugs work by targeting specific molecules involved in cancer growth, offering a more personalized treatment approach with fewer side effects compared to traditional therapies. It's essential to explain their success rates, potential for slowing disease progression, and overall impact on patient outcomes. Additionally, safety concerns such as side effects, drug interactions, and long-term health implications should be addressed. Clear communication helps patients and healthcare providers make informed decisions, ensuring effective and safer cancer management strategies.



**.Novelty** Targeted cancer drugs provide precise, safer, and personalized therapy options



**Principal Investigator** Dr. Ruchika Kalra



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# Exercise for Health: What is the Connection?



Project Id: 195

Stall Id: 080

**Abstract** Regular exercise is intrinsically linked to overall health and well-being. Engaging in physical activity strengthens the cardiovascular system, improving heart health and circulation. It also enhances muscle strength, flexibility, and endurance, contributing to better functional capacity as we age. Exercise is known to release endorphins, which elevate mood and reduce stress, helping to combat anxiety and depression. Additionally, it plays a crucial role in weight management and can lower the risk of chronic diseases such as diabetes, obesity, and hypertension. Consistent physical activity boosts the immune system and promotes better sleep quality. Ultimately, exercise is vital for maintaining a healthy lifestyle and enhancing quality of life.



**Novelty** Regular physical activity enhances health, and prevents diseases



**Principal Investigator** Dr. H.N. Mallick





# Toxicological Aspects of Snake Poisoning



Project Id: 180

Stall Id: 081

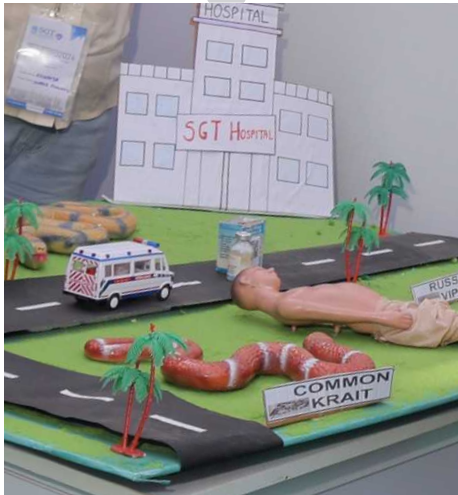
**Abstract** Snake poisoning poses significant toxicological challenges, affecting millions worldwide each year. The venom contains a complex mixture of enzymes, proteins, and peptides that can lead to various clinical manifestations, including neurotoxic, hemotoxic, and cytotoxic effects. These toxic components disrupt physiological processes, causing symptoms such as paralysis, hemorrhage, and tissue necrosis. The severity of poisoning depends on factors like the snake species, venom composition, and the victim's health status. Antivenom remains the primary treatment, but its effectiveness can vary, and timely medical intervention is crucial. Understanding the toxicological aspects of snake venom helps improve treatment protocols and preventive measures against snakebites. Research into venom composition also holds potential for developing novel therapeutics.



**Novelty** Exploring venom components enhances treatment and prevention of snakebites



**Principal Investigator** Dr. Alif Muzaffar Sofi



# AI and Healthcare



Project Id: 130

Stall Id: 082

**Abstract** AI in healthcare is transforming how medical services are delivered and managed. By leveraging machine learning algorithms, AI enhances diagnostic accuracy, predicts disease progression, and personalizes treatment plans. AI systems analyze medical data, such as imaging and genetic information, to identify patterns that may be missed by human clinicians. They also support administrative functions like scheduling and record-keeping, reducing workload and improving efficiency. Additionally, AI-driven tools, including virtual health assistants, provide patients with real-time support and education. The integration of AI in healthcare aims to improve outcomes, optimize resource use, and drive innovations in patient care.



**Novelty** AI enhances diagnostics, personalizes treatments, and optimizes healthcare



**Principal Investigator** Dr. Anil Kumar

**Student(s)** Dr. Tana & Dr. Rohin





# Menstruation: Break the Silence



Project Id: 127

Stall Id: 083

**Abstract** Menstruation: Break the Silence advocates for open conversations about menstruation, aiming to dispel myths and reduce stigma. Often shrouded in silence and embarrassment, menstruation can impact individuals' physical and emotional well-being. By encouraging dialogue, this initiative seeks to normalize menstrual health discussions, promote better understanding, and improve access to menstrual products and education. Breaking the silence helps address issues like period poverty, which affects many people's quality of life. Creating supportive environments where menstruation is openly discussed can foster greater awareness, enhance support systems, and empower individuals to manage their menstrual health more effectively and confidently.



**Novelty** Encouraging open dialogue to reduce stigma and improve support



**Principal Investigator** Dr. Priyanka

**Student(s)** Riya Saxena, Janvi, Priyanshi, Mansi



We continue to innovate ...



# ACL Reconstruction Graft Options

Project Id: 124

Stall Id: 084

**Abstract** ACL reconstruction graft options provide several choices for restoring knee stability after ligament injury. Autografts, using the patient's own tissues like the patellar tendon, hamstring tendon, or quadriceps tendon, are common and offer strong, reliable outcomes. Allografts, sourced from donor tissues, are another option, reducing surgery time but carrying a slightly higher risk of rejection. Synthetic grafts, though less commonly used, are alternatives for specific cases. Each option has its advantages, depending on patient needs, activity levels, and recovery goals. Choosing the right graft is critical to successful recovery and long-term knee function post-ACL reconstruction.

**Novelty** Diverse graft options tailor ACL recovery to individual needs

**Principal Investigator** Dr. Sansar Chand Sharma

**Student(s)** Dr. Kuru Parvir, Dr. Mohit Sheoran





# Modified Iris Retractor



Project Id: 194

Stall Id: 085

**Abstract** The modified iris retractor is a specialized surgical instrument designed to enhance visibility and access during eye surgeries. Its innovative design features flexible, adjustable arms that can hold the iris in place, minimizing trauma and ensuring a clear view of the surgical field. The retractor's ergonomic handle allows for comfortable use over extended periods, reducing hand fatigue for surgeons. Made from biocompatible materials, it ensures patient safety and can be easily sterilized for reuse. This modification allows for greater precision in delicate procedures, contributing to improved surgical outcomes. The retractor is essential for enhancing efficiency and effectiveness in ophthalmic surgeries.

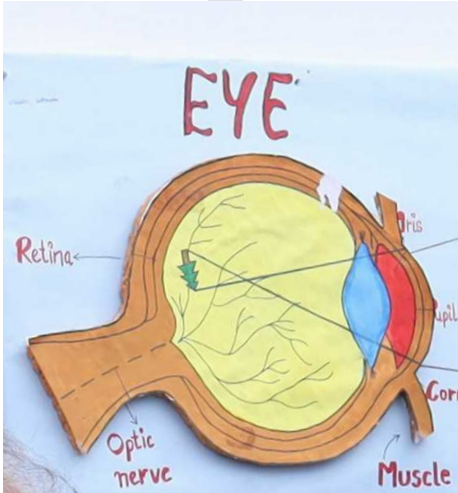


**Novelty** Enhanced surgical tool improves visibility and precision in eye procedures



**Principal Investigator** Dr. Neeraj Sharma

**Student(s)** Dr. Amandeep Arora, Dr. Sareeta, Dr. Srishti, Dr. Niharika, Dr. Divyansh, Dr. Priya Yadav



# Laparoscopic Surgery in Abdominal Conditions



Project Id: 123

Stall Id: 158

**Abstract** Laparoscopic surgery for abdominal conditions is a minimally invasive procedure that uses small incisions, a camera, and specialized instruments to diagnose and treat various issues. It reduces recovery time, minimizes scarring, and lowers infection risks compared to open surgery. Endoscopic suturing and knotting techniques play a crucial role in this approach, allowing surgeons to close incisions or repair tissues within the abdomen without the need for large cuts. These advanced methods offer precision and control, improving patient outcomes and reducing post-operative complications. Combined, they represent a significant advancement in the treatment of abdominal conditions with faster recovery and fewer risks.



**Novelty** Minimally invasive techniques enhance precision, recovery, and reduce risks



**Principal Investigator** Dr. Shalinder Koul

**Co-PI** Dr. Tarun Gupta

**Student(s)** Dr. Sana, Dr. Nishant, Dr. Shyam, Dr. Sunny



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# Blood Grouping: Slide & Column Agglutination Methods



Project Id: 126

Stall Id: 213

**Abstract** A comparative analysis of blood grouping involves evaluating the slide method and column agglutination method for accuracy and efficiency. The slide method, a traditional technique, uses a glass slide and specific reagents to detect blood group antigens and antibodies. It is quick but may have lower precision. The column agglutination method, on the other hand, employs micro-columns with specific reagents to detect blood groups, offering higher accuracy and reliability. Additionally, detecting subgroups such as A2 and A2B is crucial for precise blood transfusions and transplantation compatibility. This analysis helps determine the most effective method for accurate blood typing and subgroup detection.



**Novelty** Improved precision in blood typing and subgroup detection methods



**Principal Investigator** Dr. Shreya Tuli

**Student(s)** Riya Saxena, Janvi, Priyanshi, Mansi



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# PROJECTS

Faculty of  
Mass Com & Media Technology  
(FMMT)

# SGT Pulse Podcast Setup



Project Id: 201

Stall Id: 165

**Abstract** The SGT Pulse Podcast setup is designed to create engaging and informative audio content that connects listeners with various topics, including education, technology, and culture. Featuring high-quality microphones and soundproofing equipment, the setup ensures clear and professional audio production. Each episode is meticulously planned, with guests from diverse backgrounds sharing their insights and experiences. The user-friendly recording software allows for seamless editing and integration of sound effects or music. Additionally, the podcast promotes community engagement by encouraging listener feedback and suggestions for future topics. With a commitment to delivering valuable content, the SGT Pulse Podcast aims to inspire and inform its audience effectively.



**Novelty** Engaging media content connects listeners through diverse experiences



**Principal Investigator** Mr. Biswambhar Bose

**Student(s)** Kumkum, Lovenish, Suhani, Anurag, Rishi, Shivam





# SGT Times News Setup



Project Id: 202

Stall Id: 166

**Abstract** The SGT Times news setup is a dynamic platform designed to deliver timely and accurate news coverage on various topics, including local events, politics, and community issues. Utilizing a professional studio environment, reporters and hosts engage audiences through compelling storytelling and insightful analysis. Advanced broadcasting technology ensures high-quality audio and video production, making content accessible across multiple platforms, including social media and podcasts. The editorial prioritizes integrity and transparency, striving to provide balanced reporting. Additionally, the platform encourages audience interaction by inviting viewer comments and suggestions. By fostering community engagement, SGT Times aims to create an informed and connected audience.



**Novelty** Dynamic platform delivers timely, accurate news for community engagement



**Principal Investigator** Dr. Shreya Tuli

**Student(s)** Riya Saxena, Janvi, Priyanshi, Mansi









# PROJECTS

Faculty of  
Nursing  
(FNUR)

# Cervishield



Project Id: 048

Stall Id: 002

**Abstract** Cervishield is a pioneering healthcare device designed to mitigate spinal cord injuries resulting from road traffic accidents. Specifically targeting the cervical region, Cervishield aims to provide enhanced protection to prevent severe damage and reduce the risk of quadriplegia. By employing advanced materials and engineering, the device offers crucial support to the cervical spine during impact, potentially decreasing the severity of injuries and improving patient outcomes. Cervishield's innovative design focuses on minimizing the risk of spinal cord damage, thereby contributing to better recovery prospects and enhanced quality of life for individuals involved in vehicular accidents.



**Novelty** Cervishield advances cervical health diagnostics



**Principal Investigator** Ms. Mannu Vashist

**Student(s)** Ms. Mitali, Mr. Rohit Dhariwal, Mr. Puspikumar, Ms. Ishayadav



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# Oxyease (Smart Oxygen Administration Trolley)



Project Id: 085

Stall Id: 003

**Abstract** Oxyease: Smart Oxygen Administration Trolley is an advanced healthcare solution designed for efficient and precise oxygen delivery. This smart trolley integrates several key features to enhance patient care and streamline oxygen therapy management. It includes a built-in oxygen concentrator, auto-regulation system, and real-time monitoring capabilities. The auto-regulation feature adjusts oxygen flow based on patient needs, while the monitoring system provides alerts and data for accurate therapy adjustments. The trolley's mobility and ergonomic design facilitate easy transport and access within healthcare settings. By combining technology with user-friendly design, Oxyease aims to improve patient outcomes and support healthcare providers in delivering optimal oxygen therapy.



**Novelty** Integrate smart technology for precise, efficient oxygen delivery



**Principal Investigator** Ms. Kulpooja

**Student(s)** Ms. Chetna, Ms. Anjali Chauhan



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# Breastfeeding Facilitating Device



Project Id: 086

Stall Id: 004

**Abstract** Breastfeeding Facilitating Device is a groundbreaking innovation designed to improve the breastfeeding experience for both mothers and infants. This device, part of the Synergy Project, features an ergonomic design with advanced technology to enhance comfort and support. It includes removable and adjustable supports for the baby, as well as back and abdomen supports for the mother. By addressing physical strain and ensuring optimal breastfeeding conditions, the device helps alleviate common issues such as back pain and discomfort from prolonged holding and sitting. Its user-friendly interface and evidence-based design aim to promote maternal health, encourage extended breastfeeding, and improve infant nutrition. This device marks a significant advancement in maternal and infant care within the Synergy Project.



**Novelty** Enhances breastfeeding comfort and support for mothers and infants



**Principal Investigator** Ms. Sushmita Sharma

**Student(s)** Ms. Diksha





# UV Light Portable Cart Sterilizing Surgical Instruments



Project Id: 113

Stall Id: 005

**Abstract** The UV Light Portable Cart for sterilizing surgical instruments is an efficient, mobile solution for ensuring sterilization in healthcare settings. Equipped with ultraviolet (UV-C) light technology, the cart eliminates bacteria, viruses, and pathogens on surgical tools by disrupting their DNA. Its compact, wheeled design allows for easy transport between operating rooms or clinics, offering rapid, chemical-free disinfection. With adjustable light exposure settings, it ensures thorough coverage, reducing the risk of infections. Ideal for sterilizing hard-to-reach areas, this cart enhances infection control protocols, providing a safer, more hygienic environment for both patients and medical professionals.

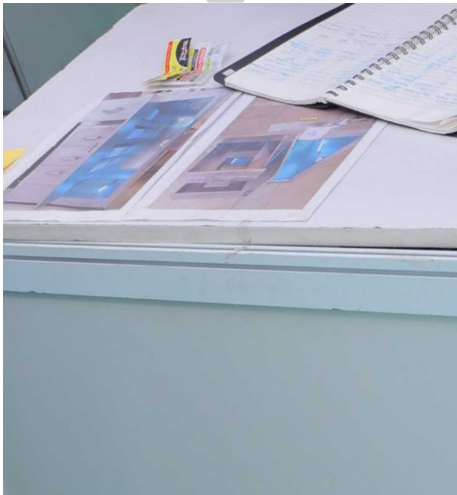


**Novelty** Mobile UV-C cart provides efficient, chemical-free sterilization solution



**Principal Investigator** Ms. Gyan Jyoti

**Student(s)** Rohit, Prashant, Mohit, Amarjeet, Prashant



# Automated Venti-Vibrator Pads



Project Id: 114

Stall Id: 006

**Abstract** Automated Venti-Vibrator Pads are innovative medical devices designed to enhance respiratory therapy for patients with lung conditions. These pads deliver gentle, rhythmic vibrations to the chest, helping to loosen mucus and improve airflow in the lungs. Controlled by an automated system, they offer customizable intensity and frequency settings, adapting to patient needs for effective lung clearance. Ideal for individuals with conditions like COPD, asthma, or post-surgical recovery, these pads reduce the need for manual chest physiotherapy. Their portable, user-friendly design makes them suitable for both home and clinical use, improving patient comfort and respiratory health outcomes.



**Novelty** Automated pads enhance respiratory therapy through customizable therapy



**Principal Investigator** Ms. Divya

**Student(s)** Urimila, Nisha, Shikshit, Avinash, Avinash,





# Digi Health Care Bag



Project Id: 112

Stall Id: 007

**Abstract** The Digi Health Care Bag is a smart, portable healthcare solution designed to provide essential medical tools for remote patient monitoring. It integrates digital devices such as a blood pressure monitor, glucose meter, thermometer, pulse oximeter, and ECG device, all synced via an app to offer real-time health data. This innovation enables healthcare professionals to track patients' vital signs from anywhere, facilitating timely interventions and reducing hospital visits. Its compact, user-friendly design makes it ideal for home care, telemedicine, and emergencies, promoting efficient, accessible healthcare in underdeveloped regions or for individuals with mobility challenges.

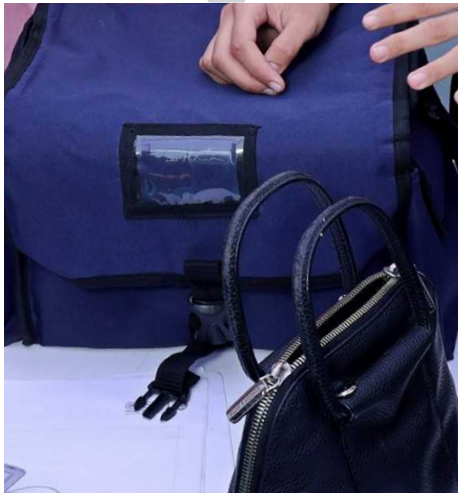


**Novelty** Portable healthcare solution enables remote monitoring and timely interventions



**Principal Investigator** Mr. Naveen

**Student(s)** Jameet, Anjali Chauhan,



# Portable Refillable Auto-regulated Oxygen Cylinder



Project Id: 083

Stall Id: 008

**Abstract** The Portable Refillable Oxygen Cylinder with Auto-Flow Regulation is designed to improve the quality of life for individuals requiring supplemental oxygen. This innovative device features a lightweight, compact design for easy mobility, making it ideal for home use, travel, and emergencies. Its auto-flow regulation system adjusts oxygen delivery based on real-time user needs, ensuring efficient use and minimizing waste. Unlike traditional cylinders and portable concentrators, this device combines convenience, mobility, and reliability into one unit. The user-friendly interface and integrated safety features prevent over or under-delivery of oxygen, enhancing overall user autonomy and well-being. This solution addresses the limitations of current oxygen therapy systems, offering consistent, adaptable support for better health management.



**Novelty** Lightweight cylinder adapts oxygen delivery, enhancing user mobility



**Principal Investigator** Ms. Manidipa Sarkar

**Student** Yogita





# Reflecti-Pericare (Episiotomy Care)



Project Id: 121

Stall Id: 009

**Abstract** Reflecti-Pericare is a specialized approach for episiotomy care, focusing on healing and comfort after childbirth. It involves gentle cleaning of the incision area to prevent infection, along with pain management techniques like warm sitz baths and cold compresses. The care routine emphasizes maintaining hygiene and reducing discomfort through the use of soothing ointments and anti-inflammatory medications. Regular monitoring for signs of infection or complications is crucial. Reflecti-Pericare promotes faster recovery, reduces the risk of long-term issues like scarring, and supports the overall well-being of postpartum mothers. This holistic care method is essential for a smoother postpartum recovery.

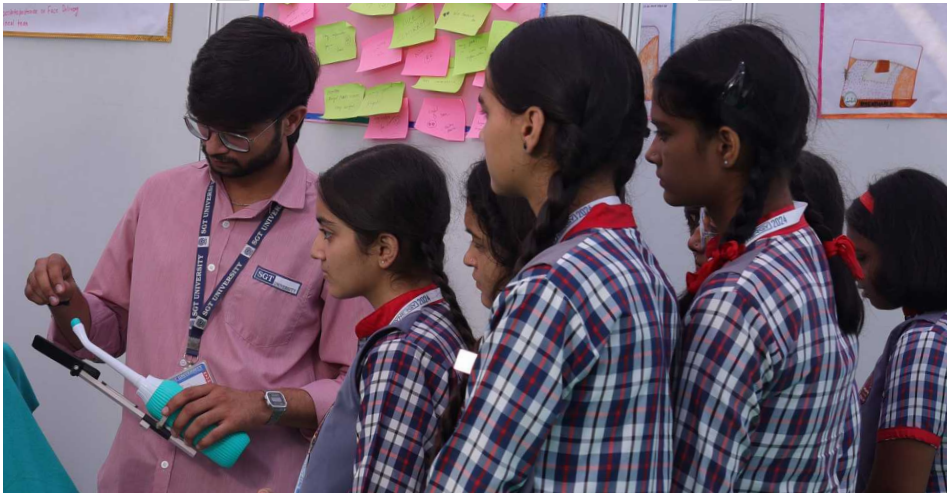


**Novelty** Reflecti-Pericare offers innovative, holistic postpartum episiotomy healing



**Principal Investigator** Ms. Banapriya Sahoo

**Student(s)** Nitin, Muskan



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# Bandage : Non stick to Latex Glove



Project Id: 119

Stall Id: 010

**Abstract** The Bandage: Non-Stick to Latex Glove is a specially designed medical bandage that prevents adherence to latex or nitrile gloves during application. This unique bandage features a non-stick outer layer, ensuring that healthcare professionals can work efficiently without the bandage sticking to their gloves, enhancing ease of use. Ideal for wound care, it protects sensitive skin while providing secure adhesion to the treated area. The inner layer is soft and absorbent, promoting healing and comfort. This innovation reduces frustration during dressing changes, making it particularly useful in fast-paced clinical settings and for delicate or repetitive wound treatments.

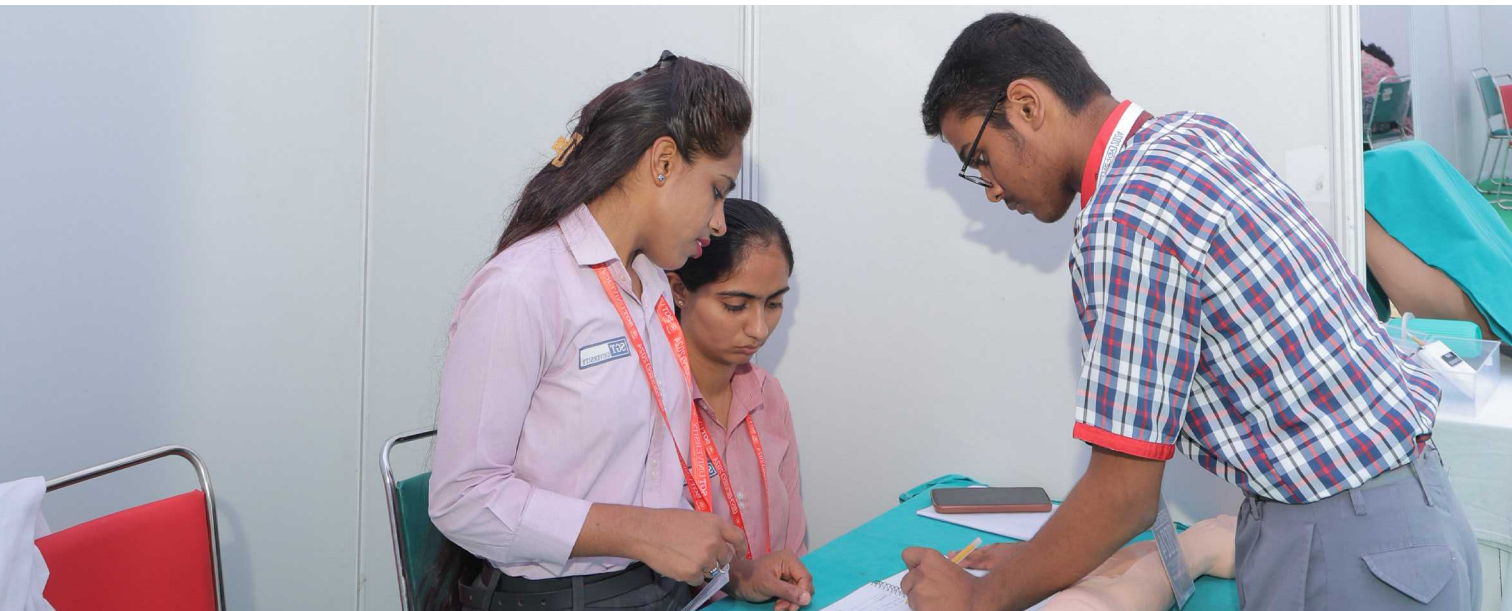


**Novelty** Innovative bandage prevents sticking to gloves, enhancing treatment efficiency



**Principal Investigator** Ms. Komal

**Student(s)** Madhubala, Kushal, Ankit, Bhumika





# Ease sense - An anxiety managing ball



Project Id: 115

Stall Id: 011

**Abstract** The Ease Ball is a versatile massage tool designed to alleviate muscle tension and promote relaxation. Its compact, spherical shape allows for targeted pressure on tight or sore areas, such as the back, neck, shoulders, or feet. Made from durable, soft material, the ball can be used to perform self-massage or assisted therapy, improving circulation and reducing discomfort. It's particularly effective for athletes, office workers, or anyone experiencing muscle strain from daily activities. Easy to use at home or on the go, the Ease Ball enhances mobility, flexibility, and overall well-being, offering a simple solution for muscle relief.



**Novelty** Versatile massage tool offers targeted relief for muscle tension



**Principal Investigator** Ms. Rajwant Kaur

**Student(s)** Ms. Aparna, Mr. Amarjit, Ms. Komal



# Automatic spasm detector band



Project Id: 118

Stall Id: 012

**Abstract** The Automatic Spasm Detector Band is a wearable medical device designed to monitor and detect muscle spasms in real-time. Equipped with advanced sensors, it continuously tracks muscle activity and identifies irregular contractions associated with spasms. When a spasm is detected, the band sends alerts to the user or healthcare provider via a connected app, enabling timely intervention. Ideal for individuals with conditions like epilepsy, multiple sclerosis, or muscle disorders, this band helps manage symptoms by providing early warnings. Its lightweight, adjustable design ensures comfort for daily use, improving patient care and reducing the risk of complications from untreated spasms.



**Novelty** Wearable device detects muscle spasms, enabling timely intervention and care



**Principal Investigator** Prof. Parul Sharma

**Student(s)** Mr. Anish, Mr. Anjali, Mr. Nitesh





# Electric Eye : Identify Microbes in Catheter



Project Id: 179

Stall Id: 013

**Abstract** TElectric Eye is a novel system designed to detect microbes in catheters, enhancing infection prevention in medical settings. Using advanced sensors and real-time monitoring, it identifies microbial presence before infections develop, reducing complications for patients with catheterization. This innovation offers a non-invasive solution, providing early warnings and allowing for timely medical intervention. Its precision helps improve patient outcomes by minimizing the risk of catheter-associated infections. By integrating cutting-edge technology with healthcare practices, Electric Eye aims to streamline infection control processes, ensuring safer and more efficient patient care in hospitals and clinical environments.



**Novelty** A pioneering system for early microbial detection in catheters



**Principal Investigator** Ms. Tanya Yadav

**Student(s)** Ishika, Astha, Sahil



# Smart Cap



Project Id: 116

Stall Id: 014

**Abstract** The Smart Cap is a wearable device that integrates advanced technology for enhanced functionality and health monitoring. Equipped with sensors, the cap tracks metrics like body temperature, heart rate, and hydration levels, providing real-time data via a connected app. Ideal for athletes, outdoor workers, or health-conscious individuals, it also features UV protection and temperature regulation to ensure comfort in various environments. The Smart Cap can alert users to potential health risks, such as overheating or dehydration, promoting safety and well-being. Its sleek, adjustable design makes it a practical, everyday accessory with both health benefits and convenience.

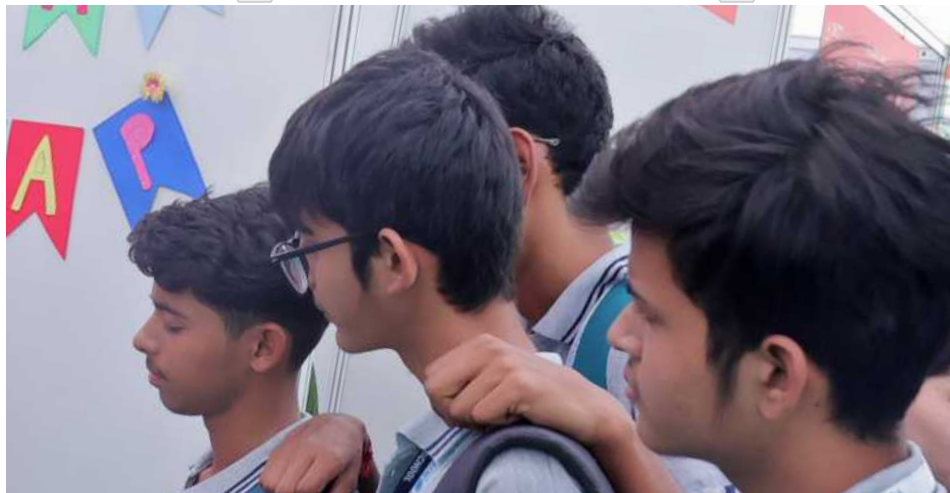
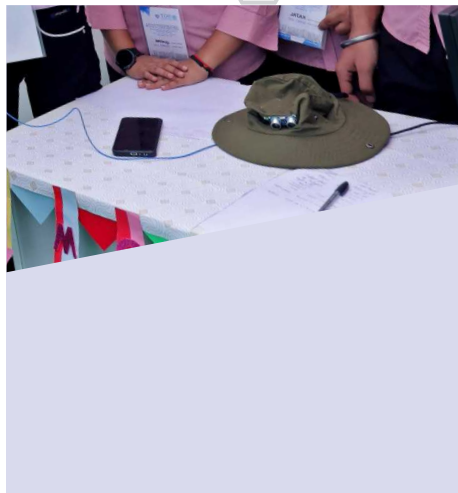


**Novelty** Wearable device monitors health metrics while providing UV protection



**Principal Investigator** Ms. Anju Chahal

**Student(s)** Ms. Roshini, Ms. Kajal, Ms. Gunjan, Mr. Maninder Singh





# Vibro Heat & Cold Massager

Project Id: 084

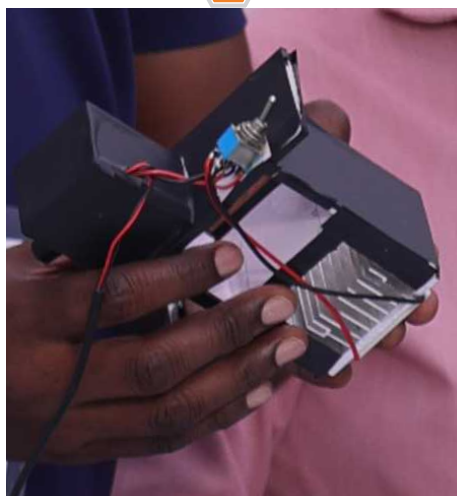
Stall Id: 015

**Abstract** The Vibro Heat & Cold Massager is a versatile healthcare device designed to provide therapeutic relief through both heat and cold treatments combined with vibration therapy. It integrates multiple functionalities to address muscle soreness, joint pain, and overall discomfort. The heat mode helps to relax tight muscles and improve blood circulation, while the cold mode reduces inflammation and numbs painful areas. The vibration feature enhances the effectiveness of both treatments by stimulating muscle tissue and improving relaxation. This multi-functional massager is ideal for home use, offering a convenient, effective solution for managing pain and promoting recovery. Its ergonomic design ensures ease of use and targeted relief, making it a valuable addition to any wellness routine.

**Novelty** Combines heat, cold, and vibration for effective therapeutic relief

**Principal Investigator** Ms. Pooja Singh

**Student(s)** Annu, Neha, Kushal



# Respira Dome

Project Id: 047

Stall Id: 016

**Abstract** Respira Dome is an advanced healthcare device designed to enhance respiratory health through a novel, user-friendly approach. This innovative product focuses on improving breathing efficiency and providing therapeutic benefits for individuals with respiratory conditions. The Respira Dome features a specialized design that creates a controlled environment to optimize air quality, facilitate effective breathing exercises, and deliver targeted treatments. It aims to assist patients with chronic respiratory issues, such as asthma or COPD, by offering a reliable, at-home solution to support their respiratory function. Through its cutting-edge technology and thoughtful design, Respira Dome contributes to better respiratory health and overall well-being.

**Novelty** Respira Dome advances respiratory diagnostics

**Principal Investigator** Prof. (Dr.) Sarika Yadav

**Co-PI** Ms. Deepak

**Student(s)** Neeraja Bala, Riya





# Power bracelet



Project Id: 120

Stall Id: 125

**Abstract** The Power Bracelet is a wearable device designed to boost energy levels and track physical performance. Equipped with advanced sensors, it monitors vital signs such as heart rate, activity levels, and calorie burn, providing real-time data via a connected app. Ideal for athletes, fitness enthusiasts, or individuals looking to improve their health, the bracelet offers insights into energy expenditure and recovery needs. Some versions also feature wireless charging and energy-boosting technology, like embedded magnets or ion emitters, aimed at enhancing physical stamina. Its sleek, adjustable design ensures comfort during workouts or daily activities, blending style with functionality for optimized performance.



**Novelty** Wearable device tracks performance while boosting energy and stamina



**Principal Investigator** Ms. Nutan Kumari

**Student(s)** Arushi, Alina



# Breezy Skies & Graceful Shades



Project Id: 049

Stall Id: 191

**Abstract** Breezy Skies & Graceful Shades focuses on addressing the challenges faced by modern consumers during outdoor activities by developing innovative, lightweight, and durable products. The project aims to blend functionality with style, offering solutions that enhance comfort and convenience. By leveraging advanced materials and cutting-edge design, Breezy Skies & Graceful Shades creates aesthetically pleasing outdoor gear that meets the evolving needs of users. Whether it's optimizing sun protection, improving mobility, or ensuring long-lasting wear, this initiative brings future-oriented technology and innovation to enhance the outdoor experience.



**Novelty** Breezy Skies combines style with sustainability



**Principal Investigator** Ms. Lisa

**Student(s)** Annu, Neha, Kushal





# Hydra Tech



Project Id: 117

Stall Id: 192

**Abstract** Hydra Tech, developed by nursing professionals, is an advanced hydration management system designed to monitor and maintain patient fluid levels. Integrating wearable sensors and real-time data analytics, it tracks hydration status, alerting healthcare providers to potential dehydration or fluid imbalances. This technology is particularly beneficial for elderly patients, those with chronic illnesses, or individuals recovering from surgery, where proper hydration is crucial. By providing accurate, continuous monitoring, Hydra Tech helps nurses ensure optimal patient care, prevent complications, and improve recovery outcomes. Its user-friendly interface enhances efficiency in clinical settings, supporting proactive health management and patient safety.



**Novelty** Advanced system ensures continuous hydration monitoring for patient safety

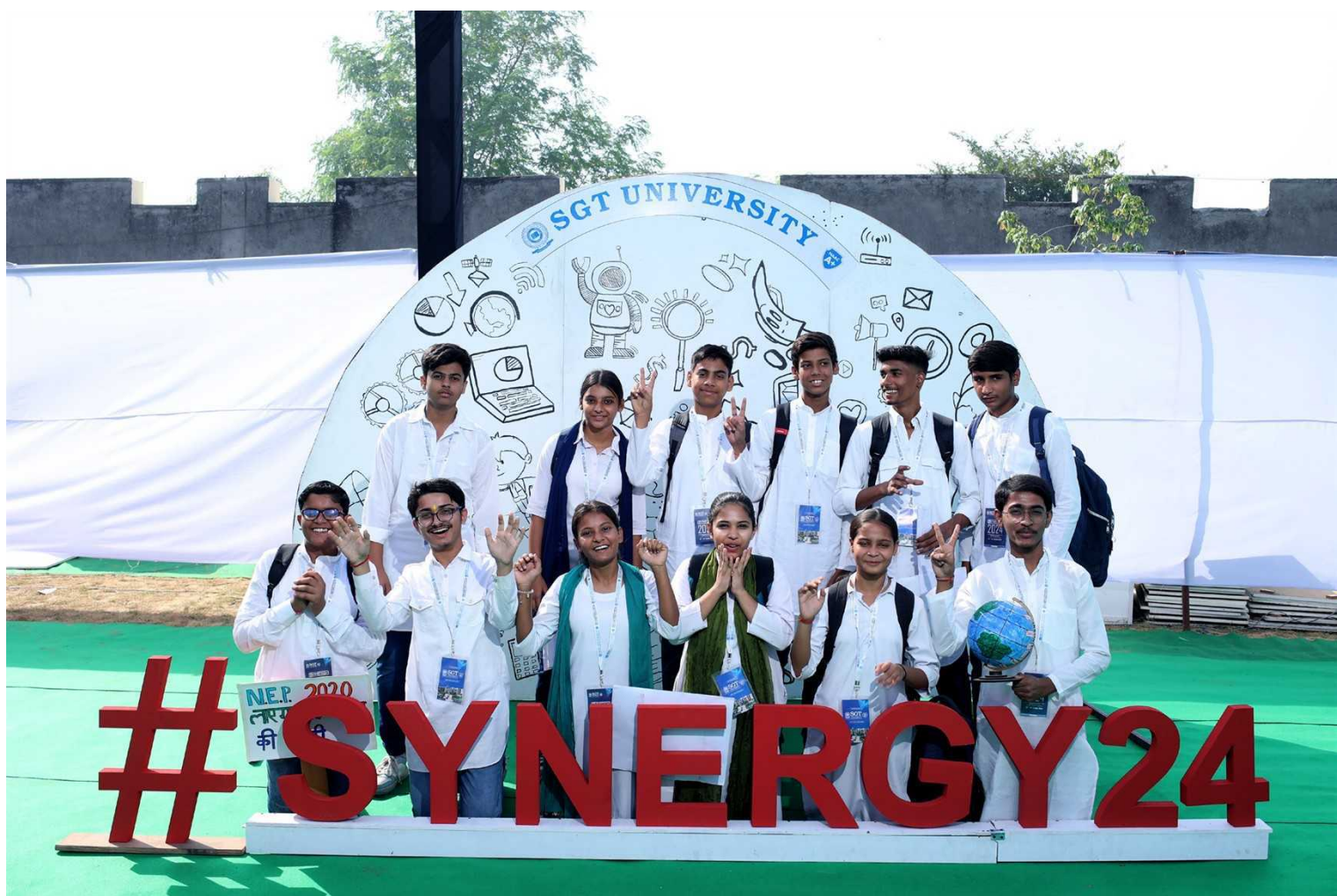


**Principal Investigator** Poonam Ahlawat

**Student(s)** Deepanshi, Shivam. Sonakshi,



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# PROJECTS

Faculty of  
Naturopathy & Yogic Science  
(FNYS)

# Aura Guard: Aromatherapy Based Natural Sunscreen



Project Id: 111

Stall Id: 086

**Abstract** Aura Guard is a pioneering natural sunscreen that combines the protective power of sun-blocking agents with the therapeutic benefits of aromatherapy. This innovative formula uses a blend of essential oils known for their skin-soothing and anti-inflammatory properties, such as lavender, chamomile, and rose, to enhance the sunscreen's efficacy. Aura Guard not only provides broad-spectrum UV protection but also nourishes and rejuvenates the skin with its natural ingredients. The inclusion of essential oils offers additional skin benefits, like calming and hydration, while providing a pleasant, therapeutic aroma. This sunscreen is ideal for those seeking a chemical-free, multi-functional skincare solution that safeguards against sun damage and promotes overall skin health.



**Novelty** Natural sunscreen combines UV protection with therapeutic aromatherapy



**Principal Investigator** Dr. Sunita Sahish

**Student(s)** Arshpreet, Jasmine





# Mustard Heal



Project Id: 110

Stall Id: 087

**Abstract** Mustard Heal is an innovative healthcare product designed to leverage the therapeutic properties of mustard in treating various health conditions. The product harnesses mustard's natural anti-inflammatory, analgesic, and antibacterial properties to provide relief from muscle aches, joint pain, and minor injuries. Formulated as a topical cream or ointment, Mustard Heal is designed for ease of application and rapid absorption, delivering effective relief directly to the affected area. By incorporating mustard's traditional uses into a modern therapeutic format, Mustard Heal offers a natural and effective solution for pain management and recovery.



**Novelty** Topical cream utilizes mustard's healing properties for effective pain relief



**Principal Investigator** Dr. Ruchika Golani

**Student(s)** Kalpana, Riya, Ranjeet, Nikita



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# Fast Right: 5-Days Therapeutic Fasting Kit

Project Id: 109

Stall Id: 088

**Abstract** Fast Right is a comprehensive 5-day therapeutic fasting kit designed for home use, aiming to support health and wellness through structured fasting. This kit provides all necessary components for a safe and effective fasting experience, including specially formulated nutrient-rich liquids, supplements, and easy-to-follow guidelines. It is intended to assist with detoxification, metabolic balance, and overall well-being, offering a convenient and controlled approach to fasting. By enabling users to undertake fasting at home with expert guidance, Fast Right promotes health benefits while ensuring safety and convenience.

**Novelty** Structured fasting kit offers safe, convenient home wellness solutions

**Principal Investigator** Dr. Ruchika Golani

**Student(s)** Tanu, Sakshi







# PROJECTS

Faculty of Design  
(FOD)

# Digi-Tech in Fashion Design: Virtual Garment Try-on



Project Id: 012

Stall Id: 120

**Abstract** Digital technology is transforming fashion design through innovative virtual garment try-on solutions. This cutting-edge advancement allows consumers to visualize and interact with clothing virtually, using augmented reality (AR) and 3D modeling technologies. By creating accurate, lifelike representations of garments, virtual try-ons enable users to see how clothes fit and look on their own bodies without physically trying them on. This technology enhances the shopping experience, reduces return rates, and minimizes waste by optimizing fit and style choices. As digital tools continue to evolve, they promise to further revolutionize the fashion industry, making design and shopping more efficient and personalized.

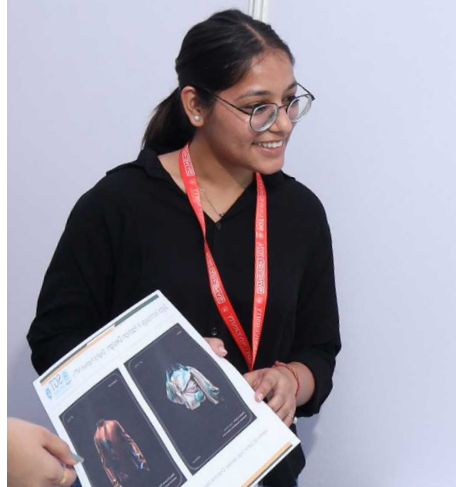


**Novelty** Virtual try-ons showcase fashion innovation



**Principal Investigator** Dr. Sukhvir Singh

**Student(s)** Sneha, Shruti, Khushi, Adoye, Kajal





# Eco-Stitch for Sustainable Resource-conscious Fashion



Project Id: 011

Stall Id: 179

**Abstract** Eco-Stitch is a groundbreaking initiative aimed at revolutionizing the fashion industry through advanced pattern engineering to minimize waste. By utilizing cutting-edge technologies and innovative design techniques, Eco-Stitch optimizes fabric use, reducing material wastage during production. This approach involves sophisticated algorithms and data analysis to create efficient patterns that maximize fabric yield and align with sustainable practices. The result is a fashion process that not only minimizes environmental impact but also sets new standards for efficiency in garment manufacturing. By integrating these future technologies, Eco-Stitch paves the way for a more sustainable and resource-conscious fashion industry.



**Novelty** Eco-stitch combines tech with sustainability



**Principal Investigator** Ms. Annu Kumari

**Student(s)** Sneha, Shruti, Khushi, Kajal



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# Designing Various Detachable Garment Components



Project Id: 013

Stall Id: 189

## Abstract

This project focuses on the design and development of detachable garment components specifically tailored for Generation Z, highlighting flexibility, sustainability, and personalization. By creating modular elements that can be easily added or removed, the project allows for versatile garment use and customization, catering to the dynamic fashion preferences of today's youth. This approach reduces waste by extending the lifecycle of clothing and minimizes the need for multiple garments, thus conserving natural resources. Additionally, the use of sustainable materials and practices ensures that the project aligns with eco-friendly principles, promoting a more responsible and innovative fashion industry.



**Novelty** Detachable garments enhance fashion sustainability



**Principal Investigator** Dr. Pooja Gaba Adlakha

**Student(s)** Lucky Thakran, Mehak Mittal, Tanya



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# Sustainable Interior Designs Using Green Materials



Project Id: 177

Stall Id: 190

**Abstract** The project emphasizes creating a sustainable product range for interior design by utilizing eco-friendly materials. It focuses on reducing the environmental impact of interior spaces by incorporating renewable, recyclable, and biodegradable materials. The design process balances aesthetics and functionality with sustainability principles, ensuring that the products are both visually appealing and environmentally responsible. By minimizing waste and promoting the use of natural resources, the project aligns with modern green building practices. The initiative supports sustainable living, encouraging conscious consumer choices and innovation in interior design. It aims to set a precedent for eco-conscious design in the industry.

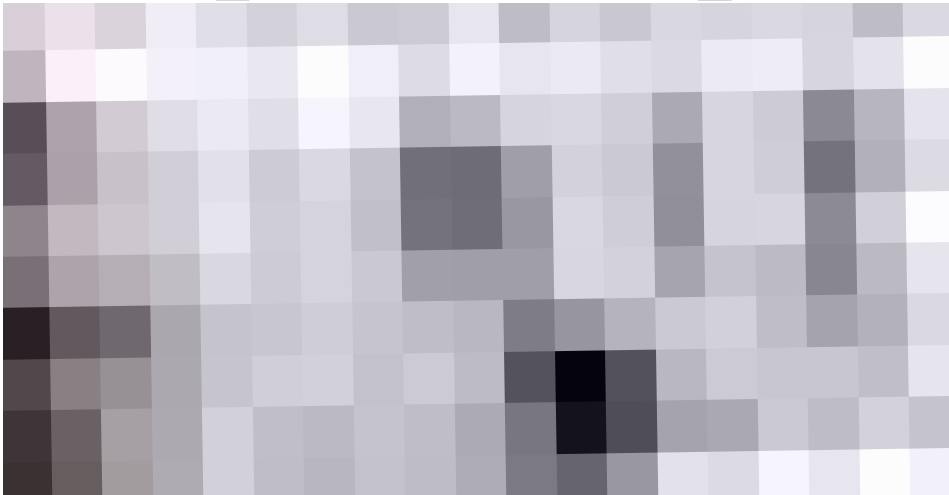


**Novelty** Eco-friendly materials drive visually appealing interior design solutions



**Principal Investigator** Dr. Sukhvir Singh

**Student(s)** Mahima, Mehak Mittal



# Print-Technology in Sustainable Fashion Products

Project Id: 206

Stall Id: 221

**Abstract** The project emphasizes creating a sustainable product range for interior design by utilizing eco-friendly materials. It focuses on reducing the environmental impact of interior spaces by incorporating renewable, recyclable, and biodegradable materials. The design process balances aesthetics and functionality with sustainability principles, ensuring that the products are both visually appealing and environmentally responsible. By minimizing waste and promoting the use of natural resources, the project aligns with modern green building practices. The initiative supports sustainable living, encouraging conscious consumer choices and innovation in interior design. It aims to set a precedent for eco-conscious design in the industry.

**Novelty** Eco-friendly materials drive sustainable designs

**Principal Investigator** Dr. Sukhvir Singh

**Student(s)** Mahima, Mehak Mittal



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# PROJECTS

Faculty of  
Physiotherapy  
(FPHY)

# DVT Protector



Project Id: 133

Stall Id: 089

**Abstract** The DVT Protector is a specialized device designed to prevent deep vein thrombosis (DVT) in at-risk patients. It employs intermittent pneumatic compression to stimulate blood flow in the lower extremities, reducing the risk of clot formation. The device features adjustable cuffs that wrap around the legs, inflating and deflating rhythmically to mimic natural muscle contractions. This enhances venous return and prevents blood stasis. The DVT Protector is particularly useful for individuals undergoing surgery, prolonged bed rest, or long-haul travel. Its ease of use and effectiveness in promoting circulation make it a valuable tool in DVT prevention and patient care.



**Novelty** Pneumatic compression technology to prevent deep vein thrombosis



**Principal Investigator** Dr. Priyanka Siwach

**Student(s)** Rahul, Parul, Himanshu, Khushi



DVT Protector





# Migra-Care



Project Id: 134

Stall Id: 090

**Abstract** Migra-Care is an advanced therapeutic solution designed to manage and alleviate migraine symptoms. This innovative device combines real-time biometric monitoring with targeted treatment options. It features sensors that track physiological markers associated with migraines, such as heart rate and brain activity. Based on this data, Migra-Care delivers personalized treatment through techniques like neurostimulation or biofeedback, tailored to the user's specific needs. The device aims to reduce the frequency and intensity of migraine attacks by addressing triggers and providing immediate relief. With its user-friendly interface and customizable settings, Migra-Care offers a proactive approach to migraine management and improved quality of life for sufferers.



**Novelty** Personalized migraine management to monitor targeted treatments



**Principal Investigator** Dr. Jaganjyoti Das

**Student(s)** Sweety, Suman, Laxmi, Girishika





# Amaze the Balance



Project Id: 136

Stall Id: 091

**Abstract** Amaze the Balance is an innovative training tool designed to enhance balance and coordination. It features a dynamic platform that responds to user movements, challenging the body to adjust and stabilize in real-time. The platform includes various settings and resistance levels to cater to different skill levels and therapeutic needs. It helps improve core strength, proprioception, and overall stability by engaging multiple muscle groups simultaneously. Ideal for athletes, rehabilitation patients, and fitness enthusiasts, Amaze the Balance offers a versatile and engaging way to achieve better balance and coordination. Its interactive design ensures a comprehensive and effective training experience.



**Novelty** Dynamic platform enhances balance and coordination with adjustable resistance



**Principal Investigator** Dr. Anushree Rai

**Student(s)** Annu, Palak, Jaskaran, Akansha





# Posture Correction Measuring Device

Project Id: 191

Stall Id: 092

## Abstract

A posture correction measuring device is an innovative tool designed to promote healthy body alignment and prevent musculoskeletal issues. Utilizing advanced sensors and technology, it accurately assesses an individual's posture in real-time, providing immediate feedback on alignment. The device often features a user-friendly interface that guides users through exercises and stretches to improve their posture over time. It can be worn discreetly throughout daily activities, making it convenient for both home and workplace use. By encouraging proper alignment, this device helps alleviate discomfort and reduce the risk of injuries. Additionally, it supports overall wellness, enhancing productivity and quality of life.

## Novelty

Real-time feedback device promotes healthy posture and prevents injuries

Principal Investigator Dr. Snigdha Tiwari

Student(s) Shubham Jain, Nikita Saini, Astha Mahajan





# Spinal Alignment Using LS Belt



Project Id: 087

Stall Id: 093

**Abstract** Spinal Alignment Using LS Belt is a novel approach to managing lumbar spine health. This device integrates a traditional lumbosacral belt with vibratory feedback technology. While the belt restricts lumbar mobility to prevent exacerbation of conditions like low back pain or post-surgery recovery, the vibratory feedback serves as a real-time alert system. It warns patients when they are engaging in activities that could compromise their spinal alignment. By providing immediate feedback, the LS belt helps users avoid movements that could lead to further injury or discomfort, supporting better adherence to rehabilitation protocols and enhancing overall spinal health.



**Novelty** Combines lumbosacral support with vibratory feedback for spinal health



**Principal Investigator** Dr. Renuka Jakhar

**Student(s)** Shreya, Hetal, Sim, Mohit





# Flexi Support Convertible Orthosis



Project Id: 131

Stall Id: 094

**Abstract** The Flexi Support Convertible Orthosis is a versatile, adaptive device designed to provide support and stability for various musculoskeletal conditions. Its innovative design allows for easy adjustments and customization, catering to individual needs. The orthosis can be converted between different forms, such as from a brace to a splint, depending on the level of support required. Made from lightweight, durable materials, it ensures comfort while maintaining effective support. The convertible nature of the orthosis makes it ideal for both rehabilitation and long-term management of injuries or chronic conditions. Its flexibility enhances patient compliance and promotes optimal healing and functional recovery.



**Novelty** Adaptive design offers versatile support and comfort for various conditions



Principal Investigator Dr. Aarti

Student(s) Aditi, Saloni, Aayushi





# New Device for Measuring Ankle instability



Project Id: 132

Stall Id: 095

**Abstract** The new device for measuring ankle instability is a cutting-edge tool designed to assess and monitor the stability of the ankle joint accurately. It utilizes advanced sensors and motion analysis technology to detect subtle changes in ankle stability during various activities. The device provides real-time feedback on joint movements, balance, and load distribution, which helps in diagnosing instability issues and tailoring personalized rehabilitation programs. Its user-friendly interface allows both patients and clinicians to track progress over time. This innovative tool enhances the precision of assessments, leading to more effective treatment plans and improved outcomes for individuals with ankle instability.



**Novelty** Advanced sensors provide precise, real-time assessment of ankle stability



**Principal Investigator** Dr. Siddhartha Sen

**Student(s)** Jyoti Ramani, Mahima Chaudhury, Shubham Pal





# VertiGaze Integrated Educational Model



Project Id: 088

Stall Id: 096

**Abstract** VertiGaze Integrated Educational Model is an advanced vestibular system designed for both educational and clinical use. Worn as a headband, it provides a practical tool for teaching and understanding vestibular functions. In an educational setting, it aids in demonstrating the mechanics of the vestibular system and its role in balance and spatial orientation. Clinically, VertiGaze is employed to diagnose and treat Benign Paroxysmal Positional Vertigo (BPPV). It integrates a high-definition camera to track and analyze the Vestibulo-Ocular Reflex (VOR), allowing for precise diagnostics and targeted treatment. This dual-purpose model enhances both learning and patient care in the realm of vestibular disorders.

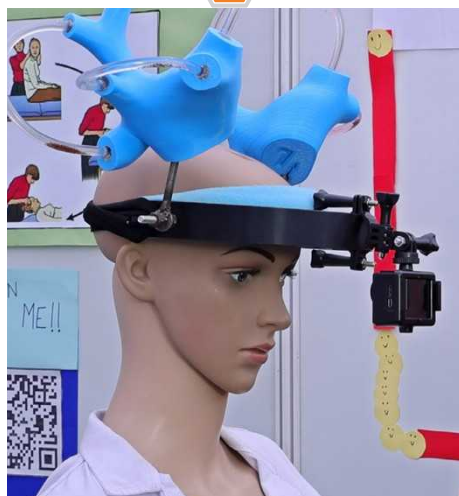


**Novelty** Dual-purpose headband aids vestibular education and BPPV treatment



**Principal Investigator** Dr. Vinika Chaudhary

**Student(s)** Himanshu, Sourav, Ritika, Anchal



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# Innovative Mobility



Project Id: 190

Stall Id: 097

**Abstract** Innovative mobility encompasses cutting-edge technologies and concepts aimed at transforming how people and goods move. This includes advancements in electric vehicles, autonomous driving, and smart public transportation systems that enhance connectivity and reduce environmental impact. Solutions like ride-sharing, micro-mobility options (such as e-scooters and bikes), and integrated mobility platforms are reshaping urban landscapes. Emphasizing sustainability, these innovations promote reduced carbon emissions and improved energy efficiency. Additionally, smart infrastructure and real-time data analytics enhance the user experience by providing seamless travel options. Ultimately, innovative mobility aims to create more accessible, efficient, and eco-friendly transportation solutions for everyone.



**Novelty** Transformative technologies enhance transportation efficiency and sustainability



**Principal Investigator** Dr. Neha Reyach

**Student(s)** Aaliya, Lakshay, Shivam, Avrajit





# Autophysio Gaming App: (Animated Exercise Protocol)



Project Id: 192

Stall Id: 127

**Abstract** The Autophysio gaming app revolutionizes physical rehabilitation by integrating animated exercise protocols into an engaging platform. Designed to motivate users, it transforms traditional rehabilitation exercises into fun, interactive gaming experiences. Users can follow animated characters demonstrating correct techniques, ensuring proper form and maximizing effectiveness. The app tracks progress, allowing users to set goals and receive personalized feedback, enhancing accountability. Additionally, it includes gamification elements such as rewards and challenges to keep users engaged and motivated. Suitable for all ages, this innovative tool not only aids in recovery but also promotes a more active lifestyle, bridging the gap between rehabilitation and play.



**Novelty** Interactive app gamifies rehabilitation, making exercises fun and engaging



**Principal Investigator** Dr. Sajjan Pal

**Student(s)** Rashmi, Nikki, Sania, Annpurna



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# Senso-bionic Hand



Project Id: 050

Stall Id: 128

**Abstract** Senso-Bionic Hand represents a significant advancement in prosthetic technology by integrating sophisticated sensory capabilities into a myoelectric prosthetic hand. Unlike traditional prosthetics that often lack precise movements and sensory feedback, the Senso-Bionic Hand is designed to provide users with a range of sensations, including thermal perception, proprioception, and kinesthesia. This innovation employs advanced sensing interfaces to detect and interpret the user's intended motions and the extent of movement, offering improved precision in task execution. By enhancing sensory feedback and motor control, the Senso-Bionic Hand aims to increase the efficiency of daily activities and reduce the risk of prosthetic damage, ultimately improving the quality of life for amputees.



**Novelty** Senso-bionic Hand advances prosthetic technology



**Principal Investigator** Dr. Pooja Bhati

**Student(s)** Aanchal Yadav, Himanshu, Isha, Saurav





# Aqua Podiatric Exercise Platform



Project Id: 135

Stall Id: 129

**Abstract** The Aqua Podiatric Exercise Platform is a unique rehabilitation tool designed for foot and ankle therapy. It combines the benefits of water resistance with a versatile exercise surface, providing a low-impact, high-efficiency workout. The platform features an adjustable water level, allowing users to tailor the resistance to their specific needs and capabilities. Exercises performed on the platform help strengthen foot muscles, improve balance, and enhance joint flexibility. The water environment reduces stress on the joints, making it ideal for individuals recovering from injuries or managing chronic conditions. With its ergonomic design and customizable settings, the Aqua Podiatric Exercise Platform supports effective and comfortable rehabilitation.

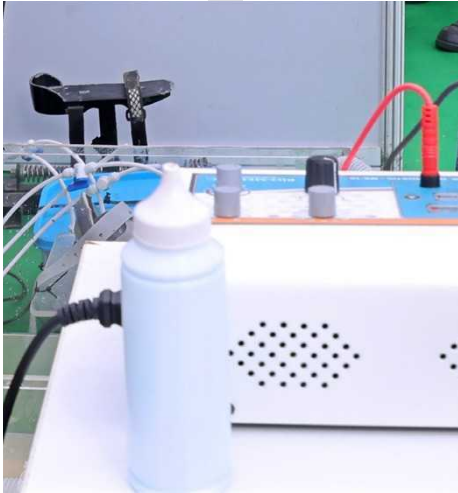


**Novelty** Water resistance and adjustable settings enhance foot and ankle therapy



**Principal Investigator** Dr. Himanshu Gakhar

**Student(s)** Kajal, Khushi, Kavik



# Move Max-Pro



Project Id: 178

Stall Id: 130

**Abstract** Move Max-Pro is a cutting-edge solution designed to optimize movement and enhance physical performance. Engineered with advanced materials and ergonomic features, it provides maximum comfort and support during high-intensity activities. Its lightweight design allows for improved agility, while offering durability for long-term use. Whether for athletes or fitness enthusiasts, the product aims to prevent injuries and promote efficient movement. With customizable settings, it adapts to individual needs, ensuring a tailored experience for each user. Move Max-Pro combines innovation and functionality, making it an essential tool for improving mobility and overall physical well-being.



**Novelty** Advanced ergonomic design to prevents movement injuries



**Principal Investigator** Dr. Saurabh Kumar

**Student(s)** Hemant, Bhanu







# PROJECTS

SGT College of Pharmacy  
(SGTCOP)

# Transdermal Patch Preparation

Project Id: 055

Stall Id: 017

**Abstract** Transdermal Patch Preparation involves developing a sophisticated delivery system designed to administer medication through the skin. This method allows for controlled, sustained release of therapeutic agents into the bloodstream, bypassing the digestive system and potentially reducing side effects. The preparation process includes formulating the active ingredient(s) with suitable polymers and adhesives, designing the patch to ensure optimal adhesion and drug release, and testing for stability and efficacy. Transdermal patches offer a convenient and non-invasive alternative for continuous drug delivery, improving patient compliance and therapeutic outcomes for various conditions such as chronic pain, hormone imbalances, or nicotine dependence.

**Novelty** Transdermal patches advance drug delivery

**Principal Investigator** Dr. Vaibhav Walia

**Student(s)** Sahil, Aastha, Priyakshi, Navya





# Visual Detection Kit for Adulterants in Food Material



Project Id: 054

Stall Id: 018

**Abstract** Visual Detection Kit for Adulterants in Food Material addresses the global issue of food adulteration, particularly in spices. This innovative kit allows users to quickly and easily assess the purity of food spices commonly used in daily cooking. Designed to be user-friendly and requiring no sophisticated instrumentation, the kit employs straightforward, rapid methods to detect adulterants. By providing a simple and accessible solution, it empowers individuals to ensure the quality and safety of their food, protecting consumers from the risks associated with adulterated products and promoting better health and dietary standards.



**Novelty** Visual kit enhances food safety



**Principal Investigator** Dr. Sonal Setya

**Student(s)** Abhay, Sanjana, Lakshay



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# Predict Abdominal Visceral Fat Level from WHR



Project Id: 053

Stall Id: 019

**Abstract** The Prediction of Abdominal Visceral Fat Level from Waist-Hip Ratio (WHR) is a healthcare project focused on developing a method to estimate abdominal visceral fat using the waist-to-hip ratio. Visceral fat, which accumulates around internal organs, is a significant risk factor for various health conditions such as cardiovascular disease and diabetes. By analyzing the waist-hip ratio, this project aims to provide a simple and non-invasive tool to predict visceral fat levels, potentially allowing for earlier detection and management of related health issues. This approach can enhance preventive healthcare measures, enabling individuals to monitor their risk more effectively and adopt healthier lifestyle choices to mitigate associated health risks.



**Novelty** Waist-hip ratio predicts visceral fat



**Principal Investigator** Dr. Ravi Kant

**Student(s)** Aarcha, Tokoteni





# Tinted Lip Balm for Pigmented Lips



Project Id: 052

Stall Id: 020

**Abstract** Tinted Lip Balm for Pigmented Lips is a specialized cosmetic product designed to address the concerns of individuals with naturally pigmented or discolored lips. This lip balm combines moisturizing and nourishing ingredients with a subtle tint, offering a dual benefit of hydration and enhanced lip color. Formulated with natural extracts and vitamins, it aims to improve lip texture and reduce the appearance of pigmentation over time while providing a soothing and protective layer. The tinted formula not only helps in evening out lip color but also adds a touch of elegance, making it a practical and aesthetic solution for achieving healthier, more vibrant lips.



**Novelty** Tinted lip balm improves lip health



**Principal Investigator** Ms. Nikita

**Student(s)** Albina, Kritika, Gajender



# Wound Healing Spray



Project Id: 051

Stall Id: 021

**Abstract** Wound Healing Spray is a cutting-edge healthcare solution designed to accelerate the healing process of wounds. This innovative spray utilizes a blend of advanced ingredients, including antimicrobial agents, natural extracts, and healing compounds, to promote rapid tissue repair and reduce the risk of infection. The spray is formulated to be easy to apply, providing a protective barrier over the wound while delivering therapeutic benefits directly to the affected area. By enhancing the body's natural healing mechanisms and preventing complications, the Wound Healing Spray aims to improve recovery times and support optimal wound care, offering a practical and effective solution for both minor and more severe injuries.



**Novelty** Wound Healing Spray advances recovery



**Principal Investigator** Dr. Manvi Singh

**Student(s)** Karan, Harshit





# AquaBliss



Project Id: 181

Stall Id: 022

**Abstract** AquaBliss is an innovative water purification system designed to provide clean and safe drinking water. Utilizing advanced filtration technologies, it effectively removes contaminants, bacteria, and impurities while retaining essential minerals. This system is user-friendly, making it accessible for households and communities seeking reliable water solutions. Its compact design allows for easy installation in various settings, from urban apartments to rural homes. AquaBliss promotes sustainability by reducing plastic waste associated with bottled water. Additionally, it features real-time monitoring to ensure optimal performance and water quality. By delivering fresh, purified water, AquaBliss contributes to improved health and wellness for users.

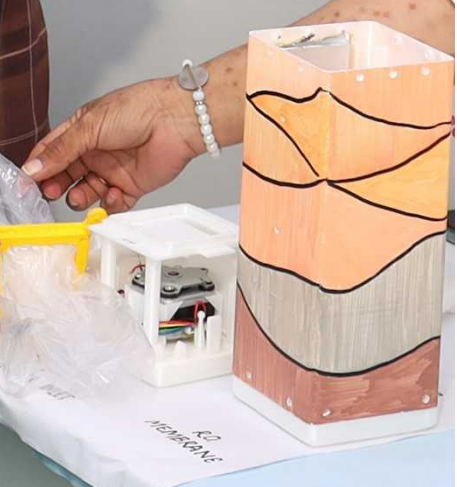


**Novelty** Revolutionary system ensuring safe drinking water through advanced filtration



**Principal Investigator** Dr. Sonika Shrivastav

**Student(s)** Dakshesh Goel, Aryan Saini, Mann





# Natural Edible Sources for pH detection



Project Id: 185

Stall Id: 023

**Abstract** Natural edible sources for pH detection provide a sustainable and safe alternative to chemical indicators. Fruits like blueberries, strawberries, and pomegranates contain anthocyanins, which change color based on pH levels, making them effective natural pH indicators. Additionally, turmeric, with its vibrant yellow hue, can indicate acidity when mixed with a solution, shifting to a reddish tint in alkaline conditions. These sources not only help in determining pH but also offer nutritional benefits. Utilizing edible pH indicators is particularly advantageous in food safety, education, and environmental monitoring. This approach promotes a greener chemistry practice while enhancing awareness of natural resources.



**Novelty** Edible pH indicators utilize natural sources for safe detection



**Principal Investigator** Dr. Avneet Kaur

**Student(s)** Vishnu, Sakshi, Anurag, Tanisha



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# Assessment: Marketed Herbal Formulation-Compliances



Project Id: 197

Stall Id: 024

**Abstract** The assessment of marketed herbal formulations for regulatory compliance is crucial to ensure safety, efficacy, and quality. It involves evaluating the ingredients, manufacturing practices, and labeling of herbal products against established regulatory standards. Regulatory authorities require thorough documentation and testing to ensure that herbal formulations meet safety guidelines. This not only protects consumers but also enhances the credibility of herbal medicine within the healthcare system. Furthermore, continuous monitoring and evaluation of these products promote innovation while maintaining public trust in herbal therapies. Ultimately, adherence to regulatory standards fosters a safer marketplace for herbal products.



**Novelty** Regulatory assessments ensure safety and efficacy of herbal products



**Principal Investigator** Dr. Runjhun Pallavi

**Student(s)** Bhushan Kumar, Swagat Meher, Yuvraj Kumar, Charanpreet Kaur



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# Corn Silk Fiber Tea for Urinary Tract Infection



Project Id: 186

Stall Id: 025

**Abstract** Corn silk fiber tea is emerging as a novel prophylactic for urinary tract infections (UTIs), harnessing the natural properties of corn silk. Rich in bioactive compounds, this herbal tea exhibits anti-inflammatory and diuretic effects that help flush out harmful bacteria from the urinary system. Its gentle, soothing properties can alleviate irritation in the bladder, promoting overall urinary health. Regular consumption may reduce the frequency of UTIs, particularly in susceptible individuals. Additionally, corn silk is known for its rich antioxidant content, supporting the body's immune response. This natural remedy offers a safe, accessible alternative to conventional treatments, encouraging holistic health management.



**Novelty** Herbal tea provides a natural preventive approach to urinary health



**Principal Investigator** Dr. Neelkant Prasad





# Phyto-pharmaceutical Slimming Detox Formulation



Project Id: 182

Stall Id: 026

**Abstract** This phytopharmaceutical slimming detox formulation combines natural plant extracts to promote weight loss and enhance detoxification. It leverages the power of herbal ingredients known for their metabolism-boosting and fat-burning properties, helping users achieve their weight management goals more effectively. Rich in antioxidants, the formulation aids in eliminating toxins from the body, supporting overall health. Additionally, it is designed to suppress appetite and reduce cravings, making it easier to maintain a balanced diet. The carefully selected herbs work synergistically to enhance energy levels and improve digestion. Safe and free from synthetic additives, this formulation offers a holistic approach to weight loss. Regular use can lead to sustainable results, promoting a healthier lifestyle.



**Novelty** Natural formulation combines detox and weight loss for holistic health



**Principal Investigator** Dr. Sonia Yadav

**Student(s)** Himanshi, Vishnu, Dushyant, Yugul



# Novel Portable Deodorant



Project Id: 183

Stall Id: 132

**Abstract** This novel portable deodorant redefines personal hygiene with its innovative design and effectiveness. Compact and lightweight, it easily fits into bags or pockets, making it perfect for on-the-go use. Formulated with natural ingredients, it provides long-lasting odor protection without harsh chemicals or aluminum. Its unique application method ensures even coverage while being gentle on the skin. The deodorant is also available in various refreshing scents, catering to different preferences. Eco-friendly packaging emphasizes sustainability, appealing to environmentally conscious consumers. This product not only enhances confidence but also promotes a healthier approach to body care, suitable for all lifestyles.

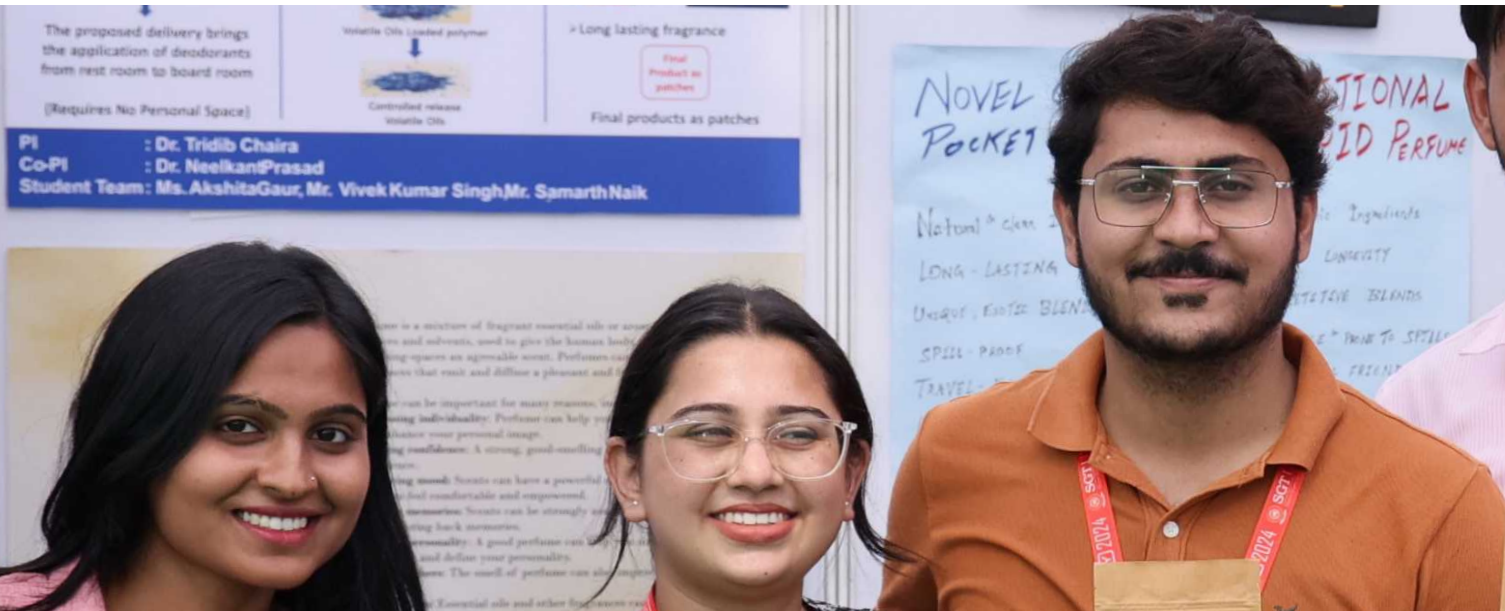


**Novelty** Innovative, eco-friendly design offers portable, effective odor protection



**Principal Investigator** Dr. Tridib Chaira

**Student(s)** Akshita Gaur





# Herbal Cream for Nasal Congestion



Project Id: 196

Stall Id: 133

**Abstract** This herbal cream for nasal congestion is a natural remedy designed to provide relief from blocked nasal passages. Formulated with a blend of essential oils, such as eucalyptus and peppermint, it helps to soothe inflamed tissues and promote easier breathing. The cream can be applied directly to the chest or around the nostrils, allowing the potent aromas to open up airways effectively. Unlike conventional medications, this herbal solution minimizes side effects and is suitable for all ages. Its moisturizing properties also help to alleviate dryness often associated with congestion. By harnessing the power of nature, this cream offers a safe and effective alternative for managing nasal congestion. Regular use can enhance overall respiratory health and improve comfort during cold and allergy seasons.



**Novelty** Natural remedy provides effective relief from nasal congestion symptoms



**Principal Investigator** Dr. Sudhir Mishra

**Student(s)** Bhavya, Mayank, Anupam



# Isolation of Silica from Agricultural Crop Residue



Project Id: 203

Stall Id: 203

**Abstract** Isolation of silica from agricultural waste, specifically parali or crop residue, presents an innovative approach to waste management and resource recovery. This process involves extracting silica from the leftover stalks of crops like rice and wheat, which are often burned, contributing to environmental pollution. The extraction typically includes methods like chemical leaching or mechanical processes to purify the silica. The resulting silica can be utilized in various applications, including construction, manufacturing, and as a filler in plastics and rubber. This approach not only promotes sustainability by reducing agricultural waste but also creates economic opportunities for farmers. Furthermore, utilizing parali for silica extraction contributes to a circular economy, encouraging the efficient use of resources while minimizing environmental impact.



**Novelty** Sustainable silica extraction from agricultural waste enhances resource recovery



**Principal Investigator** Dr. Mukesh Kumar Kumawat

**Student(s)** Talim, Sushma, Rajnish, Jaanvi







# PROJECTS

## Projects of Internal Quality Assurance Cell (IQAC)

# Quality@IQAC – a Transformation



Project Id: 204

Stall Id: 160

**Abstract** IQAC represents a transformative approach to enhancing educational standards within institutions. By focusing on systematic quality assurance, this initiative aims to improve teaching, learning, and administrative processes. It emphasizes the importance of regular evaluations, feedback mechanisms, and data-driven decision-making to foster continuous improvement. Workshops and training sessions are conducted to equip faculty and staff with the necessary skills to implement quality standards effectively. Additionally, the initiative promotes collaboration among departments to share best practices and ensure a unified approach to quality enhancement. Ultimately, Quality@IQAC seeks to create a culture of excellence that benefits Student(s), faculty, and the broader community, driving institutional growth and success.



**Novelty** Quality improvement in education standards



**Principal Investigator** Dr. Priyanka Rishi

**Co-PI** Prof. Susanta Kundu

**Members:** Anil, Vijay, Ansul, Swarsat, Sudhanshu, Vishal, Deepak, Ashish



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# PROJECTS

## Projects of National Reference Simulation Center (NRSC)



Project Id: 207

Stall Id: 162

**Abstract** IQAC represents a transformative approach to enhancing educational standards within institutions. By focusing on systematic quality assurance, this initiative aims to improve teaching, learning, and administrative processes. It emphasizes the importance of regular evaluations, feedback mechanisms, and data-driven decision-making to foster continuous improvement. Workshops and training sessions are conducted to equip faculty and staff with the necessary skills to implement quality standards effectively. Additionally, the initiative promotes collaboration among departments to share best practices and ensure a unified approach to quality enhancement. Ultimately, Quality@IQAC seeks to create a culture of excellence that benefits Student(s), faculty, and the broader community, driving institutional growth and success.



**Novelty** Quality improvement in education standards



**Principal Investigator** Ms. Annu





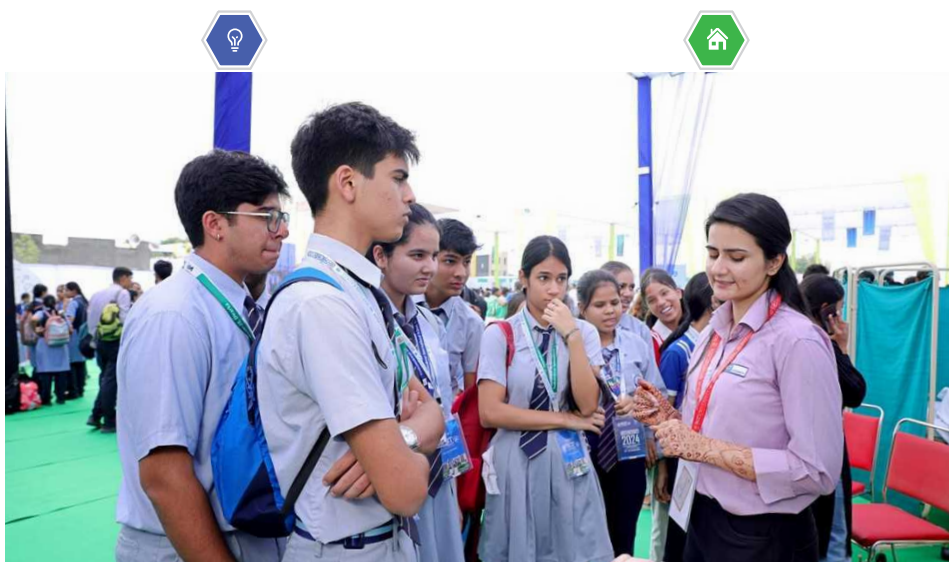
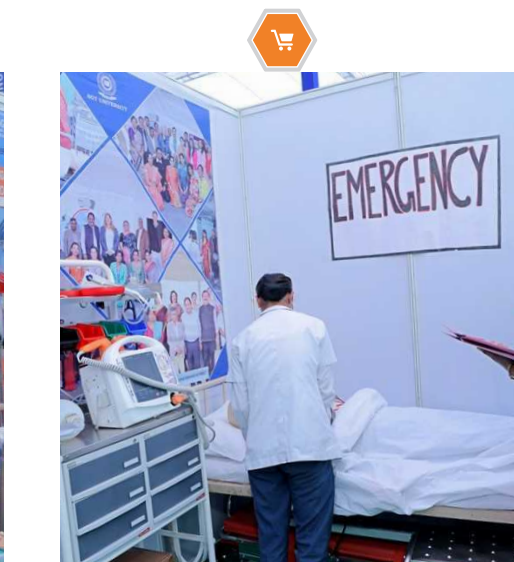
Project Id: 207

Stall Id: 163

**Abstract** IQAC represents a transformative approach to enhancing educational standards within institutions. By focusing on systematic quality assurance, this initiative aims to improve teaching, learning, and administrative processes. It emphasizes the importance of regular evaluations, feedback mechanisms, and data-driven decision-making to foster continuous improvement. Workshops and training sessions are conducted to equip faculty and staff with the necessary skills to implement quality standards effectively. Additionally, the initiative promotes collaboration among departments to share best practices and ensure a unified approach to quality enhancement. Ultimately, Quality@IQAC seeks to create a culture of excellence that benefits Student(s), faculty, and the broader community, driving institutional growth and success.

**Novelty** Quality improvement in education standards

Principal Investigator Ms. Annu





Project Id: 207

Stall Id: 164

**Abstract** IQAC represents a transformative approach to enhancing educational standards within institutions. By focusing on systematic quality assurance, this initiative aims to improve teaching, learning, and administrative processes. It emphasizes the importance of regular evaluations, feedback mechanisms, and data-driven decision-making to foster continuous improvement. Workshops and training sessions are conducted to equip faculty and staff with the necessary skills to implement quality standards effectively. Additionally, the initiative promotes collaboration among departments to share best practices and ensure a unified approach to quality enhancement. Ultimately, Quality@IQAC seeks to create a culture of excellence that benefits Student(s), faculty, and the broader community, driving institutional growth and success.



**Novelty** Quality improvement in education standards



**Principal Investigator** Ms. Annu







# PROJECTS

## Projects of Atal Community and Innovation Center (ACIC)

# Single Inline Filter Needle



Project Id: 210

Stall Id: 143

**Abstract** A solution to avoid glass residue in ampoule while opening, using this product. It also minimizes contamination risk, streamlines the process of opening and withdrawing content from ampoules.. The Healthcare Single Inliner Filter Needle is an innovative medical tool designed to enhance safety and efficiency in healthcare settings. This needle integrates a precision filter system, minimizing contaminants during medication administration. By effectively filtering out particulates and potential impurities, it aims to reduce patient risks and improve the reliability of intravenous treatments. Its sleek, single-liner design ensures ease of use and compatibility with existing medical devices.



**Novelty** Minimize glass residual injection injury



**Principal Investigator** Mr. Rishi

**Student(s)** Divyanshu, Rishu





# Herbal Face Mask

Project Id: 211

Stall Id: 144

**Abstract** Absorbing excess oil from skin, ideal for oily and acne prone skin, It detoxifies the skin for a clearer complexion, improving the skin tone. The Fuller's Earth Herbal Face Mask is a natural skincare solution developed to provide a comprehensive range of benefits for all skin types. Made by young innovators, this mask harnesses the power of Fuller's Earth and a unique blend of herbal ingredients to control excess oil, detoxify pores, gently exfoliate, and soothe the skin. It is crafted to balance skin hydration, improve overall skin tone, and deliver a radiant, refreshed look. This eco-friendly and chemical-free formula is designed to cater to individuals seeking effective, natural skincare solutions.

**Novelty** Let your skin recover shine

**Principal Investigator** Mr. Rishi

**Student(s)** Anjali, Anish



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# Healthcare Data Management



Project Id: 212

Stall Id: 145

**Abstract** Streamline medical records for hospitals in India by interoducing SEHAT ID Cards, allowing users to maintain their medical and health information. SEHAT ID centralizes patient data across all hospitals enabling seamless access to records.. The Healthcare Data Management aims to revolutionize patient record-keeping in Indian hospitals through the introduction of SEHAT ID cards. Similar in functionality to a PAN card but dedicated to healthcare, SEHAT IDs centralize patient data, allowing secure and easy access to medical histories across healthcare facilities. This initiative enables patients to seamlessly share their health information with doctors, streamlining consultations and enhancing the quality of care. The SEHAT ID system also promotes continuity in healthcare, as patients can carry their medical data to any registered hospital, improving overall efficiency.



**Novelty** Consult doctors seamlessly with easy access to records



**Principal Investigator** Mr. Rishi

**Student(s)** Harshit Khemani, Mohit Kumar, Suryansh





# Goat Milk Candies and Powder

Project Id: 214

Stall Id: 147

**Abstract** Deliver nutritious and natural goat milk products to the market to cater specific dairy needs of children, people with lactose tolerance and individuals recovering from dengue. The Goat Grace project by Joya Justa Pvt. Ltd. aims to extend the usability and accessibility of goat milk through innovative products like goat milk powder and candies. Recognizing the challenges of traditional goat milk, such as its short shelf life and limited availability, this initiative is designed to create shelf-stable, high-quality goat milk products that retain nutritional value. Goat milk powder and candies offer a convenient, long-lasting option, allowing consumers to enjoy the health benefits of goat milk anytime, anywhere. This project not only promotes sustainability but also supports local dairy farming communities by diversifying goat milk product offerings.

**Novelty** Promote local sustainable goat milk sources to the community

**Principal Investigator** Mr. Rishi

**Student(s)** Anjali, Anish



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# Snuggle Safe Temperature Blanket



Project Id: 216

Stall Id: 149

**Abstract** Ensure to maintain a consistent warmth, preventing hypothermia by enhancing parental confidence and ease of use. It also ensures to maintain a safe and stable body temperature, significantly reducing the risk of hypothermia. The nano particles in it reduces the presence of harmful germs, promoting a healthier environment for infants.



**Novelty** Consistent warmth with germ protection



**Principal Investigator** Mr. Rishi





# Valedictory Session

18 October 2024



# Guests and Dignitaries

## Valedictory Program - Guests of Honour

Ms. Harleen Kaur, IAS  
Special Secretary to Hon. Lieutenant Governor, Delhi

Sh. B R Sikri  
Chairman, Federation of Pharma Entrepreneurs (FOPE)





# *Valedictory Ceremony*



# Felicitation



Chief Guest

**Sh. Ramesh Juneja**

Chairman & Whole-time Director  
Mankind Foundation



Guest of Honour

**Mrs. Harleen Kaur, IAS**

Special Secretary to Hon'ble LG  
Raj Nivas, Delhi





# Awards - Schools



1



Gian Mandir Public School, Naraina Vihar, New Delhi: Project: Antimine Shoes



2



KG Sr. Sec. School, Gurugram: Project: Tech Bot Bin



3



RP Memorial Sr. Sec School, Uttam Nagar, Delhi: Project: Hydroponic Farming

# Awards - Schools: Appreciation



Lilawati Vidya Mandir Senior Secondary School,  
Shakti Nagar, Delhi  
Project: Home Shield



DAV Sr. Sec. School, Gurugram  
Project: Smart Bridge



Aakash Public School, Gurugram  
Project: Wireless Charger



Ganeshi Lal Hindu Public School, Rewari  
Project: Wireless EV Charging System



JNV Kaloi, Jhajjar  
Project: Computational Thinking  
(Daily Planner)





# Winners ... Healthcare



Faculty of Physiotherapy: Project: VertiGaze Integrated Educational Model



Faculty of Dental Science: Project: BioVibe Dentapatch



SGT College of Pharmacy: Project: AquaBliss



# Winners ... Healthcare...



Faculty of Medicine Health Sciences: Project: Modified Iris Retractor



Faculty of Naturopathy & Yogic Science: Project: HomeBased 5-Day Therapeutic Fasting Kit



Faculty of Physiotherapy: Project: Amaze the Balance



SGT College of Pharmacy: Project: Visual detection kit for adulterants in food material



# Winners ... Future Tech & Innovation



Faculty of Engineering and Technology: Project: Wireless Charging Station



Faculty of Applied and Basic Sciences: Project: Water-repellent for windscreens



ACIC & Faculty of Commerce and Management: Project: Startup Womenastico



## Winners ... Future Tech & Innovation



Faculty of Agricultural Sciences: Project: Summer sustainable Smart Bee Hive



Faculty of Allied Health Sciences: Project: Assistive Technology for the Visually Impaired



Appreciation

Faculty of Applied and Basic Sciences: Project: Nanosensors for Environmental Pollutant Detection



Appreciation

Faculty of Dental Sciences: Project: Lumi-Motion Headgear



# Winners ... Natural Resource and Sustainability



Faculty of Engineering and Technology: Project: Electrolyser for Hydrogen Production



Faculty of Allied and Health Sciences: Project: Enzymatic antibiotics cleanup in water



Faculty of Design: Project: Eco-stitch: Creating fashion through pattern engineering

# Winners ... Societal Development



1

Faculty of Law: Project: Preventing and Addressing Cyberbullying



2

Faculty of Medical and Health Sciences: Project: Laparoscopic Surgery in Abdominal Conditions



3

ACIC & Faculty of Nursing: Project: Startup Goat Grace



# Schools: Witnessing the 'Cornerstones'





*Schools: Inspired to push the boundaries !*





*It is rare when high expectations are met, but rarer when they exceed ...*

Synergy 2024 concluded as a rarer gel of technology, culture, ingeniousness, and creativity.

We thank all our Student(s), faculty members and staffs for their devotion and effort to the event.

Great things are not created alone, and you all added something special to the whole affair.

*Thank You!*





Synergy 2024 Souvenir

Design and Concept: Prof. Susanta Kundu, FEAT, IQAC

Coordination: Sarju Devi, L&D

Support: Vishal Tanwar, IQAC

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*Synergy ...  
Flowing Energy of Innovation*



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