

YOUNG INNOVATORS PROGRAM 2022



An Initiative by
Branding & Relations
Cell, IIT Kharagpur



BARC
Branding And Relations Cell

An initiative of Branding and Relations Cell,
Indian Institute of Technology, Kharagpur

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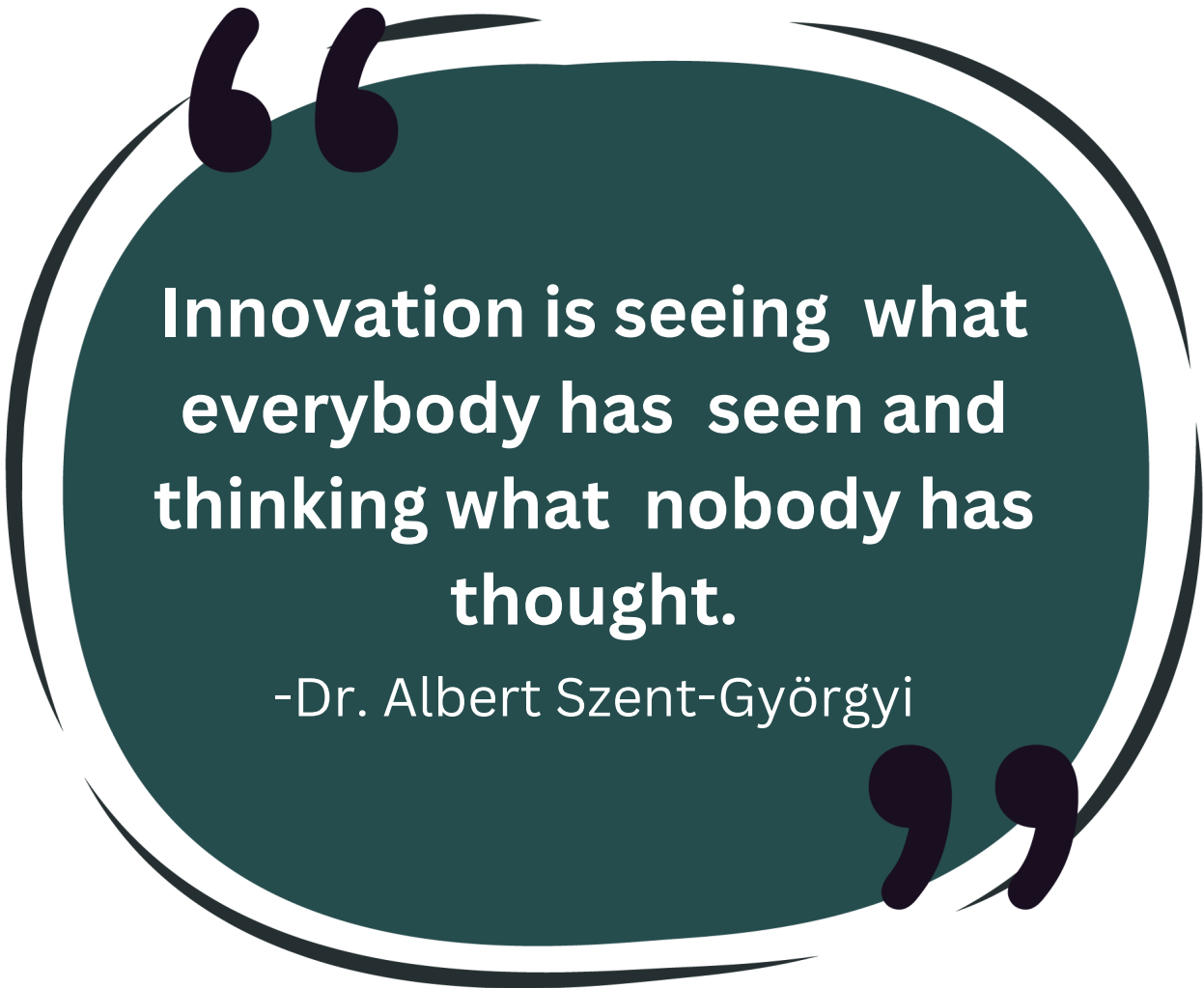
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STUDENT ZONE

Messages	2.
About YIP	8.
Rounds of YIP	9.
Selection Procedure of YIP	10.
Themes of YIP.....	11.
Previous YIP	13.
Winner And Runners Up	15.
An Experience of IIT KGP	20.
Lab Visit	23.
Campus Tour.....	24.
Teams.....	25.
Office Member.....	57.
Message From General Secretaries.....	58.
Team Members.....	59.
Corporate Sponsors	63.
Media Releases	65.



**Innovation is seeing what
everybody has seen and
thinking what nobody has
thought.**

-Dr. Albert Szent-Györgyi



MESSAGE FROM THE DIRECTOR

In the pursuit of knowledge and personal growth, it is essential to recognize the profound influence of imagination. Undoubtedly, acquiring facts and figures is valuable, but true learning goes beyond the accumulation of information. It is through the realm of imagination that we uncover the ability to connect these fragments of knowledge, thereby constructing a comprehensive understanding of the world around us. By embracing this holistic approach, we can truly claim to have learned something meaningful. At IIT Kharagpur, we take great pride in fostering an educational environment that extends far beyond the confines of the classroom. We believe in equipping our students with the tools to apply their knowledge in ways that make a tangible difference in their own lives and in society. It is with utmost pleasure that I commend the Young Innovators Program of IIT Kharagpur for their invaluable efforts in instilling critical thinking skills among school children.

Children possess a remarkable capacity of imagination, unburdened by the practicalities and limitations of adulthood. The Young Innovators Program serves as a catalyst, encouraging these young minds to harness their inherent imaginative abilities. Through this program, they learn to channel their imagination and transform their ideas into real-world solutions that impact not only their own lives but also the lives of those around them. By fostering a broader perspective and engagement with the wider community, the program cultivates a sense of responsibility and conscientiousness in these young learners.

As a community dedicated to excellence in education, it is our collective responsibility to nurture an environment that encourages imagination, critical thinking, and the pursuit of knowledge. Let us empower our students to transcend the boundaries of conventional education, inspiring them to embark on a journey of discovery, innovation, and purpose. Together, we can shape a future where intellectual growth and societal progress go hand in hand.

MESSAGE FROM THE DEPUTY DIRECTOR



India is the country of the youth where constant inventions from the remotest places, has the capability to address the challenges that the society faces today. The youth of this country are the inheritors of the Aspirational India who will take this country way forward on the path of Atmanirbhar Bharat. Nurturing and developing the young minds with a passion for Science and Invention, IIT Kharagpur launched the Young Innovators Program (YIP) 2022 on 5th September 2022 which aims to recognize the creative ability of students and ignite the innovation in their minds to work upon some of the really interesting real-world problems. I invite everyone to participate in this programme to promote the spirit of creation, innovation and inclusion. Students will also get the opportunity to interact with our esteemed professors and experience the first, largest, and most dynamic campus of IIT Kharagpur.

These promising minds bring new concepts and innovative ways of looking at problems which could lead to continuous flow of new knowledge, progressions and mindfulness. The Young Innovators Program is an attempt by IIT KGP to nurture an orientation towards scientific and technological innovation among the future generations. The young talents need to be prepared and encouraged towards understanding the challenges faced by the world and ideate practicable solutions. In the first edition of the event, we were happy with the notions put forward by these young minds.

The students qualifying for this event are extremely talented and we are glad to offer this platform to encourage their scientific pursuit. As we look around, we see happy, young thinkers everywhere, each of whom is a leader and an innovator. Through YIP, we aim at kindling that spirit of invention in these minds and enable them to think beyond uncertainties and obstacles. I congratulate the organizers of the programme for its grand success.



MESSAGE FROM THE DEAN, OUTREACH AND ALUMNI AFFAIRS

Through the Young Innovators Program, students are provided with a unique platform to unleash their creative potential and explore the boundless realms of problem-solving. They have been encouraged to think critically, and to seek innovative solutions to the challenges of our time. Witnessing their enthusiasm, their dedication, and their unwavering commitment to create a better future that fills us with immense pride and hope.

The impact of this program goes far beyond the development of technological prowess. It nurtures a mindset that embraces resilience, adaptability, and the courage to take risks. To our young innovators, we commend your passion, creativity, and perseverance. Embrace this journey of discovery and continue to push the boundaries of innovation, for it is through your remarkable endeavors that we will find solutions to the most pressing issues of our time.

In conclusion, let us celebrate the achievements of our Young Innovators Program and the profound impact it has had on our institution and beyond. Together, we will continue to nurture and inspire the next generation of innovators, empowering them to shape a brighter and more prosperous future for all.

MESSAGE FROM THE ASSOCIATE DEAN, ALUMNI AFFAIRS



Young Innovators Program at IIT Kharagpur has emerged as a prestigious national event for high school students. It serves as a platform to showcase the remarkable talent possessed by the young minds of our nation. These students demonstrate a remarkable capacity to think beyond the confines of traditional classroom teachings, presenting innovative ideas that address pertinent and significant challenges. The caliber of projects and exhibits presented by these young individuals surpasses their age and leaves us in awe. Their unwavering determination to stretch the limits of their imagination and make a meaningful impact on society is truly captivating.

I sincerely hope that this event will continue to succeed with each passing year, reaching people across our nation and even beyond. The growth and expansion of the Young Innovators Program will undoubtedly nurture and empower countless young minds, providing them with opportunities to showcase their talent, contribute to society, and inspire others with their visionary ideas.




MESSAGE FROM THE PROFESSOR-IN-CHARGE, BRANDING

As we reflect upon the transformative journey of the Young Innovators Program at our institution, we are filled with immense pride and gratitude. In just a few years, this program has blossomed into a national flagship event, showcasing the extraordinary talent and ingenuity of high school students across our country. It serves as a powerful testament to the boundless potential that lies within the young minds of our nation.

The projects and exhibits presented by these young innovators transcend their age, leaving us awe-inspired by their ability to think beyond the boundaries of conventional classroom teachings. Their innovative ideas, fueled by a desire to tackle real-world problems, have captivated our attention and reaffirmed our belief in the power of imagination. The dedication and enthusiasm displayed by these budding intellectuals are truly mesmerizing.

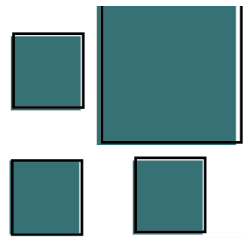
In conclusion, let us celebrate the profound impact of the Young Innovators Program and the extraordinary talent it has uncovered. Together, let us nurture and empower the next generation of innovators, as they pave the way for a more prosperous and sustainable future. With great pride and anticipation, we eagerly await the remarkable accomplishments that lie ahead.



**Don't underestimate the
creativity and ingenuity of
young minds; they have the
power to change the world
through their innovations.**

-Deutsch Telekom

ABOUT YIP



"Young Innovators Program is a platform to foster young minds with a passion for science. It engages the participants to provide technological solutions to the global challenges. The program is an initiative of IIT Kharagpur to recognize students with the creative affiliation to develop research based technology. Students from classes 8 to 10 participated in YIP 2022 and represented their ideas on diverse themes. YIP 2022 included three rounds. The first round was conducted in an online mode. The top 31 teams were invited to IIT Kharagpur for the 2nd and 3rd rounds, to demonstrate their design models in front of the distinguished faculty, guests and jury of the institute. The fourth edition of YIP was a huge success, reaching out to 1500+ schools and enlisting 3000+ students from all over the world.

YIP has become a renowned activity around the world as a youth driven competition that invigorates innovation. Teams from Denmark, Abu Dhabi, Singapore, Malaysia, and Saudi Arabia participated in YIP 2022. In the three-day visit to IIT Kharagpur, students got a chance to explore the unique academic culture, scientific environment and technological innovations of the institute.

ROUND 1

(5 Sept-7 Oct,2022) :

- Selection based on an abstract of the project submitted
- Selection criteria: Novelty, approach, and background of the project
- Model: Online Submission

STAGES OF THE EVENTS

ROUND 2

(21 Jan,2023):

- Selection based on model demonstration in front of judges and background research of respective projects.
- Selection criteria: Feasibility, frugality and working of the project.
- Model: Model demonstration at IIT Kharagpur

ROUND 3

(22 Jan,2023) :

- Selection is based on commercial feasibility assessment and the student's enthusiasm for bringing the idea to practice.
- Selection criteria: Business feasibility and presentation in front of the judges
- Model: Oral presentation at IIT Kharagpur

ROUND 1

01

The teams submitted an abstract of their project ideas and a brief on their scientific proposal based on the chosen theme. There were over 1000 submissions for the first round.

ROUND 2

02

A total of 31 teams were selected for round 2 of the Young Innovators Program 2022. The chosen teams were invited to IIT Kharagpur to demonstrate their projects. These projects were evaluated by IIT Kharagpur faculty based on their feasibility and sustainability

ROUND 3

03

The final round was an oral presentation round. The top 12 teams made detailed presentations and presented in front of the selected faculty from IIT Kharagpur. Based on the business feasibility of the projects, the top 5 teams were declared the winners of the Young Innovators Program 2022



THEMES

1

**Affordable
Healthcare**

2

**Robotics, Automation
& Application of AI**

3

**Advance Transportation
and Battery Management**





4

Renewable Energy & Environmental Stability



5

Food Security & Precision Agriculture

6

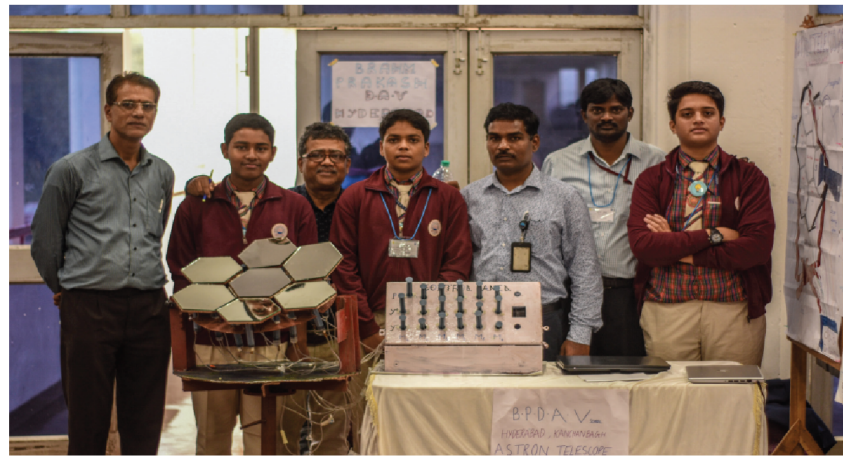
Digital Technology



YIP / 2018



YIP 2019



WINNER



TEAM XYLEM
BHARTIYAM INTERNATIONAL SCHOOL

1st RUNNER UP



TEAM PURE POWER
RIGDE VALLEY SCHOOL

2nd RUNNER UP



AGRICRAFT
WWA COSSIPORE ENGLISH SCHOOL

3rd RUNNER UP



AGNIMAA THE FUEL SAVER
SAGAR PUBLIC SCHOOL GANDHI NAGAR BHOPAL

4th RUNNER UP



TEAM ALSET
SANSKRITI THE GURUKUL

AN EXPERIENCE OF IIT KGP



**Team Xylem,
Winner of YIP 2022**

"We would like to appreciate the hard work and help provided by the BARC committee.

You guys really made our stay comfortable and memorable.
A big Thank you from our side."

**Aman Arora,
Bhartiyam International School**

"Thank you Team BARC, for organizing such a wonderful event. It was a learning experience for both the students and the mentors. You guys were available 24x7 to help us. I am sure you all must be very tired. Please take some rest. Thank you for your hospitality. Wishing you a greater success in future versions of YIP."

**Neelu Singh,
Ridge Valley School**



**Team Pure Power, 1st
runner up YIP 2022**



**AGRICRAFT, 2nd Runner Up
YIP 2022**

"The BARC team as a whole was fantastic. We appreciate the tremendous work of the student coordinators who made our stay meaningful. The exposure the students had would undoubtedly encourage them to pursue science at a higher level."

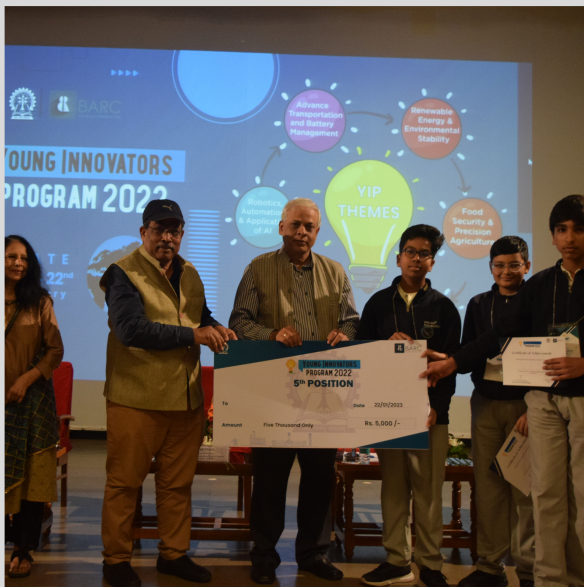
**Sayak Seal,
WWA Cossipore English School**

Going to IIT Kharagpur was like a dream come true for us. It was a wonderful experience being a part of the Young Innovator's Program. We were impressed by the campus' magnificence and amazed by its resources and labs. To extend their minds, more students should have the opportunity to experience the IIT environment. I want to express my sincere gratitude to IIT for inviting us to see their campus.

**Milan Mukherjee,
Sagar Public School, Gandhi Nagar**



**AgniMaa, 3rd Runner Up
YIP 2022**



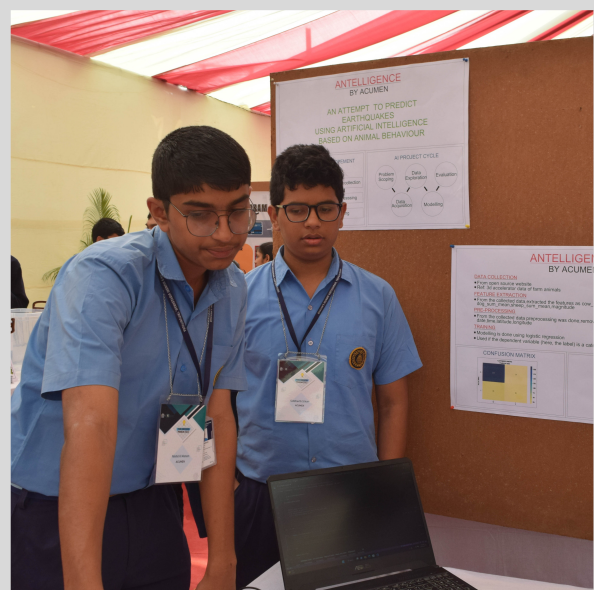
**Team ALSET, 4th Runner Up
YIP 2022**

“Kudos team BARC for hosting the event so seamlessly. Thank you all the student coordinators thank you for the excellent hospitality throughout the event. Team Alset and Well-Water are leaving with an enriching experience. Wish you all a very good luck.”

**Shammi,
Sanskriti - The Gurukul**

Thank you for the great exposure that our children got. They are really motivated to study in the top institutions in our country. Thank you for the support you have offered us from the time of round 1 selection.

**Srilekshmi,
Bhavan's Munshi Vidyashram**



Team ACUMEN

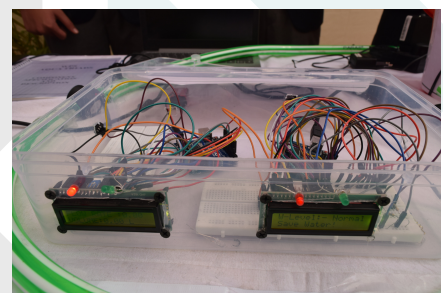
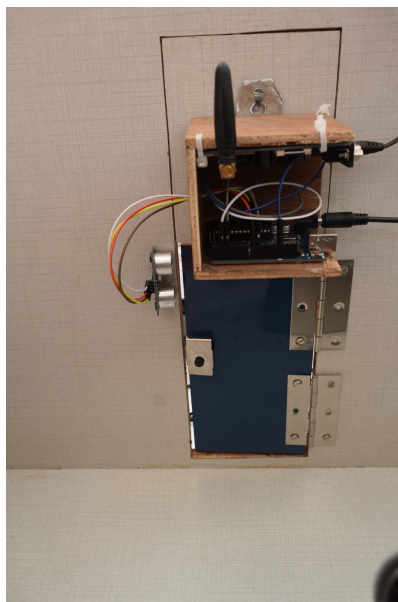
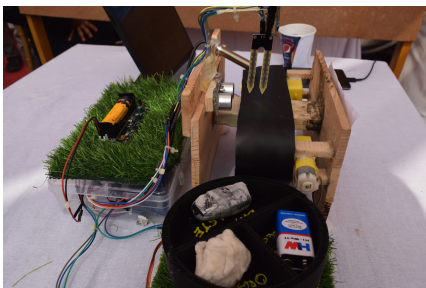
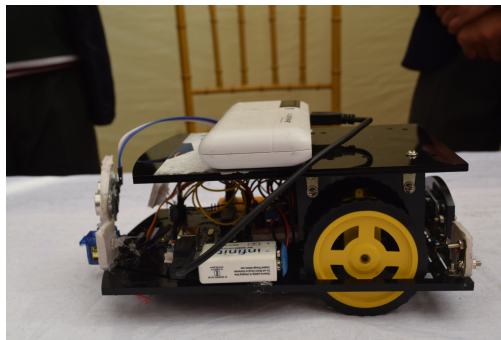
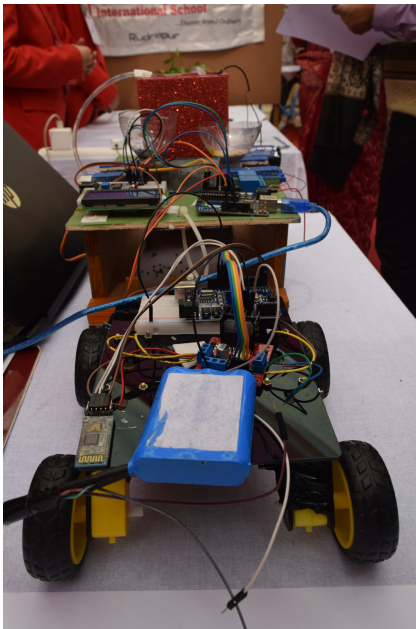
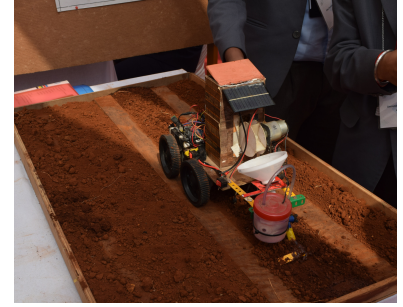
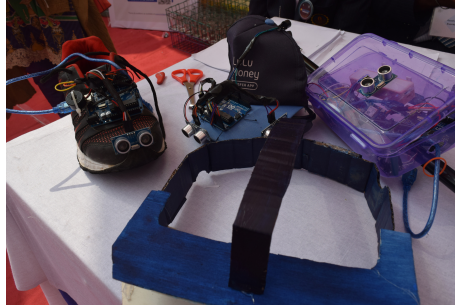
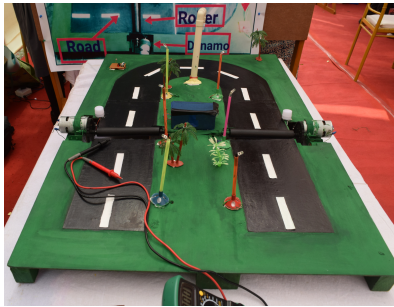
LAB VISITS



CAMPUS TOUR



PROJECT DEMONSTRATED AT YIP 2022





BHAVAN'S MUNSHI VIDYASHRAM

ACUMEN

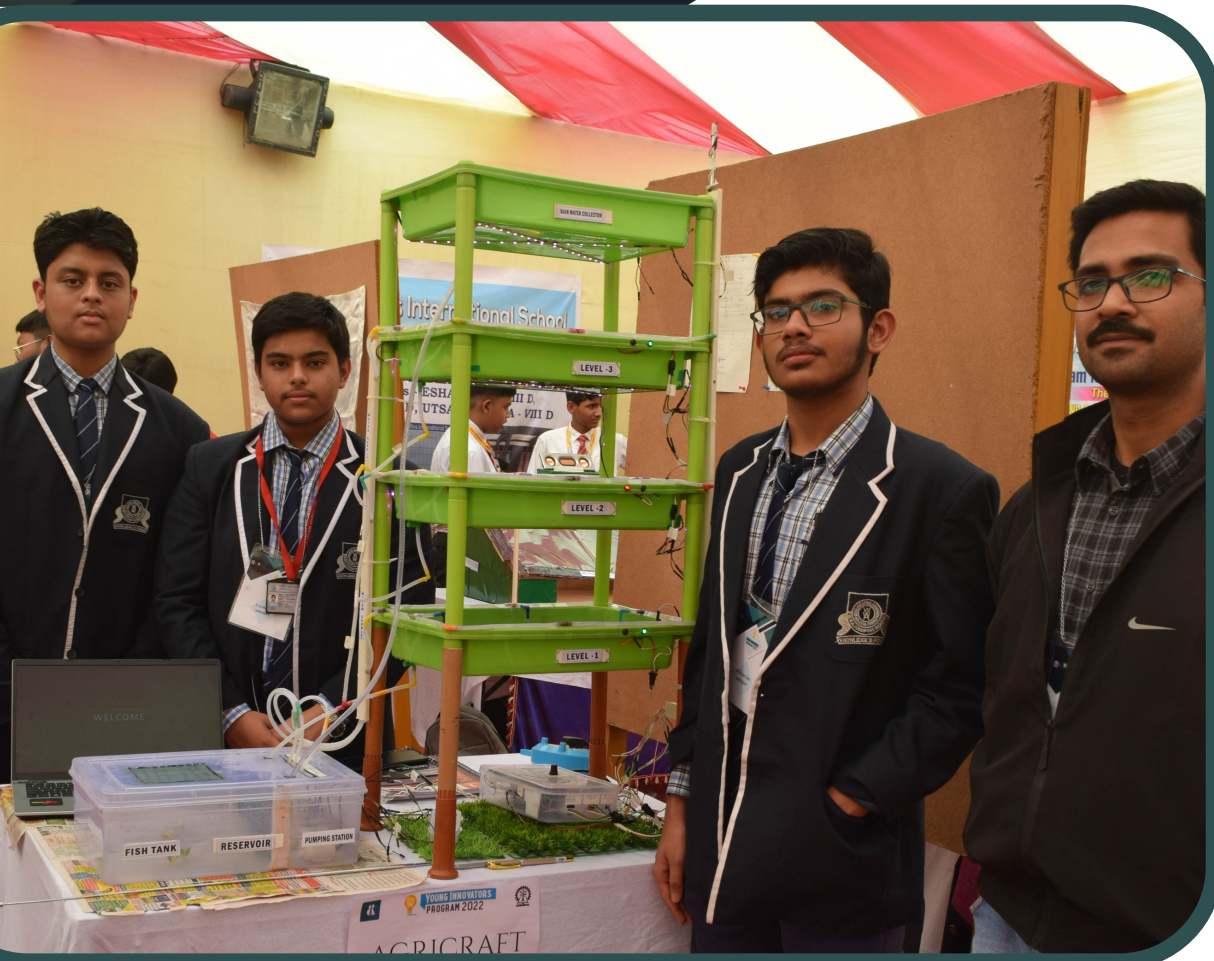
The project aims to detect natural disasters like earthquakes using animal intelligence rather than human intelligence to save human lives and avoid financial loss. The team made a machine learning model and trained it using data from earthquake-prone zones to explore the factors that animals utilize to sense an impending earthquake. The machine can forecast the probability of a disaster in the future once it has learned the data. The model used sensors to obtain parameters value from the environment and then performed tests on test data to find the model's accuracy. This model can be used in real life to predict future earthquakes and alert people.



SAGAR PUBLIC SCHOOL IN GANDHI NAGAR, BHOPAL

AGNIMAA

The team's model is based on utilizing heat energy via LPG. This project aims to maximize the utility of LPG. They employed the physics concepts of conduction and convection, which allows heat from one burner to be transported to another while also allowing us to use the excess heat to keep the food warm or cook it over a low flame. This model uses metal pipes, aluminum foil, metal sheets, and a gas stove, and it focuses on solving real-life problems at a minimal cost.



WWA COSSIPORE ENGLISH SCHOOL

AGRICRAFT

Based on the theme of 'Vertical Farming,' this team has made a model for moisture control of the soil and reusing the excess water of pisciculture. This concept sees the sprawling crop farms of old condensed into much smaller factory-like sites where conditions can be optimized and yields significantly increased. Facilities where crops can be produced in an enclosed environment, where almost every factor, ranging from lighting and ambient temperature to soil conditions and nutrients, are carefully controlled. The facility uses extensive vertical racking to optimize space, as compared to a conventional crop farm enabling it to be located on a far smaller site and much closer to an established urban area.



Bhavans R.K Sarda Vidya Mandir

ALGIAX

Using a machine learning algorithm, this team developed a lowcost, non-invasive, and highly effective technique to estimate the relative risk factor for fibromyalgia. This novelty will improve clinical etiology and contemporary diagnostics and change how we identify these terminators. The team made a web application called ALGIAX which uses an ML algorithm for assistance. The web application uses an image to evaluate the locations of pain and offers a questionnaire, each of which has a Relative Risk Value that the ML algorithm uses to determine the level of danger. As there are no research publications for the Relative Risk values of fibromyalgia, the team performed a study and utilized the retrospective data to discover the correlation and afterward compute the relative risk factor of fibromyalgia.



SANSKRITI - THE GURUKUL

ALSET

The team's main objective in creating this project was to categorize different waste types to recycle them efficiently. This is a helpful approach to problem-solving because it harms us when recyclable and non-recyclable waste is combined and burned in industries. Ecorage can separate wastes such as metal, organic, and many more types with the different types of sensors it employs. Inductive proximity sensors can detect metal trash without coming into contact with the object. Although organic materials typically retain moisture, soil moisture sensors monitor the water content to check for them. When ultrasonic sensors pick up on something, it's usually either plastic or wood because the other two sensors can't pick it up.



DR. VISHWANATH KARAD WORLD PEACE SCHOOL, PUNE

AQUA TRIADS

The team designed a water tracker to regulate water waste management and track water flow. The device measures the amount of water available and enables users to manage water usage in different locations and for different purposes. It alerts users when the water capacity reaches a pre-set limit, prompting them to adjust the water flow. This is achieved by utilizing water sensors to measure water volume and sending notifications through a GSM Module based on a user-set threshold value.



PARWATI PRERMA JAGATI SARASWATI VIHAR

ARSENIC

This team developed a hornless car to prevent accidents and reduce human effort. The car relies on the concept of hornless cars and utilizes an Arduino Uno. Team members got the motivation behind this project by researching the ratio of deaths due to car accidents in hilly regions and highways. The automatic car uses an ultrasonic sensor to detect approaching vehicles from behind when operating on a narrow road, particularly in hilly areas. If the sensor detects a car, the buzzer inside the car will activate, alerting the driver to the approaching vehicle and allowing them to take appropriate action to avoid an accident.



PRIVATE INTERNATIONAL ENGLISH SCHOOL

BRAIN WIZARDS

The motivation behind this project, is to provide access to technology to blind people. In this project, sensors are attached to glasses and shoes which detect barriers. A GPS module is used to track the location and sophisticated AI is used to help with object detection. The Arduino receives the signals supplied by the ultrasonic sensor, processes them, and then delivers the processed signals to the buzzer and vibrating motor that is linked to it. To alert the user to the obstruction, the buzzer emits sound, and the vibrating motor emits vibrations. This is also a cost-efficient product that makes the lives of blind people better.



BHARATIYA VIDYA BHAVAN'S R.K. SARDA VIDYA MANDIR

ENLIVEN TOMORROW

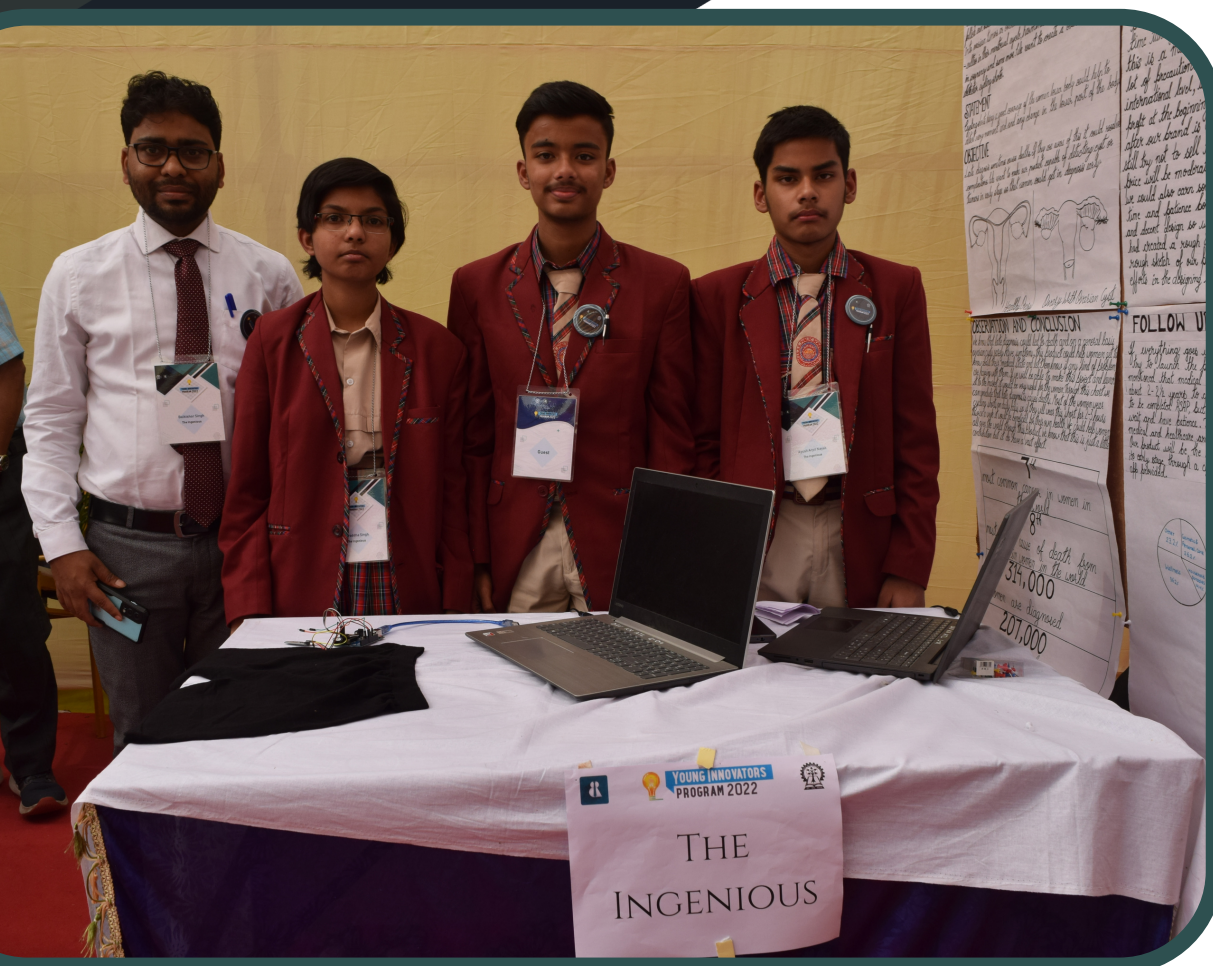
The project is centered on occupational and physical therapy provided for cerebral palsy management. The goal is to build a motorized device that will aid in treating joint contractures that appear in cerebral palsy and worsen with aging. The fundamental idea behind how the device operates is contraction and relaxation. It will feature a motor in the middle and two arms. Battery pack power will be used to move the motor. Two Velcro straps will be used to secure the device's outer arm to the patient's joint, and the second arm will be secured to the joint using the patient's other two Velcro straps. This will aid in reducing the joint contracture brought on by CP, ultimately increasing joint mobility.



BHAVAN'S BHAGWANDAS PUROHIT VIDYA MANDIR, NAGPUR

GARDEN SURVIVORS

According to this team, every fourth plant they saw dried up and eventually died. After surveying the apartment level, it was discovered that while individuals are eager to acquire plants, it is noticed that after a few days, they either lose interest in them or get busy. To solve this problem, this team made an automated plant waterer that is autonomous, fault-free of human error, cost-effective, and environmental friendly. The model is made using most of the household materials. It offers a remedy for the problem that affects most homes globally.



DAV PUBLIC SCHOOL KOYLA NAGAR DHANBAD

THE INGENIOUS

This team developed cycling shorts that could identify ovarian cysts and tumors, mainly developed in women's ovaries, which are located in the lower abdomen. Cycling shorts will aid in detecting cysts and tumors using a piezoelectric biosensor since they provide good coverage of the female lower body. Quartz crystals' mass changes when potential energy is applied to them. This change in mass results in a frequency that can be converted into a signal. With an app, this gadget will be linked to that specific person, alerting them if their body undergoes any changes. The body's temperature changes in ovarian cysts are measured via a calorimetric biosensor that rises as blood flow increases.



SRI SRI ACADEMY KOLKATA

KALPANA

Many women in India's rural areas suffer from gynecological and pulmonary conditions. Since women spend 85% of their waking hours in the kitchen, they are exposed to various emissions, including smoke and carbon emissions. These emissions and particulate matter enter these women's bodies and harm their health. These impacts include chronic coughing, breathing problems, irregular menstrual cycles, infertility, and long-term exposure may result in various malignancies. This team is creating a low-cost, simple-to-use circuit design that only discharges clean air outdoors after filtering out the emissions above. This will give the individual making the food, a better overall quality of life by preventing any substance from entering their body.



RIDGE VALLEY SCHOOL

PUREPOWER

This model allows for the generation of hydroelectric power using both water and wastewater from businesses. The model is entirely made from environmental friendly materials. We must utilize our current water supplies wisely because water shortage is on the rise. Pollution has increased as a result of our reliance on fossil fuels. The project combines these ideas, so that resource overuse no longer threatens our planet. It operates on the dynamo motor principle. Electricity is generated when water rotates a turbine connected to a dynamo motor. After that, salt is used to purify the water in a storage tank at the end of the trough, to eliminate contaminants.



D.B.M.S. ENGLISH SCHOOL

PRESERVER

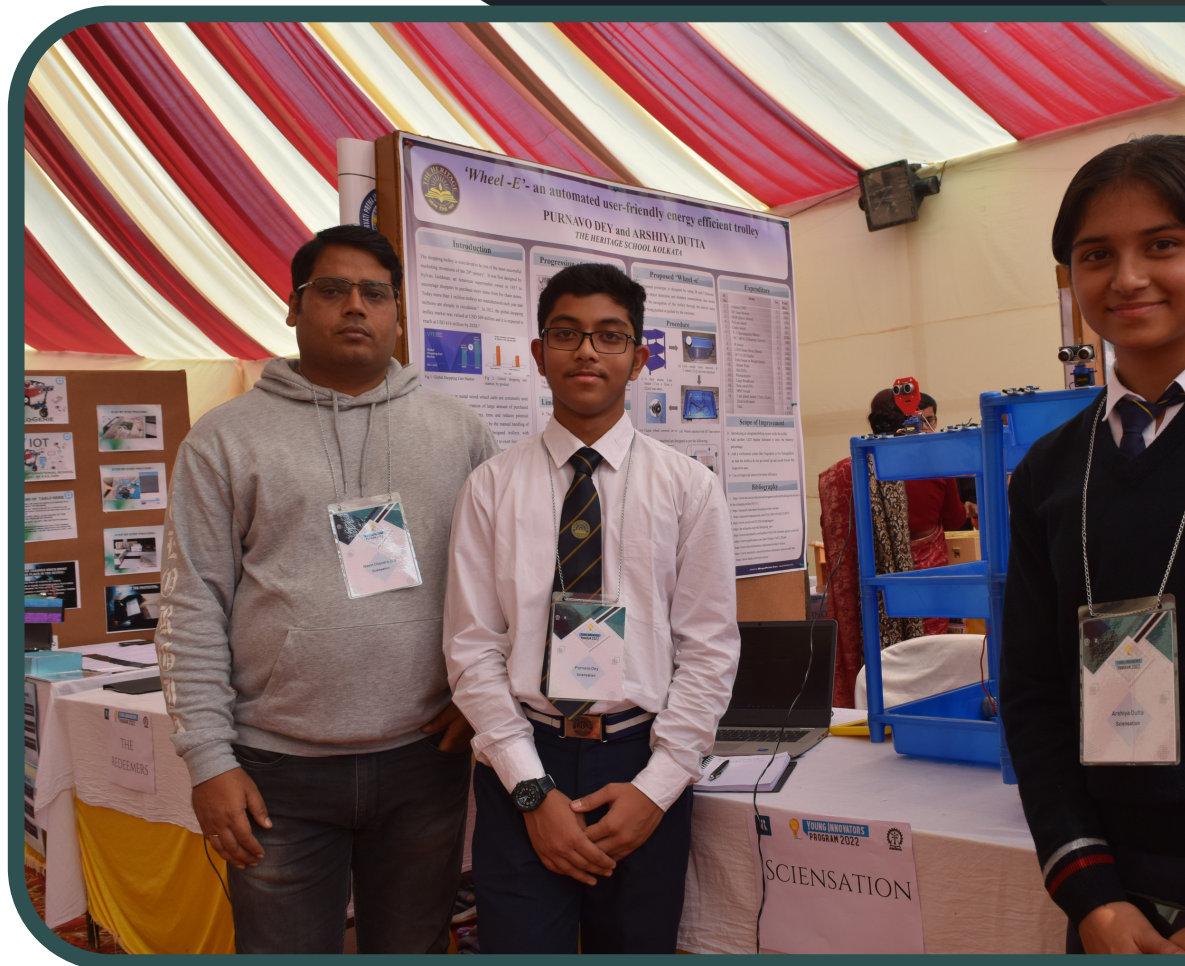
The team created an affordable, simple-to-install home security system for homes. The Arduino Uno has a Supersonic Sensor and voltage regulator connected to it. A SIM card is inserted into the GSM Module and connected to the Arduino. Arduino needs to be properly coded to ensure system functionality. The sensor and other components are made in a compact design that can be placed inside a container for circuit safety.



GRIFFINS INTERNATIONAL SCHOOL

ROBO PIRATES

This team made Smart Waste Collectors to eliminate the shortcomings of manual dustbins. This device is cheap, simple to install, and prevents waste and debris from spreading outside its confines. The dustbin features a door operated by a switch and UV LED lights to keep the collector clean. LCD screen is installed to display how much space is left inside a dustbin, and when the dustbin is full, it sends a cleaning request to the municipal body. Moreover, this collector uses solar power. The garbage that was lying around served as inspiration for this idea. The goal of this collector is environmentally clean planet.



THE HERITAGE SCHOOL, KOLKATA

SCIENSATION

The team developed a cost-effective, energy-efficient, human following safe shopping contactless trolley for the elderly, physically challenged, wheelchair-bound, pregnant women, mothers with young children, and people suffering from joint pains. The proposed prototype is built with IR and Ultrasonic sensors for object identification and distance measurement, making it easier for the trolley to move through the tight aisles without needing a consumer to push or pull it. The trolley will move once it detects a human. The sensor utilized for this prototype can detect any kind of item, including humans, and follow their movements. The force sensor aids in estimating the objects' weight and calculating the trolley's maximum load capacity.



GOSPEL HOME SCHOOL,

SCIMITAR

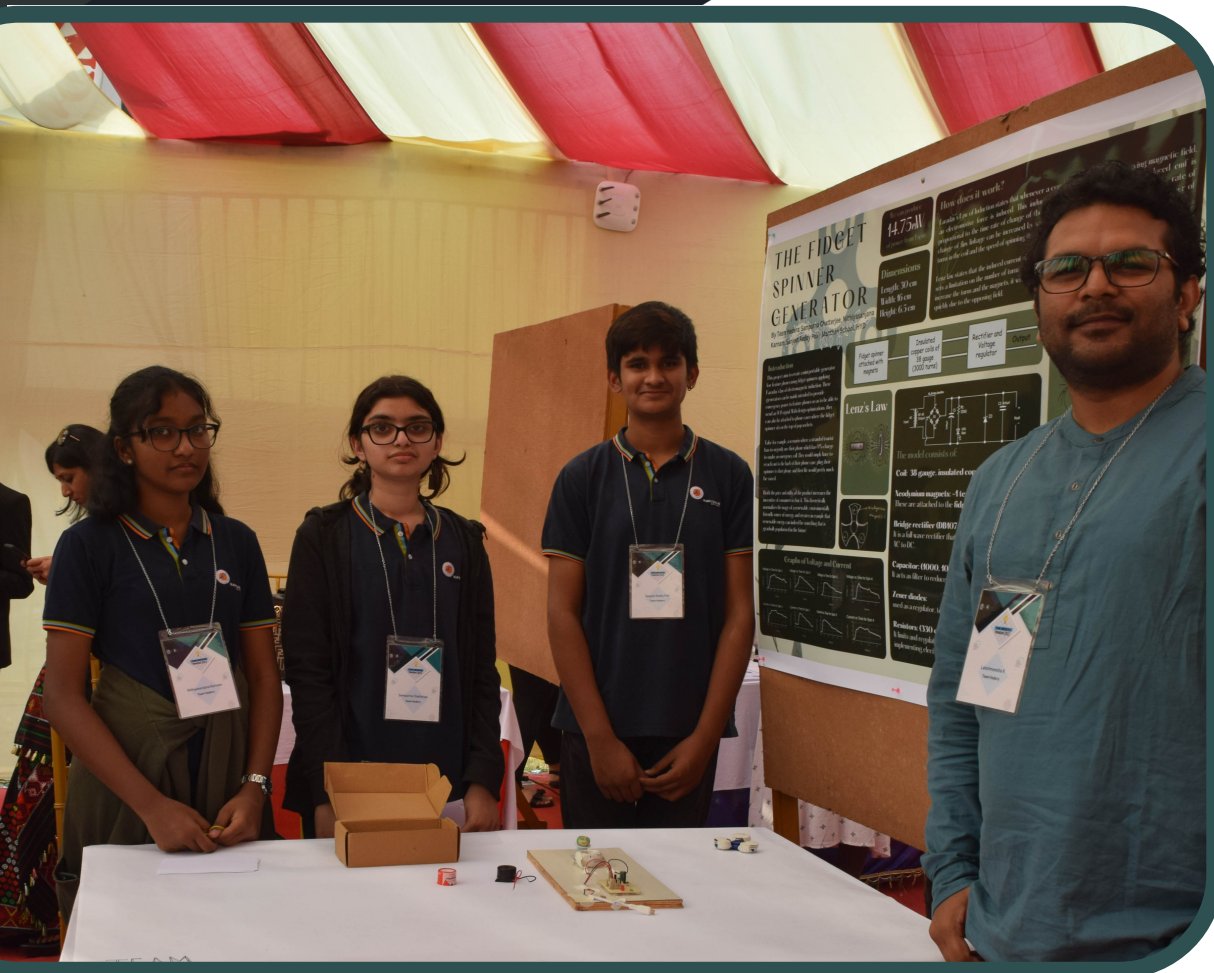
This team created a smart helmet employing cutting-edge IOT technologies. By adopting a smart helmet band, the issue of accidents due to the carelessness of drunken riders is effectively resolved. This smart helmet band's operation is straightforward; it has an alcohol sensor mounted in the driver's helmet close to the mouth, determining whether or not the rider is intoxicated. If the person is drunk or if the person is not wearing a helmet, the engine won't start. Technically referred to as an MQ3 sensor, the alcohol sensor finds ethanol in the air. A breathalyzer is placed close to the driver's mouth. The idea of a smart helmet band would make motorcycle driving safer than it was.



SARAF PUBLIC SCHOOL

SPS WARRIORS TEAM

The team has created an electricity generator that uses a speed breaker. The generator uses a DYNAMO roller to power street lights and stores the surplus electricity in rural areas. The generator works by harnessing the kinetic energy generated when a car drives over the roller, causing the dynamo to spin and generate electricity. The team's motivation for this project is to ultimately create a cost-effective and environmentally-friendly means of generating electricity. The project aims to develop cheap and pollution-free energy sources in the future.



MANTHAN SCHOOL

TEAM HEDERA

The team came up with an effective solution to an issue we see virtually every day, such as people who rush to an appointment while their phone is still not charged. This project aims to create renewable and rechargeable batteries by taking advantage of Faraday's electromagnetic induction law and using the simplistic means of fidget spinners and magnets as main materials. These batteries can mainly provide instant spurts of charge to phones. They can also be attached to phone cases, or in the form of pop sockets, for easy accessibility and transportation. With a portable USB and wire connected to the spinning battery, one has to simply plug the wire into their phone to use it. This cost-effective, sustainable, and efficient alternatives of mobile phone chargers can help create a difference.



THE HERITAGE SCHOOL

TEAM.ACE()

This team created a handcrafted braille keyboard to give visually impaired persons greater opportunities by enhancing their technological proficiency. Those who are blind or partially sighted can learn spelling and grammar because of braille and understand how text is organized on a page. The project works by using different resistor values for different keyboard keys. When pressed, the push buttons on each key having braille code on top cause a current to pass through the resistor. Arduino is coded with multiple conditional loops to check for each key. The Bluetooth speaker is attached to the keyboard and speaks out each letter as it is pressed. The body is entirely constructed of cardboard to make the model electrically safe.



BHARATIYA VIDYA BHAVAN'S PUBLIC SCHOOL (VIDYASHRAM)

TEAM-2

To assist students who miss classes, struggle to understand the material, or find it difficult to keep up with the teacher's explanations or notes, the team created the Teachers Assistant app. This robot converts explanations given by the teacher to text and records as files for the student's future reference. The team creates an app that converts speech to text and records the teacher's lesson using web speech recognition APIs. All transcripts generated by the Google cloud will be saved later on the local machine in the form of a file. The app has a function to save this as a file and also save it on Google Drive or some other cloud storage option. The app also has the functionality to send the file to any of the supplied email addresses.



TAGORE INTERNATIONAL SCHOOL, VASANT VIHAR

TEAM AAS

A serious threat to human health is posed by neurodegenerative diseases. In recent years, these age-dependent illnesses have become more common. This team made a project which can easily track the patient's movements and determine whether or not they are lost or missing. The Light-Dependant Resistor or LDR determines the user's position based on the LDR's resistance to the user's effort to exit. The buzzer is activated when the amount of light the resistor receives drops below a specific threshold. The system warns the carrier by using a buzzer and an LCD once the person leaves the defined area. Also, the person's precise location could be traced by connecting it to a GPS and a GSM.



THE ICONIC SCHOOL

THE ALTER RIDGE

The team developed a project aimed at reducing the weight of school bags for students. They devised a strategy to only take 8-10 pages from each subject textbook covered in school that day. These specific pages were then printed and brought to the classroom, resulting in a lighter load for students. The team also developed a strategy under which chapters over 20 pages would be divided into more manageable sections and spiral-bound appropriately. These techniques significantly lowered the weight of the students' bags and made it simpler for them to carry their essential materials.



DAV MODEL SCHOOL, IIT KHARAGPUR

TECHNO BLAZERS

This team made Smart Noise Controller as a solution to the issue of youngsters generating a lot of noise in their classes since there is no teacher present. It has a principal's room and two sample classrooms. Two sound sensors and two LCDs will be put inside the principal's room, and the Arduino and breadboard will be housed in a suitable location. Sound sensors measure noise produced in a class, and if that noise exceeds a specific permitted decibel level, the sound sensor should be able to transmit a signal to the linked LCD. The LCD will show the Principal the room number where the class makes excessive noise. Future plans call for adding IOT to alert the Principal's mobile device in real-time about the noisiest class and pleading with pupils to keep their voices down to preserve discipline.



PARVATI PREMA JAGATI SARASWATI VIHAR NAINITAL

THE REDEEMERS

The team suggested an AI and sensor-based model for automated irrigation systems. The motivation behind the model is the problems faced by farmers, like high irrigation costs and a decline in the water table. The model ensures that the water level is maintained and the plants receive the appropriate amount of water while preventing waterlogging. The team employed an Arduino UNO Board, an LCD Display, a Soil Moisture Sensor, Potentiometers, and a DC Motor to create this model.



TAGORE INTERNATIONAL SCHOOL, NEW DELHI

TIS-EOK

The team made Tablo-Genie, a voice-activated, line-following device with a notification system that helps users remember to consume their medications, fruits, and beverages on schedule. Many old or ill persons who are bedridden and unable to get up to pick up objects of daily use can use them. It includes four compartments for various things and medications, and each compartment's LEDs and buzzer will blink at different times of the day. It can be also utilized in hospitals and can hold a number of supplies. Future enhancements of the model include adding pop-up table elements, more features that allow for customization, and more compartments and divisions.



SANSKRITI THE GURUKUL

WELL-WATER

The team builds a model that can intricate a system to monitor several external factors significantly influencing a plant's growth. In the model, the primary device is fitted with soil moisture sensors, humidity sensors, water sensors, and temperature detection, which will monitor the amount of water in the soil, the temperature of the atmosphere, and the humidity of the air. By monitoring this data, the model will alert the farmer in case of any issue or abnormality. When and if the water level in the soil is low, drip irrigation will start automatically and provide the plant with the required amount of water. This will reduce the farmer's workload of watering the crops manually and save a large amount of water.



ST. XAVIERS ENGLISH HIGH SCHOOL

XAVIERS TEAM

The team developed EcoBot, an affordable robot that can handle the four essential farming tasks of plowing, seed sowing, land leveling, and water leveling. Arduino is connected to a smartphone using Bluetooth. At the bottom of the model, a plough is attached for ploughing, the tail is attached for leveling the ground, and the box for automatic seeding is attached. A water tank is attached for watering, which is pumped out using a water pump. This initiative aims to make farming more productive and farmers' lives easier.

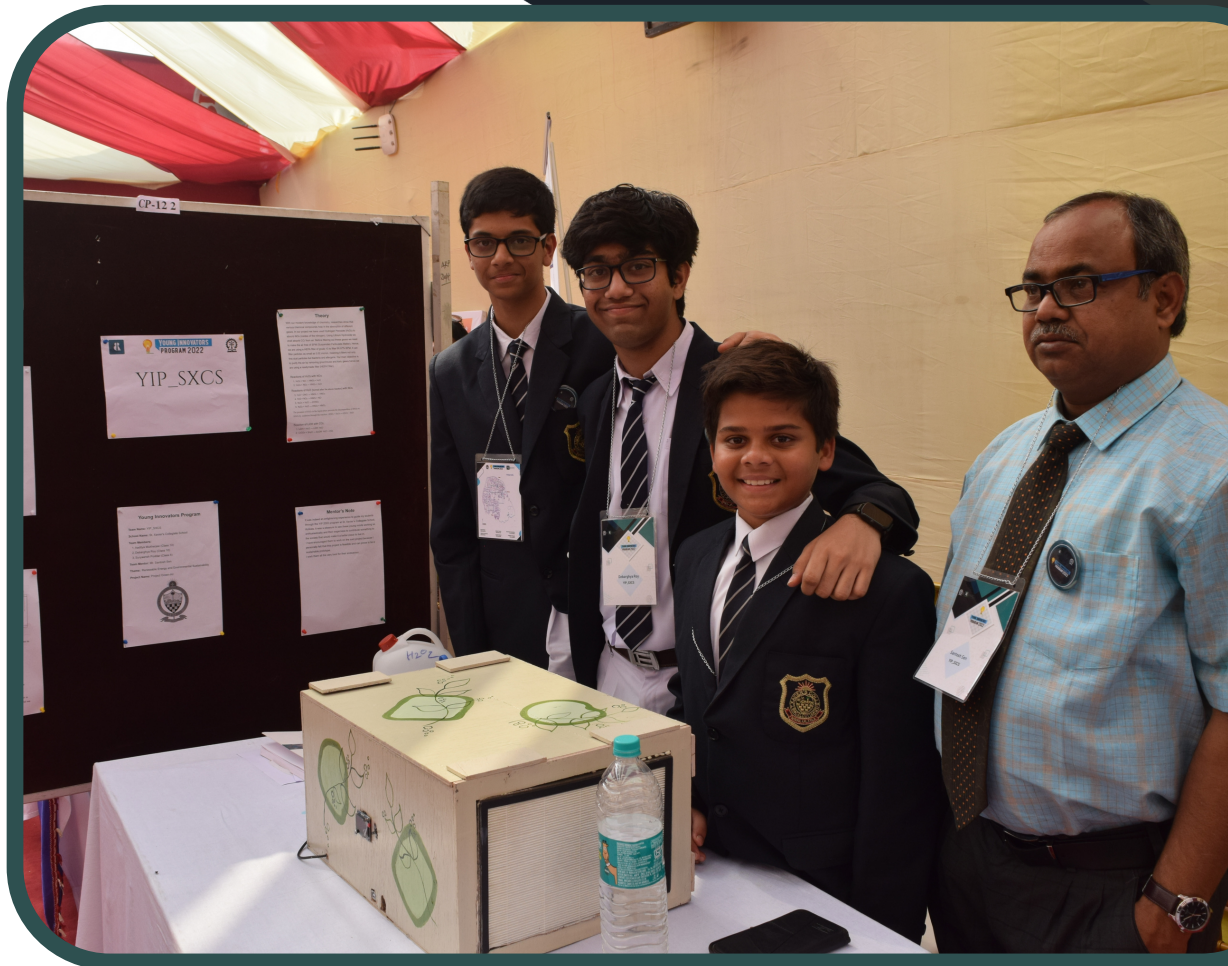


BHARTIYAM INTERNATIONAL SCHOOL, RUDRAPUR

XYLEM

The team created a robot vehicle to solve irrigation problems. The robot is connected to a pipe for water transfer and directly waters the plant roots, leading to a 230% increase in crop yield and conserving up to 70% of water compared to flood irrigation.


The robot has an Arduino controller and various electronic components such as a high RPM motor, a blade, a PIR sensor, a camera, Sprinkler Nozzles, motor drivers, and a Bluetooth HC05 module for remote control. The vehicle moves towards the plants and irrigates them efficiently through innovative technology.



SAGAR PUBLIC SCHOOL GANDHI NAGAR BHOPAL

YIP_SXCS

The team is a dedicated group deeply committed to addressing the escalating issue of air pollution resulting from urbanization and deforestation. Their primary goal is to devise small-scale, innovative solutions that can be readily expanded through the application of cutting-edge science and technology. Comprising passionate individuals with diverse backgrounds in environmental science, engineering, data analytics, and policy development, their collective expertise and unwavering resolve fuel their mission to combat air pollution. Ultimately, their aim is to create a cleaner and healthier world for all.



**Young minds see
opportunities where
others see obstacles, and
it is in those opportunities
that true innovation is
born.**

-J.K Rowling

OFFICE MEMBERS



Anirban Biswas



Prasenjit Banerjee



Alolika Mukherjee



Anamika Das



Sadhan Banerjee



Arnab Moitra



Suman Sutradhar



Soumitra Chowdhury



Rajesh Ghosh



Pravas Kar



Tapas Panda



Arkaprabha Pal

MESSAGE FROM GENERAL SECRETARIES



Devansh Srivastava



Abhinil Kumar

As the General Secretaries, we are thrilled to present this message, celebrating the exceptional achievements and remarkable journey of the Young Innovators Program.

The Young Innovators Program has been an extraordinary endeavor fostering innovation, and cultivating problem-solving skills among young minds. This program has served as a dynamic platform for high school students to unleash their potential, challenge conventions, and devise groundbreaking solutions to real-world problems.

Within the pages of this book, you will embark on a captivating exploration of the projects, and experiences of these young innovators. Their unwavering determination, resilience, and passion have propelled them to think critically, collaborate effectively, and embrace the transformative power of innovation.

To the young innovators who have participated in this program, we commend your vision, drive, and unwavering commitment to make a positive impact. Each project showcased within these pages is a testament to your exceptional talent, perseverance, and potential to shape a better future.

As you embark on new endeavors, we encourage you to embrace the spirit of innovation, continue challenging boundaries, and let your ideas soar. The world eagerly awaits the transformative contributions that you are destined to make.

To our esteemed readers, we invite you to immerse yourselves in the captivating narratives of these young innovators. In conclusion, we extend our deepest gratitude to all those who have contributed to the success of the Young Innovators Program. Your unwavering support and belief in the potential of young minds have paved the way for remarkable achievements. Together, let us continue fostering a culture of innovation, empowering the next generation of leaders, and shaping a future where creativity thrives.

BARC TEAM

OVERALL COORDINATOR



Yuvraj Gupta



Saamira Yasmin



Konda Jnanasree



Sai Manohar



Mahil Hussain



Rushi Yerawar

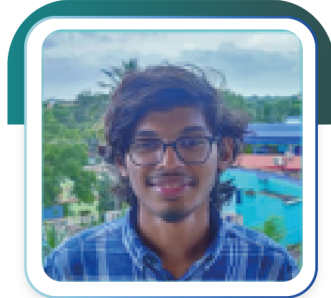


Anudeep Ramteke



Shivaay Dixit

GENERAL SECRETARIES



Devansh Srivastava



Abhinil Kumar

SENIOR COORDINATORS



Shashi Ranjan



Siddharth Ghankot

WEB & DESIGN COORDINATOR



Hariom Chaudhari

WEB COORDINATOR



Vidit Gupta

STUDENT MEMBERS



Aadit Shah



Abhishek Tiwari



Abhirup Pal



Aditya Sharma



Aishwary Patel



Ajay Biswas



Akash Burnwal



Ayush Sunil Munot



Bhumi Tayal



Bhoumik Mhatre



Komal Arya



Pahnabi Roy



Pratham Gupta



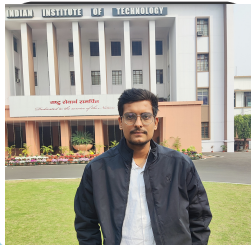
Sathwik Padigela



Sharansh Vardhan



Takshil Shah



Vishal Saraswat



Vishal Arya

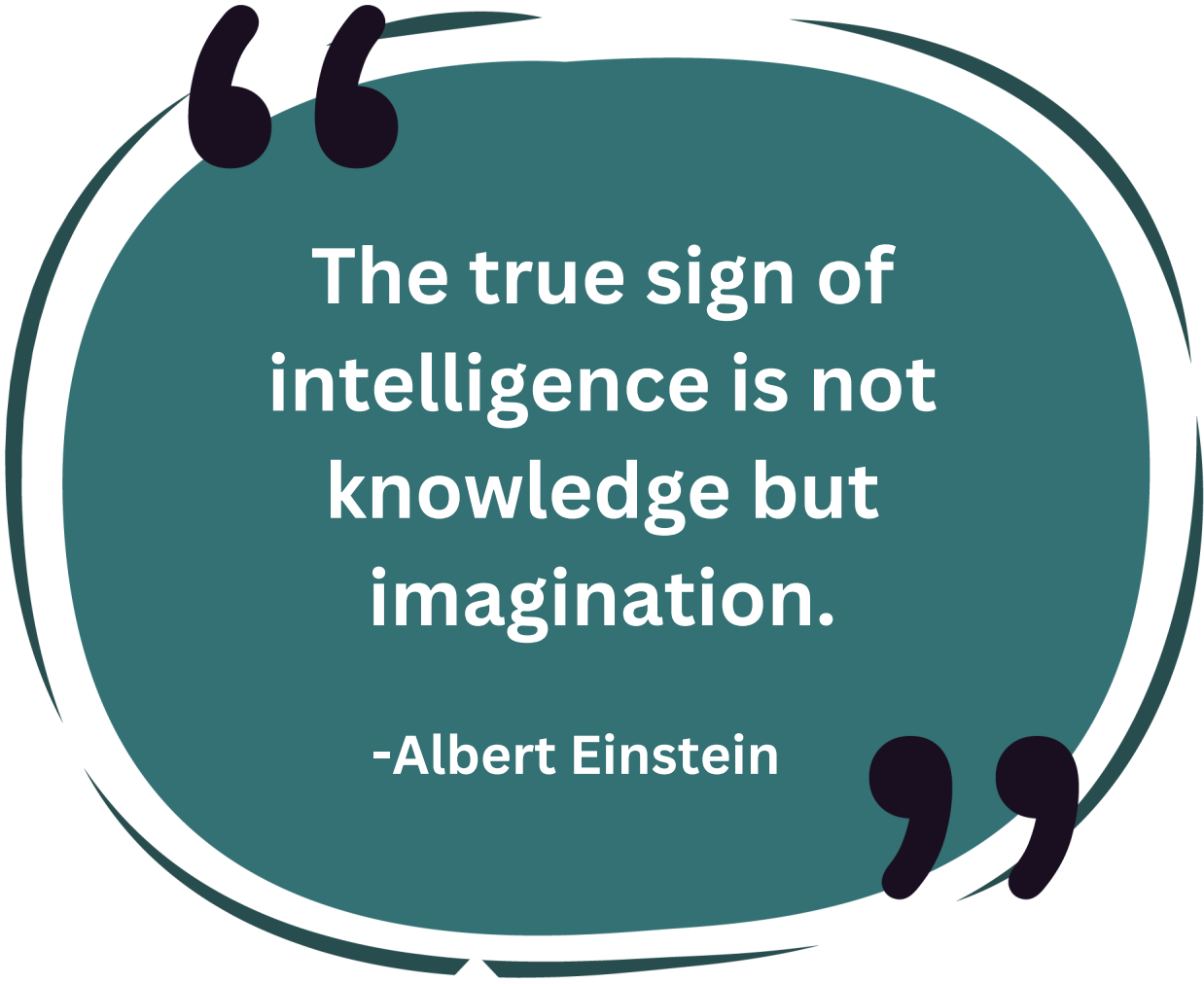
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**The true sign of
intelligence is not
knowledge but
imagination.**

-Albert Einstein

MEDIA RELEASES

IIT Kharagpur launches Young Innovators Programme 2022: Eligibility, how to apply, other details

IIT Kharagpur has launched the Young Innovators Programme 2022. Check out the eligibility, how to apply and other details here.



India Today Web Desk

New Delhi, UPDATED: Sep 3, 2022 20:37 IST



IIT Kharagpur has launched the Young Innovators Programme 2022. Check out the eligibility, how to apply and other details here.

-INDIA TODAY

IIT Kharagpur All Set to Launch This Year's Young Innovators Programme

PTI • Last Updated: SEPTEMBER 03, 2022, 12:25 IST • Kolkata, India



IIT Kharagpur will be launching the 'Young Innovators Programme' (YIP) 2022 on September 5 (File Photo)

Under this programme, students will get the opportunity to interact with distinguished professors and the first, largest, and most dynamic IIT campus.

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-NEWS 18



Dates announced for Rounds 2 and 3 of the Young Innovators Program-2022.

Young Innovator's Program is a platform to foster young minds with scientific enthusiasm and a credo to solve the problems facing the globe.



Young Innovators Program-2022 IIT Kharagpur

Sunil Shukla

-THE PUBLIC PRESS JOURNAL

16/01/2023

यंग इनोव्हेटर्स प्रोग्राम- २०२२ च्या २ आणि ३ च्या तारखा जाहीर

पेण, दि. १५ - ब्रँडिंग आणि रिलेशनस सेल, आयआयटी खरगपूर द्वारे यंग इनोव्हेटर्स प्रोग्राम-२०२२ च्या अंतिम फेरीच्या तारखा जाहीर करण्यांत आल्या आहेत. वायआयपी-२०२२ च्या फेरी २ आणि ३ आयआयटी खरगपूर येथे आयोजित केल्या जातील. जिथे संघ कॅम्पसमध्ये निवडलेल्या सर्व संघांना त्यांच्या कल्पना सादर करतील. हा आयआयटी खरगपूर कार्यक्रम आयसीआयसीआय बँक कॅम्पसमध्ये येण्याची व आणि इंडिजन द्वारे प्रायोजित केला हिरव्यागार विस्तीर्ण जात आहे.

वायआयपी-२०२२ ची होण्याची तसेच कॅम्पस पहिली फेरी पूर्ण झाली आहे. आणि मधील सर्व ऐतिहासिक पुढील फेरीसाठी निवडलेल्या संघांना ठिकाणे पाहण्याची आणि त्यांच्या फेरी २ आणि ३ त्यांच्या ती जाणून घेण्याची संधी निवडीबद्दल आधीच सूचित केले गेले देखील मिळणार आहे. यंग इनोव्हेटर्स प्रोग्रामच्या अंतिम त्याचा लाभ घ्यावा असे फेरी २० ते २२ जानेवारी २०२३ आवाहनही त्यांनी केले. दरम्यान आयोजित केल्या जातील.



अंतिम फेरीसाठी

-DAINIK JAGRAN

IIT Kharagpur launches Young Innovators Programme 2022 for school students

IIT Kharagpur: The YIP 2022 will promote a culture of innovation, science among school students studying in classes 8 to 10.



Ishaan Arora | Sep 2, 2022 - 6:16 p.m. IST

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NEW DELHI: The Indian Institute of Technology (IIT) Kharagpur on Friday announced the launch of the Young Innovators Programme (YIP) 2022, a programme which aims to recognize the creative ability of school students studying in classes 8 to 10. The registration for the first round of YIP starts on September 5. Interested students can apply at yip.iitkgp.ac.in.

-CAREERS360



-SADHNA PLUS NEWS



Lake city News

11 January at 20:22 ·

यंग इनोवेटर्स प्रोग्राम-2022 के राउंड 2 और 3 के लिए तारीखों की घोषणा

खड़गपुर. ब्रांडिंग एंड रिलेशनस सेल, आईआईटी खड़गपुर द्वारा आयोजित यंग इनोवेटर्स प्रोग्राम 2022 के फाइनल राउंड की तारीखों की घोषणा कर दी गई है। YIP-2022 के राउंड 2 और 3 का आयोजन IIT खड़गपुर में किया जाएगा, जहाँ टीमों के पास में अपने विचार प्रस्तुत करेंगी। इस कार्यक्रम को आईसीआईसीआई बैंक और इंडिजीन द्वारा प्रायोजित किया जा रहा है।

YIP-2022 का राउंड 1 पूरा हो चुका है, और आगे के राउंड के लिए चुनी गई टीमों को पहले ही राउंड 2 और 3 के लिए उनके चयन बारे में सूचित कर दिया गया है। यंग इनोवेटर्स प्रोग्राम के फाइनल राउंड 20 से 22 जनवरी, 2023 तक आयोजित किए जाएंगे। फाइनल राउंड के लिए चुनी गई सभी टीमों को आईआईटी खड़गपुर परिसर में आने और हरे-भरे विशाल परिसर को देखने और परिसर के सभी ऐतिहासिक स्थानों को देखने और जानने का मौका मिलेगा।

-LAKE CITY NEWS

IIT Kharagpur announced dates for Rounds 2 & 3 of the Young Innovators Program-2022

pt PunjabTimes Special



Dates announced for Rounds 2 and 3 of the Young Innovators Program-2022. The dates for the Final rounds of the Young Innovators Program-2022 have been announced. Rounds 2 and 3 of the YIP-2022 will be organized at IIT Kharagpur, where the teams will present their ideas on campus. The event is being sponsored by ICICI Bank and Indigene. The Round 1 of YIP-2022 has been completed, and the teams selected for the further round have already been informed regarding their selection for Rounds 2 and 3. The final rounds of the Young Innovators Program will be held from January 20 - 22, 2023. All the teams selected for the final round will get a chance to come to the IIT Kharagpur campus and witness the lush green vast campus, and get to see and know all the historical places of the campus.

For more information visit - <https://yip.iitkgp.ac.in/>

- Ajay Biswas, Student Member
Branding and Relations Cell, IIT Kharagpur
Contact No. : 7008454709

-PUNJAB TIMES

IIT Kharagpur all set to launch this year's Young Innovators Programme

PTI 2 September, 2022 07:01 pm IST



Text Size: A- A+

Kolkata, Sep 2 (PTI) Indian Institute of Technology, Kharagpur, will be launching the 'Young Innovators Programme' (YIP) 2022 on September 5 to promote a culture of innovation among students in science and technology at a very early stage of their academic journey. The platform had been introduced by IIT Kharagpur in 2017 to identify and motivate students towards creative aptitude and research acumen, the premier institute said in a statement Friday.

Deputy Director, IIT Kharagpur Prof. Amit Patra said "The youth of this country are the inheritors of the aspirational India who will take us forward on the path of 'Atmanirbhar Bharat'. I invite everyone to participate in this programme to promote the spirit of creation, innovation, and inclusion." Under this programme, students get the opportunity to interact with distinguished professors and experience the first, largest, and most dynamic IIT campus, he said.

The competition aims to recognize the creative ability of school students studying in Classes 8-10, the release said.

-THE PRINT

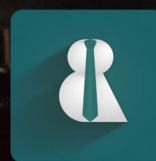
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