

Editorial



"From the innovations, we could see the predilection of the students towards science and technology.

A visit to IIT Kharagpur served instrumental in amplifying the enthusiasm of the students towards scientific research."

Aman Verma
Industrial and Systems Engineering
Indian Institute of Technology,
Kharagpur



"We were flabbergasted by the innovations, the students came up with. This clearly shows the zeal of the students towards building the India of our dreams. Indeed YIP is going to serve a great platform for young minds all set to change the world."

Piyush Nanda Biotechnology

Indian Institute of Technology, Kharagpur



Shashwata Mondal
Computer Science and Engineering
Indian Institute of Technology,
Kharagpur



Debasmita Das Textile Design National Institute of Fashion Technology Bhubaneswar



Toshant Kamle
Aerospace Engineering
Indian Institute of Technology,
Kharagpur





IIT Kharagpur Young Innovators' Program 2017

PATRON:

Prof. Siddhartha Mukhopadhyay, Dean Alumni Affairs & International Relations Prof. Baidurya Bhattacharya, Associate Dean Alumni Affairs & International Relations

BRANDING AND RELATIONS CELL TEAM:

Souvik Bhowmik Debanjan Nayak Aman Verma Simran Garg Piyush Nanda Vaibhav Agrawal Swadha Gupta

ADVISORY COMMITTEE:

Prof. Kingshook Bhattacharya Prof. Arindam Basu

OFFICE EXECUTIVES:

Dipanwita Chakraborty Shreyoshi Ghosh Pushkar Srivastava Abhinav Kumar Chandana Chakraborty

JUDGES:

Prof. Vikranth Rachela Prof. Chirag Deepak Kalelkar Prof. Sudeshna Mirta Prof. Ramkrishna Sen

Prof. Prabodh Bajpai Prof. Debabrati Sen

Prof. Anandroop Bhattacharya

SUPPORT TEAM:

Prasenjit Banerjee Sadhan Banerjee Anand Shankar Pravas Kar Tapas Panda

ADDRESS:

Office of Alumni Affairs & International Relations, IIT Kharagpur, Pin - 721302

WEBSITE: www.iitkgp.ac.in

EMAIL: barc@iitkgp.ac.in





Partha Pratim Chakrabarti Director

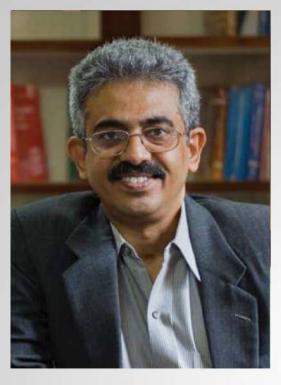
IIT Kharagpur

Youth is the harbinger of future creations and what better place it could be to foster and nurture the young talents of India than IIT Kharagpur, which we proudly call mother, of IIT system, a vibrant, grand institution known for its exemplary research by its faculty alumni and students. We may not be able to teach every young talent of India, but we can encourage their scientific creativity. We are glad, through the IITKgp Young Innovators' Program we are able to bring this opportunity to the senior students from schools all over India.

May you lead India far into the futuristic world!

Email: director@iitkgp.ac.in





Siddhartha Mukhopadhyay

Dean,
Alumni Affairs and International Relations
IIT Kharagpur Email: deanaa@hijli..itkgp.ernet.in

We have an ambition, to touch the lives of every Indian following the motto of the Institute, 'in service of the nation'. Our academics have offered the country some of the best minds with notable contributions. Our research activities have garnered national and international recognitions for cutting edge scientific research, public welfare and sustainable technology development. We aim to promote this culture among scientists and technocrats of tomorrow. We hope with this initiative we would inspire them to work for the welfare of India and progress of the human race. Let there be Light!



Baidurya Bhattacharya

Associate Dean,

Alumni Affairs and International Relations,
IIT Kharagpur email: adeanaa@adm.iitkgp.ernet.in

I felt really happy and delighted to see the first ever Young Innovators' Program coming into reality in our campus. Last year around November, when the Branding and Relations Cell pitched this idea to me, it seemed very novel that we will invite school children from all over the country and that we will inculcate in them the credo, the habit of innovation, to bring them to our campus and show them what we do and maybe encourage in them a desire to pursue a career in scientific research and engineering. We launched this in April, we wrote to about 10-00 schools from around the country and we had about 200+ applications and after 2 rounds of eliminations 24 schools were selected for the finals which were held in the IIT Kharagpur campus.

The word innovate basically means to alter something or to change something or to create

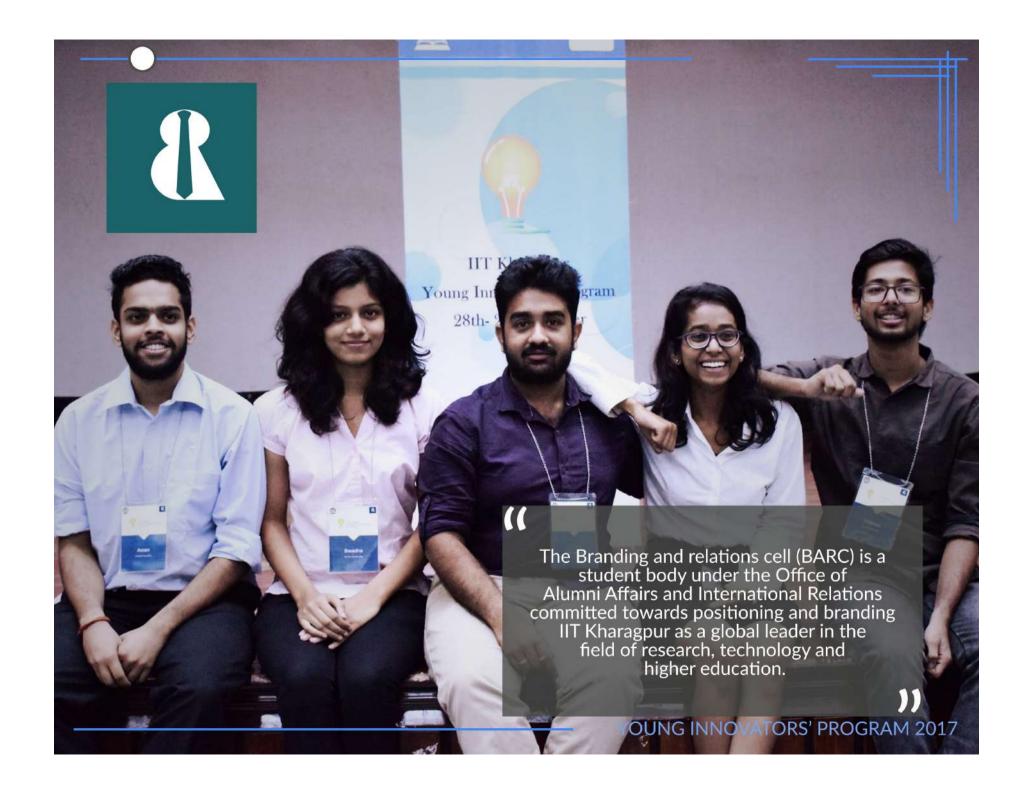
something that was not there. If you step back and think, the whole history of human civilization is basically one innovation after another. If they didn't happen we would still be people living in caves, or hunting and gathering and there would be nothing new ever. But that isn't the case; every generation of human civilization has done something new.

Innovation is all around us, in science, in arts, in medicine, in music, everywhere, and once this innovation happens, in a certain period of time we start taking them for granted. What the Wright brothers did in 1903, the first powered flight, changed human civilization in manners that was not imaginable. This is what innovation does.

If you would have asked someone from the 19th century that how he wanted to travel faster, he would have probably said that he wanted faster horses or if you would have asked him how he wanted to make nights brighter he would have wanted brighter candles. Cars, automobiles, were not the product of people trying to make horses faster, the electric bulb was not a product of the people trying to make candles brighter. Sometimes you need to think out of the box, for remarkable things to happen.

That is what we wanted to see in the projects, and that is what we wanted the students to take back from us. This institute has been a pioneer in innovation in this country. The main aim of this event was to teach the students something useful which they could take back with themselves, to remind them that wherever they go, be it science and technology or arts and humanities, taking on challenges is the most important part in life, to inculcate the 'Innovator's DNA' i.e. the desire to somehow make a difference.

There are no dreams too large, no innovation unimaginable and no frontiers beyond our reach. Everybody has a creative potential and from the moment you can express this creative potential, you can start challenging the world.





About YIP

Young Innovators' Program (YIP) is an initiative by the Indian institute of Technology Kharagpur to provide a platform for student innovators from 8th, 9th and 10th standards who are eager to make a difference through their ideas. YIP was conceptualized by the student body - Branding and Relations Cell after realizing that often very little encouragement isgiven to school students to furnish come up with their original ideas and solve problems faced by our country and the world at large. YIP would serve as a platform for the students to present their ideation at IIT Kharagpur and receive valuable inputs from the venerated professors.

Our country currently faces a myriad of problems that impede, our progress. Problem like global warming, climate change and resource crisis have actually put up a great challenge in front of our generation. The first edition of YIP invited innovation in the diverse themes of Environment, Energy, Agriculture, Biotechnology and Hardware Modelling. The students of IIT Kharagpur made every effort to reach across the nation and to spread word about the Young Innovators' Program and were successful in getting more than a thousand students to participate. The top 24 teams were invited to IIT Kharagpur to give live demonstration of their project. They also got an opportunity to witness the state of art research facilities of the Institute.

Stages of the event

Round 1

- Selection based on abstract of the project submitted.
- Selection criteria- Novelty, approach and background of the project
- Mode- Online submission

Round 2

- Selection based on short synopsis of the project.
- Selection criteria- Cost-effectiveness, sustainability and presentation of the proposal.
- Mode-Online submission

Model Demonstration

- Selection based on demonstration of model, presentation and background study done.
- Selection criteria- Feasibility, frugality and presentation.
- Mode-Model demonstration presentation at IIT Kharagpur.

YIP Symposium

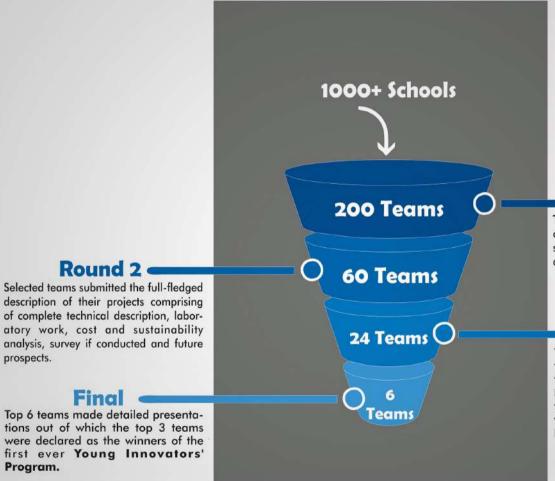
- Selection based on commercial feasibility assessment and zeal of students towards bringing their ideation to practice.
- Selection criteria- Business feasibility, enthusiasm of students for entrepreneurship.
- Mode-Oral Presentation at IIT Kharagpur.

Participation from all over India



	STATES	NO. OF TEAMS
A	andhra Pradesh	13
	Assam	3
	Bihar	5
	Gujarat	5
	Jharkhand	23
	Maharashtra	3
N	ladhya Pradesh	4
	Odisha	10
	Punjab	8
	Rajasthan	23
	Tamil Nadu	58
	Telangana	29
	Uttar Pradesh	5
	West Bengal	20

Selection procedure



Round 1

The teams submitted their abstract of the project ideas briefing the scientific proposal based on the chosen theme.

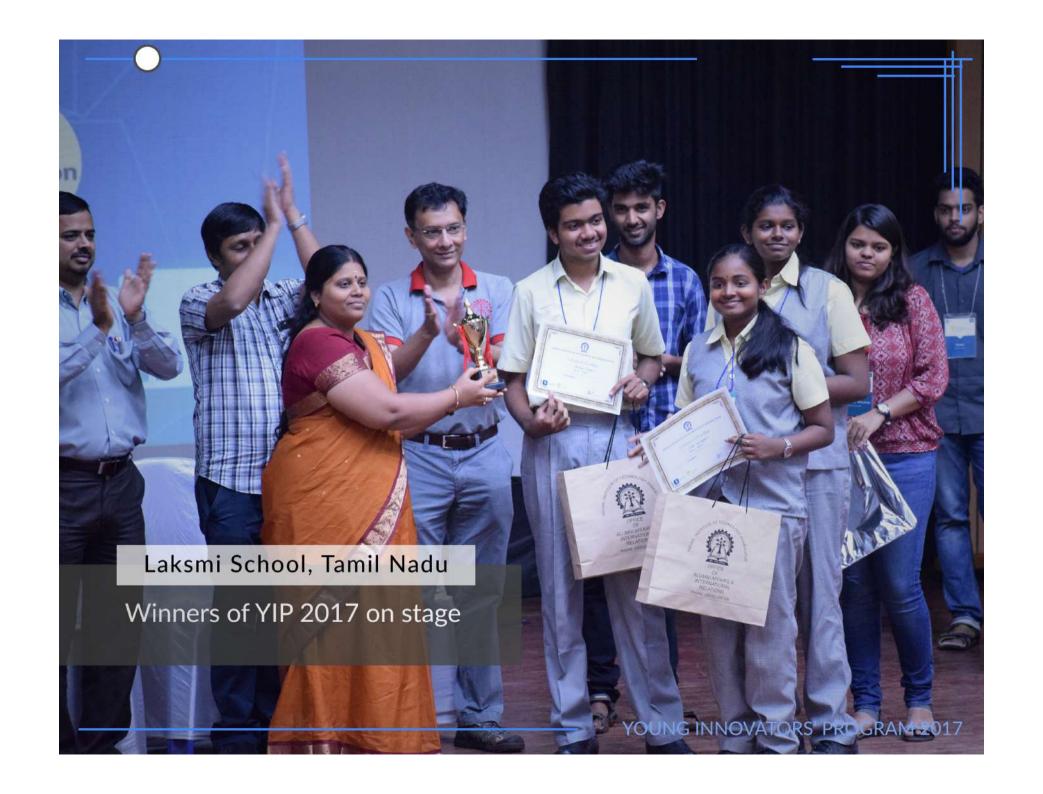
Round 3

Top teams selected nationwide after the semifinal round, were invited to Indian Institute of Technology, Kharagpur, to exhibit and demonstrate their models or prototype and charts which were evaluated by professors of IIT Kharagpur.

prospects.

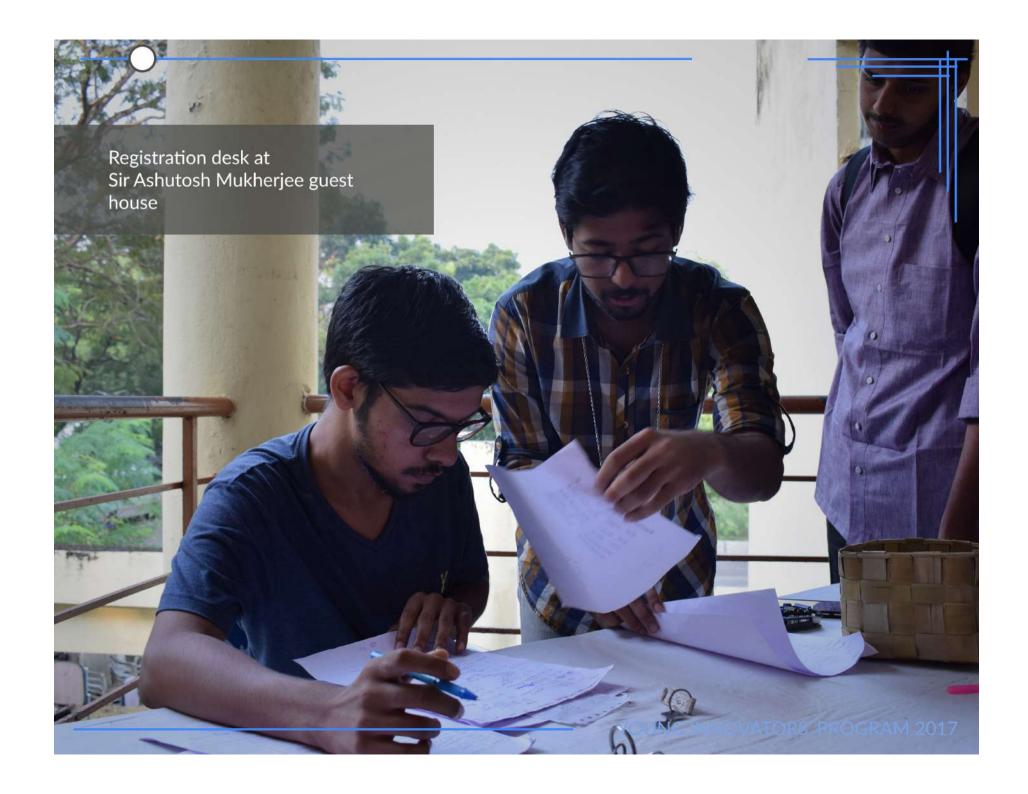
Round 2

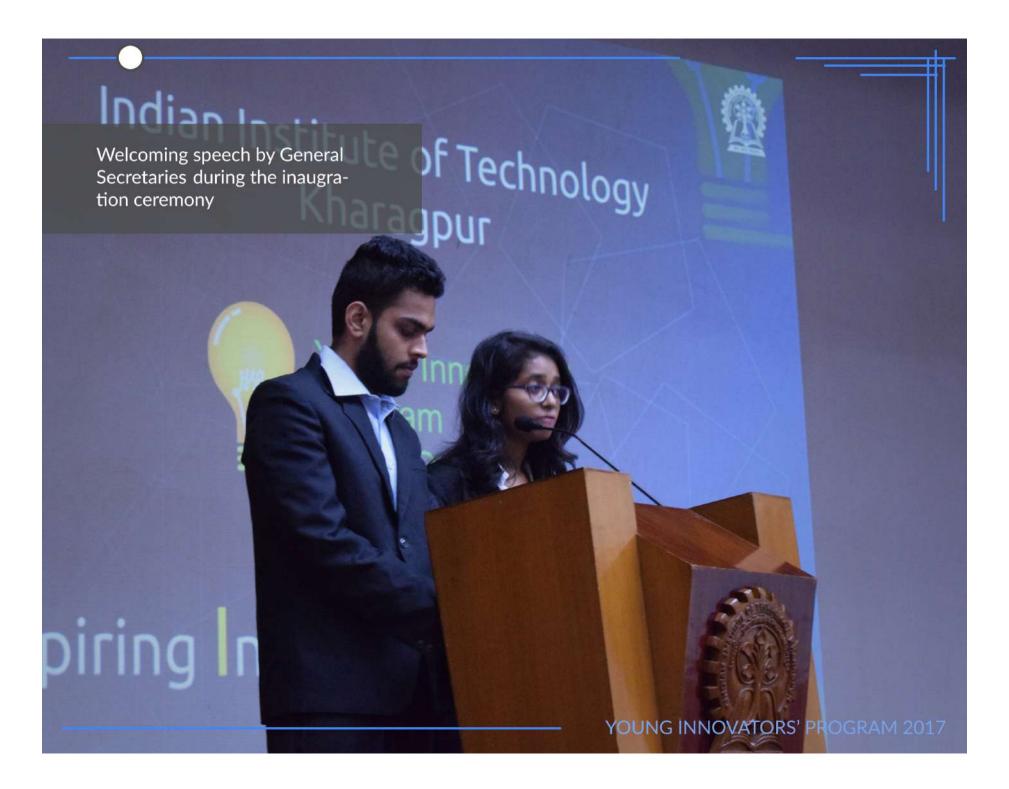
Final Top 6 teams made detailed presentations out of which the top 3 teams were declared as the winners of the first ever Young Innovators' Program.

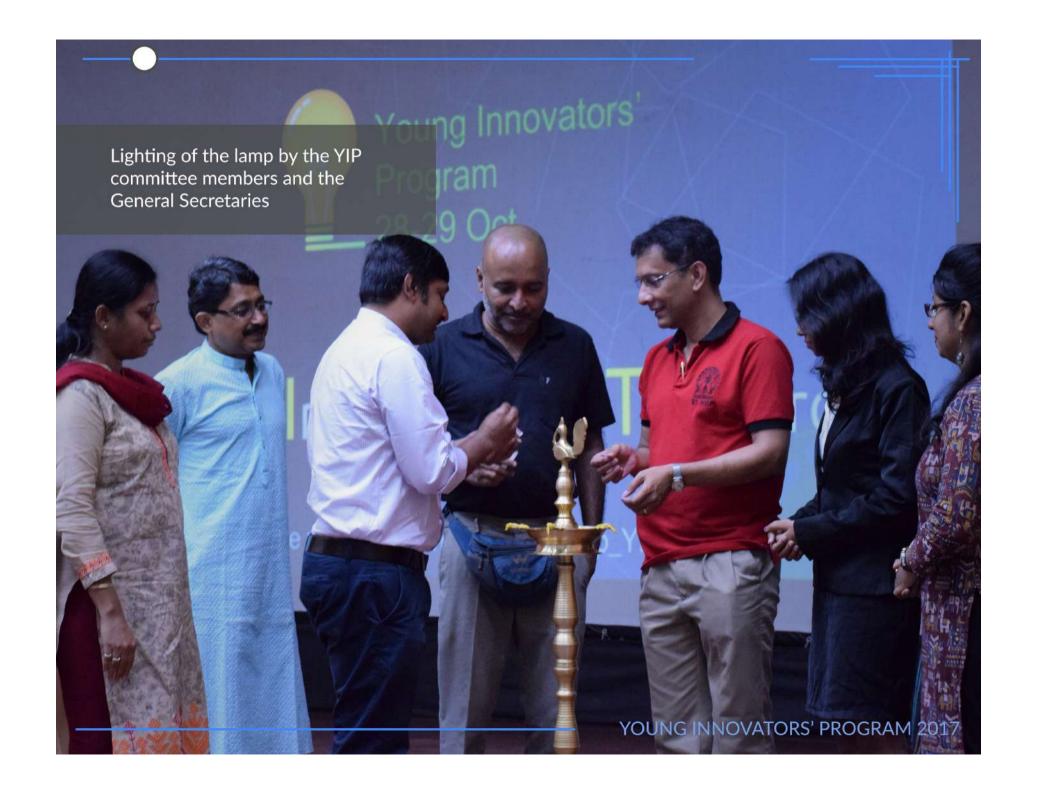




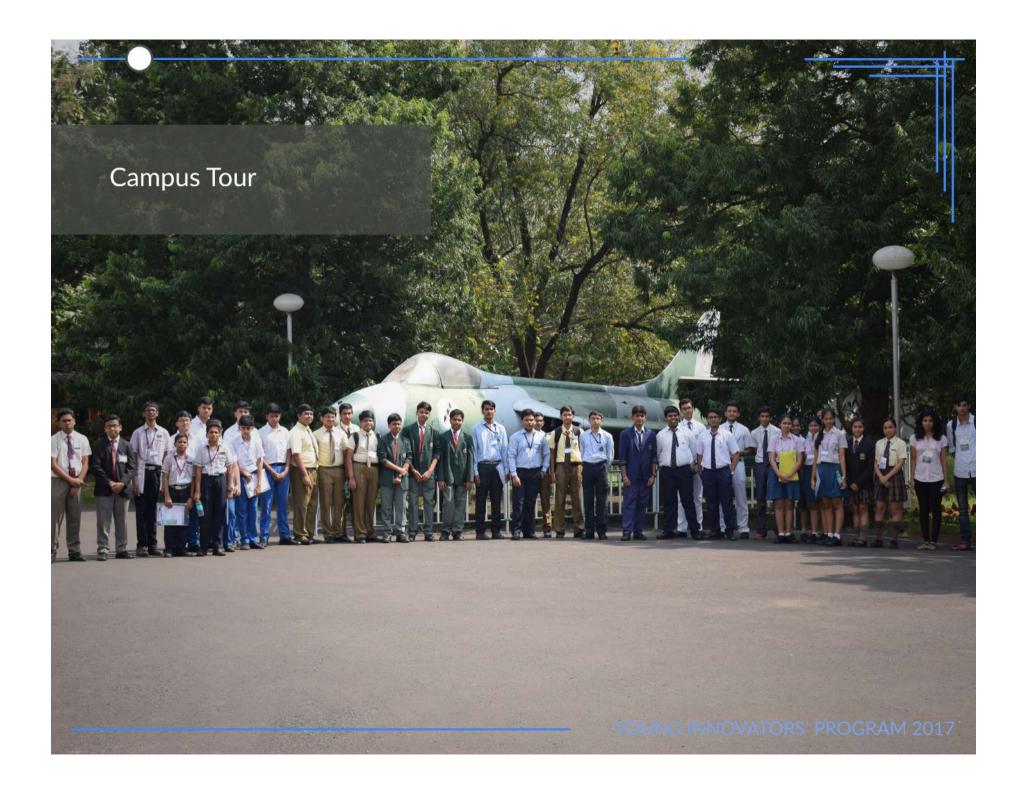


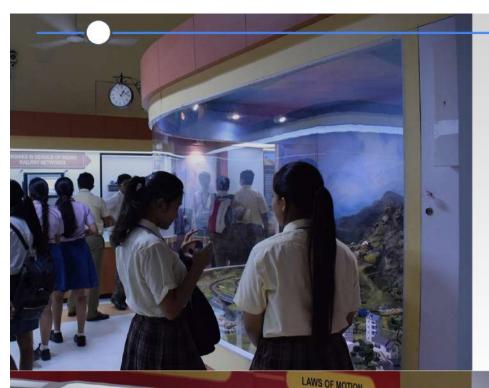




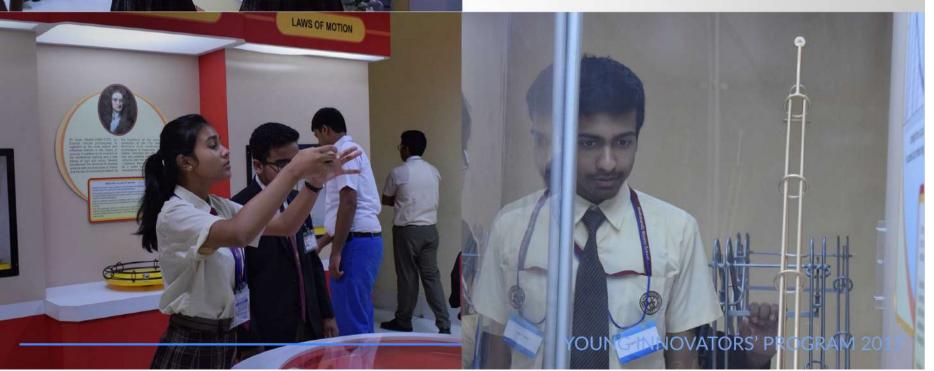








NEHRU MUSEUM OFSCIENCE AND TECHNOLOGY

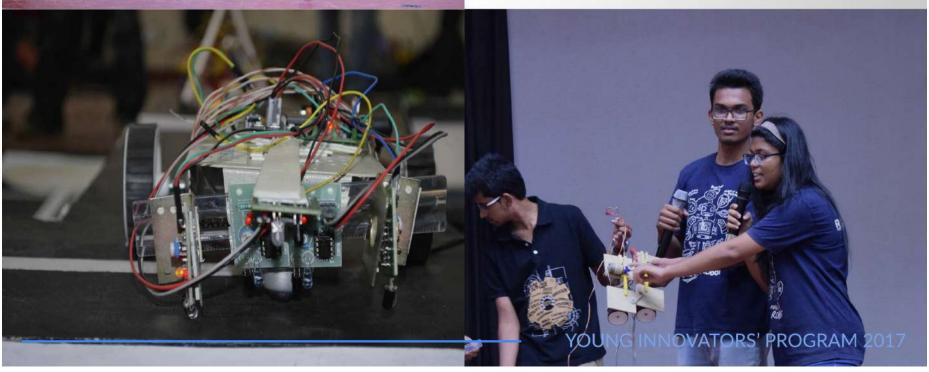


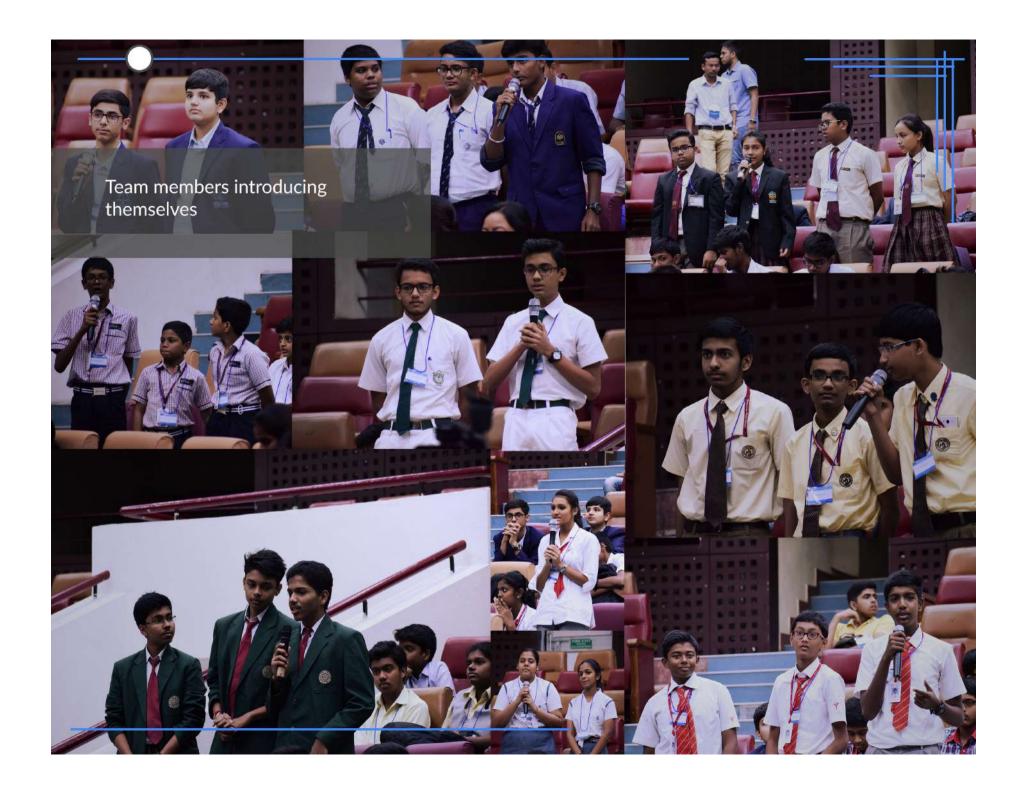






ROBOTICS WORKSHOP





The students hailing all the way from Chandigarh came up with a city design that could reduce pedestrian accidents, vehicular pollution and congestion using intelligent systems. This indeed reflects the enthusiasm of the students towards establishing e-co-friendly cities which will help us meet our carbon footprint reduction targets and also give us a leap into another stage of modernisation.





((

Their idea based on principle of calorimetry claims to provide cool water during hot summer days. The student demonstrated their idea through a model which was highly appreciated by the judges.







Focusing on security systems, the students came up with an idea to design a device that, when attached to an object, would notify the owner of the object whenever there is an attempt to steal or tamper with the object. This would ensure safety and also serve a great purpose particularly while travelling.





VIVEKANANDA MISSION SCHOOL ————— West Bengal

With a motive to eradicate CFC emissions thus reducing ozone depletion, the students came with an eco-friendly cooling system that can be used as an alternative to Air Conditioning Systems. This innovations reflects the enthusiasm of the students to involve themselves in achieving sustainable goals.





Intending to reduce road accidents, the team came up with a project that uses an alcohol detector which will detect if the driver is drunk or not and shut down the engine for the former. The system will also incorporate a camera which can detect the drowsiness of driver by image processing techniques and shutdown the engine accordingly.





MOTHER'S PUBLIC SCHOOL Odisha

YOUNG INNOVATORS' PROGRAM 2017

To reduce the vehicular carbon emissions, the students came up with a technology that enables an engine to be reciprocated using hydrogen gas as an fuel. The students were successful in building up a woring model of their idea and could demonstrate the same. This if brought to marets could help us abate global pollution and also enhance fuel efficiency.





The students came up with a robotic systems that can be controlled via bluetooth in cellular handsets. This could enable controlling robots to do basic tasks using our mobiles. The students used Arduino microcontroller to enable this. This can be useful in improvising up futurists robotic assistants.





YOUNG INNOVATORS' PROGRAM 2017

((

The students came with an innovative and low cost water filter that can be used to purify water in rural areas. The system can also be transported easily from source location. This innovative filter can serve a great purpose for the rural people for procuring purified water.





The students came with a flash-light using the Peltier effect such that the difference of more than 5 degrees celcius between the two sides of a Peltier tier produces the required electricity through the tiles to light the bulb. This idea could give us in designing low power devices that can or without using batteries





DELHI PUBLIC SCHOOL West Bengal

The project aims to preclude the disadvantages furnished by Genetically Modified Crops like GM Papaya. They discussed with the judges how their idea could help us take advantages from GM crops without having to suffer through diseases or abnormalities.





MODERN HIGH SCHOOL FOR GIRLS ——— West Bengal

The students coming all way from Andhra Pradesh came up with an idea to make improvisations to fruit or vegetable cart which will enable the shopkeeper to transit without harming the contents. Their idea could serve a great purpose to vendors who often suffer loss due to spoilage of food due to heat during summers.





THE CROSSWORD SCHOOL Andhra Pradesh

The students designed a VIB-GYOR indicator screen for school common area in order to make school environment friendly and reduce the wastage of resources. This system used state of art internet of things to digitally keep an eye on the resource usage. This can help in making us aware of the resource wastage and hence establish an environmentally friendly community.





SANSKRITI THE GURUKUL ———— Assam

Hailing all the way from Tamil
Nadu the innovators from Yuvabharati Public School came up
with robotic system that can
help farmers manage water resources, reduce weed accumulation in farms and a lot more.
Their innovation could convince
us days are not far away when
robots will take over farm lands
and assist farmers in increasing
crop productivity and reducing
resource wastage.





The students came up with an idea to replace manual agricultural labor by providing automated labor making agricultural enhancements resulting in higher yield by reducing the chances of crop failure by giving farmers a planned and accurate schedule for timely watering and management of their crops. Indeed it has got a huge potential to revolutionise the agricultural industry.





The project involves the purification of sewage water by using eucalyptus plant in order to absorb the sewage water, transpire it and condense it to obtain pure water which can be used for a number of household as well as industrial purposes. This idea can go ahead in abating water wastage into sewage and serve a means of extracting pure water.





DON BOSCO Bihar

YOUNG INNOVATORS' PROGRAM 2017

The students developed a computer based application that recognizes the diseases attacking crops and plants automatically without human interference, to examine and report the disease type. This innovative application in likely to make the farmers aware of possible threats to the crops and thus help them take appropriate actions. This is quintessential for farmers as a huge amount of crops get destroyed each year due to diseases.





The students designed a system in which the user will be able to move hisher wheelchair with minimum movements i.e. by using his/her hand movements. There will be an infrared receiver on the wheelchair which will detect and decode the signals and move accordingly. This is especially important for physically challenged individuals who can now commute without external assistance.





ST. XAVIER'S SCHOOL West Bengal

The students devised a hydroponic system that enables growing crops without a fertile land.

The growth relies on nutrient rich water. This can enable growing

of fertile lland.

water. This can enable growing crops in infertile lands which constitute a major portion of wasted land. This can give huge implications given the increasing food demands and inavailability





NAGARJUNA HIGH SCHOOL ———Telangana

((

The students designed a system that can harvest electric energy using sunlight sound and lightning. This could enable electricity production by renewable means. This is crucial for achieving carbon footprints reduction goals.







((

The students came up with a manual mechanical charger to change the phone charging scenario by the application of piezolectric effect and spring mass oscillation system. This can help us in charging mobiles in emergency conditions and hence eliminating the need of electricity.





CHINMAYA VIDYALAYA ———— Tamil Nadu

The students developed a floating windmill filled with helium and incorporated with a wind generator that rotates around a horizontal axis and sends electricity down a tether that can be used immediately, stored in a battery or routed to the power grid. This can enabling obtaining electricity more efficiently using windmills.





The students from Vadodara came up with an innovative landrover that can help transit over difficult terrains. The rover uses artificial intelligence to recognise and adapt to barriers. This innovation has definitely got a huge potential to help armed forces

commute over difficult terrain.





The students developed smart shoes to help senior citiens suffering from Arthritis. These can provide relief from the disease and related oint pains. This uses smart electronics to enable its function.





DELHI PUBLIC SCHOOL — Andhra Pradesh

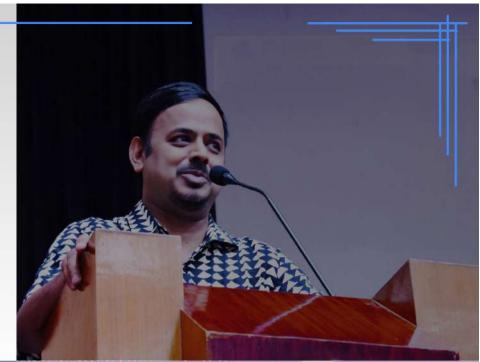
This team came all the way from Chennai and won the first edition of IIT KGP YIP. Their project was to create a device that can detect oil spills in oceans and can successfully procure the crude oil. Oil spills have become an important issue not only because of the water pollution but also for the loss of valuable oil. The team's design can recollect the oil from the spill and hence decontaminating the area.



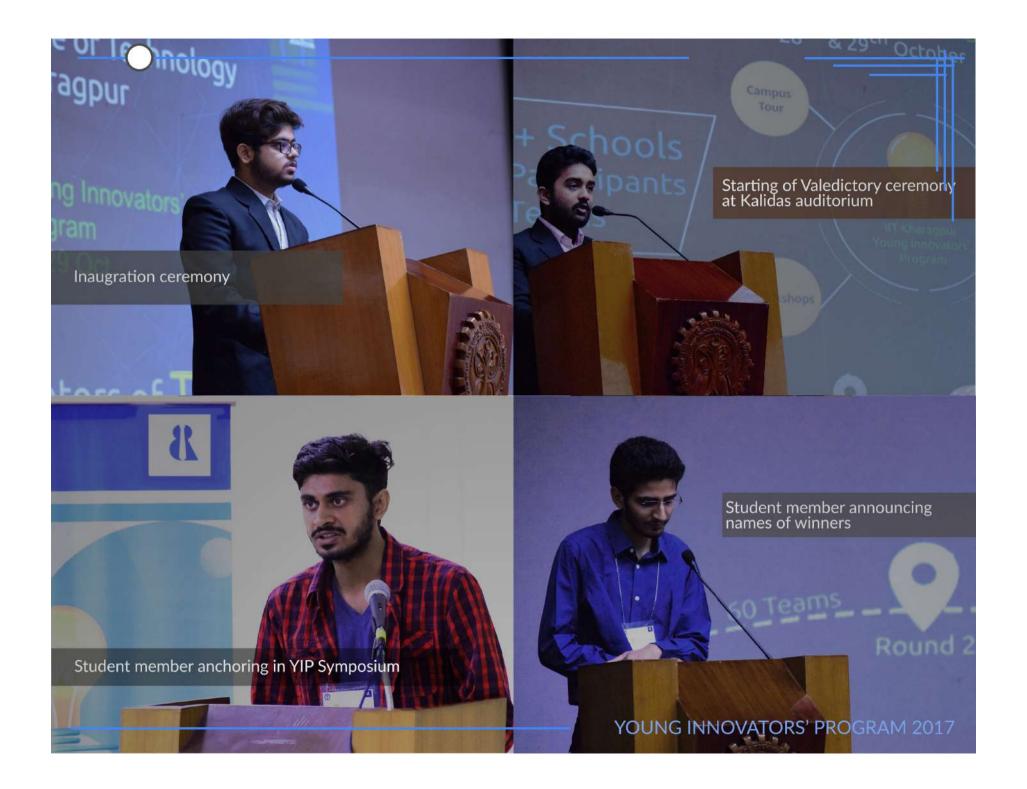


LAKSHMI SCHOOL Tamil Nadu

JUDGES







The Branding and Relations Cell Team



Debanjan Nayak Overall coordinator



Souvik Bhowmik Overall coordinator



Aman Verma General Secretary



Simran Garg General Secretary



Anubhav Raj Senior Coordinator



Piyush Nanda Senior Coordinator



Sumugan Swaroop Senior Coordinator



Vaibhav Agrawal Senior Coordinator



Swadha Gupta Senior Coordinator



Shubham Kumar Senior Coordinator

The Branding and Relations Cell Team



Aman Yadav Student Member



Anuj Jalan Student Member



Ashutosh Gupta Student Member



Gargi Biswas Student Member



Pratyush Mishra Student Member



Rahul Nandi Student Member



Rajorshi Chattopadhyay Student Member



Ritik Kumar Singh Student Member



Sabyasachi Khan Student Member



Shashank Mishra Student Member



Shivam Singhal Student Member



Student Member



Sounak Saha Student Member



Subhrajeet Panda Student Member



Vaibhav Singh Tomar Student Member



Vikash Sharma Student Member



Yaswanth C. Mallina Student Member



Prakhar Tripathi Student Member



Media Releases



The Hans India



Monotone Critic



Edex Live (Indian Express)

Media Releases



Carmel Junior students win accolade for 'E-cycle at IIT Young Innovators' Program

Avenue Mail

NOTV

Students Come Up With Innovative Ideas At

Committee of Princes Princes of Bridge of Standard Committee Str., 2017 14:00 ISST



NDTV

The Telegraph



The Telegraph

Media Releases

THESISSHINDU

Guntur students win prizes at IIT Kharagpur



SWITEFORTER

bol but the thee energy as occord runsers-up in Young Innovation programm

A cool cut to preserve the freedoms of from, designed by students of The Conserved School hars, has not the literals at the Wenty Intervenor Programs 2007, half at III filther agent on Ortober 20 and Ortober 20. The intervenors, Tool Mart, made the student memory as the second intervenors of the second conserved promises on the second conserved on the second conse

The data VIII students, Vijayadiya Kadig, M. Sudhanne G.Vainaa Teje, gaided by the Frincipal Paga Fadmaja, designed the 'pash hould san' as a means to preserve the fruits sold by vendous on the streets.

The modern have designed the cool commaking use of Februs Thomassiscime Cooler (TAC). Februs Fatte or more popularly the new TAC has to reside. The consider a temperature graduat one both ridne of the place when a potential difference in supplied to them; middle Chemin Research Februs or the extense.

The students have used a 60% of an panel processing the Patiest module. Either check have been used to crear the unit. The students have attached a last rick and a fair to disripte the her and real titude steady temperature. A 12% so has poster better is a titude in the used as possible of the used to place it is also for a manner part of possible or possible process rapply.

NG roll air normaline, the realizest manuable to arbite waters 20.28 degrees Calvius in the controlled esse, which is p

THE MEDITINO

Blackers trail



A. Slefkumar natural, sectorery, ten

1000, GP01000 F31, 1017 F140-01 10100 001000 610, 1017 F150-01

Three students from Lakshini School, Madural, Rave Bagged the first prize in the Young Innovators' Program, a national-level nompetition held by ITT Sharagpar this weekend

this live Wingor. Much skillways and Cometi are or their size. The 19th gode students of Lakshmi School liver was the Size involvant. Register, a national-level content conducted by III Shangper. The maning this winning model was a handy not become product conductor with a tool contents on looks of a public in content.

We there the a proper commenting the environment and extend in on the context of pill of the training per to Collessing, it is clearly as the context of pill of the training per to Collessing, per former of a with bookers and that the training pill of the collessing response of a with bookers and that the base that that the base that the collessing response to the collection of the colle

ADGETS

HT-KGP to host Young Innovators' Program



COSAST Trail Transpage with features are for the month of the Trail Trail Transpage with features are for the month of the Trail Tra

for minimum more control is community with a profession from the strength more. Appears or momentum that are promisely write a profession from the specificant to a product the minimum and and a profession from minimum and many of an English profession that and that method to provide the control time (they became they are the control to the control

to by the one has the deal of the outstand a margin appeal or the land commer, and make it to be an emitting proved the people and like high

to be seen to be seen

The expense of the president to explor the expense or transport of the ET course and expense we are an expense of the ET course and expense or transport of the ET course and expense of the E

De erformen antenne er af de présepant, moleur our adverse of the promité Y o manufor dessity tiez mieu a s'oding age aut afoc four or la fotor el faille-manife, communité and Préfitable p-Blettelage, domain Dans Albani Affaire é las actions Relation au

The Hindu

Gadgets Now

