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किर IITH

the crowning glory _____

A quarterly e-newsletter of IITH

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Rural Development @IITH



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

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Dear Readers,

Hope you are doing well!

We have been overwhelmed by the support we have received so far and would like to offer sincere thanks to everyone who has been involved in these fourteen issues of किराIITH, as we bring this time amazing news that किराIITH is an E-ISSN Publication now {ISSN: 2583-7222 (Online)}. Getting an ISSN recognition is a reflection of the meticulous work done by the editorial board of किराIITH to bring forward quality reading in a qualitative manner.

This 3 years journey could not be possible without the encouraging support of contributors & energizing feedback from our readers.

Alike every time, this issue of किराIITH is also being dedicated to one of the thrust research areas of IITH.

Following this precedence, किराIITH is back with yet another critical area of research at IITH "**Rural Development Initiatives @IITH**" - Issue - 14 (Vol-5, Issue-1). Rural development is an inevitable factor in the sustainable growth of a nation. A developed rural base ensures not only atmanirbharta of a country but also paves the way to accelerate the overall development of the nation.

We trust this issue of किराIITH will be an enlightening source of exceptional research work being carried out by the IITH fraternity in the theme area.

This issue of किराIITH observes - World IP Day - April 26, to celebrate our endeavours towards Intellectual Property (IP) Generation with our high IQ-Innovation Quotient.

“
We rise by
lifting
others.”

- Robert Ingersoll

किराIITH will be back next quarter with another trending research area.

So, stay connected.

We wish everyone a safe and healthy stay.

Have a great year ahead...

Happy Reading...



Dr Mudrika Khandelwal
(Dean - Alumni & Corporate Relations)
{Editor-in-Chief}



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(Department of Computer Science & Engineering)



Prof Deepak John Mathew
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(Media & PR Head,
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New Markets can be created by Rural potential, which could lead to a rise in employment.

- Dr APJ Abdul Kalam

Dear Friends,

I hope you are having a flourishing and substantive expedition in the robust networking environment of IITH. I am thrilled to share that with the support of all our authors, readers and IITH community, we have achieved a significant milestone in the journey of किराIITH. **किराIITH is now an E-ISSN journal.** All the issues since 2020 qualified for the ISSN parameters. Now you can download each issue & article individually at much ease, which are available at किराIITH exclusive website or via IITH's PR Office Website. I am sure we will retain the trust of our readers with quality reading in future issues too.

I am glad to share with you that the Indian Institute of Technology Hyderabad has made it to 501-550, a 100+ Rank jump from the previous year in Physics & Astronomy; this is evidence of the extraordinary human resources comprised of endeavouring faculty, excited staff, & enthusiastic students & exquisite infrastructure.

IITH celebrated the first of its kind Innovation Day, a day specifically dedicated to providing a platform for collaborations between Startups, Industry, Academia, and tech transfer-ready innovations. This Innovation Day is another step by IITH toward proactively taking the Industry-Academia relationship forward.

IITH researchers within InPTA paved the way to charting Interstellar 'Weather'.

IITH established a ground-breaking Raindrop Research Facility (RRF) to estimate Raindrop size distribution for precise rainfall prediction, inaugurated by Dr V K Saraswat (Hon'ble Member, NITI Aayog, Government of India). 'Celebrating National Science Day, IITH established an 'Advanced Darksky Observatory' for Multidisciplinary Research, which was inaugurated by Dr K Radhakrishnan, former Chairman of ISRO.

IITH, in association with INYAS, announced the "Model G20 Initiative", a National Level Youth Challenge. IITH has also announced 150 SURE Internships starting this May, a One-of-its-kind opportunity for a UG/ PG student to explore the Research & Innovation Ecosystem at IITH. To bring out innovative talent among school children, IITH recently announced the "Future Inventors Fair (FIF-2023)".

IITH, with JICA, conducted First JICA Chair Lecture by Prof Taichi Ono. IITH joined hands with the Indian Navy/ WESEE to establish a Co-developmental Technology Innovation Centre (CTIC) at IITH Technology Research Park (IITH - TRP).

IITH has exuberantly celebrated the Elan & ηVision 2023 - "Secrets of Valenrow" this February - one of the biggest extravaganzas of the year,

enveloping the ultimate entertaining and enthralling experience.

As you know, each Issue of किराIITH emphasizes a specific research area at IITH. Rural Development in India is the overall progress in the economic and social conditions of Indians residing in rural areas, which can be possible by transcending their traditional practices of daily activities, from farming to fishing, and empowering them with technological innovations that can enhance their Income and lessen their struggle. This issue unleashes a few such innovations in the theme of Rural Development from IITH.

I am confident that you will exhort our efforts of enkindling innovation in every initiative of us including किराIITH, wherein we diligently curate each issue and only bring forward a read that expediently exhibits the true reflection of our motto - Inventing & Innovating in Technology for Humanity (IITH).

Wish you an incredible year ahead!

-Prof B S Murty

Administration @IITH

Thrives to run a vibrant and healthy campus



KID: 20230101

Indian Institute of Technology Hyderabad, entering its crystal year in 2023, has evolved on various fronts. The administration is a key aspect to the progress of any institution and to excel in its endeavours. IITH administration is committed to having a lean administration by minimizing the work process and its duration to maximize the output of various activities. IITH operates its day-to-day activities classified under various sections as shown in the following Venn diagram.

All the major activities listed in the diagram are governed by a respective Dean and/or Registrar. The digitization of various processes of approvals has minimized the duration of file transfers from one section to another and has also reduced the usage of papers by a significant amount. Currently, the Institute is working towards a completely digitalized administration which has been successfully implemented under certain sections like HR, Academics etc. and is expected to be implemented in all the other sections within a couple of months.

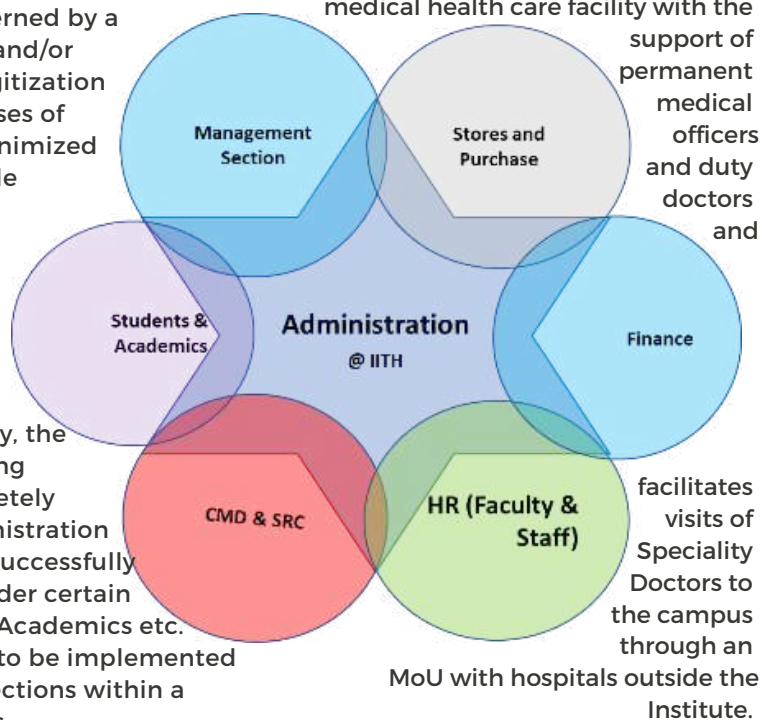
The various sections possess an organized workforce under the leadership of a Deputy Registrar supported by a couple of Assistant Registrars and staff.

The Institute staff are committed to taking up challenges that are inline with the aspirations of the Institute and have facilitated various activities of the Institute.

Campus services:

With the support of the Director, IITH, Prof B S Murty, various effective and efficient services have been enabled on the campus. Massive plantation drives held monthly have helped us to build a green campus with the rise of natural inhabitants. GPS and software-enabled transport services that facilitates tracking of the vehicles moving on the campus for the student movement within the campus.

The Institute also runs a 24x7 primary medical health care facility with the support of permanent medical officers and duty doctors and



facilitates visits of Speciality Doctors to the campus through an MoU with hospitals outside the Institute.

The health centre is enabled with various clinical testing facilities, including ultrasound, X-rays etc. It is also enabled with a 24x7 ICU-ready ambulance service for the benefit of students and campus residents.

The Institute, with the support of the Director, has conducted two major COVID-19 vaccination campaigns not only for the residents of the campus but for the public in and around the Kandi village.

The campus school is one of the major services provided by IITH for the campus residents and their children.

Institute supports the campus school by providing world-class infrastructure that includes buildings, classroom furniture and laboratories.

Every classroom is enabled with a smart board and facilitates the utilization of modern tools for teaching.

In addition to the aforementioned services, IITH constantly revives the facilities like a guest house, campus maintenance etc. and thrives to run a vibrant and healthy campus.

“The Institute staff are committed to taking up challenges that are inline with the "Aspirations of the Institute" and have facilitated various activities of the Institute.

Prof Ranjith Ramadurai
Dean (Administration), IITH
Professor, Department of Materials Science and Metallurgical Engineering.

Health to Heritage Technologies

Rural Development Initiatives @IITH

KID: 20230102

At the beginning of 20th Century, Mahatma Gandhi proclaimed, "The soul of India lives in its villages". This is still relevant to this day. India's economy heavily depends on its rural areas. According to a World Bank Report, 66.7% of the Indian population still resides in rural areas, which accounts for almost 1/4th of the world's rural population. The diversity of the country is also reflected in its rural population. The distribution of the rural population is also varied. Thus, the strategies for rural development should also be customized for the specific rural population.

IITH, being a premiere technological institute, has engaged with rural development as a key activity. It is involved in technology development for the rural areas, outreach and support to the villages in the nearby areas, and outreach and handholding activities for the rural communities. With continued effort and keeping in mind the aspirations of rural India,

IITH established the Rural Development Centre (RDC) in July 2020 with a vision to support rural development initiatives of the Government through innovative technologies being developed at IITH.

Rural Development can be defined as "The Integrated development of the area and the people through optimum development and utilization of local resources - physical, biological and human and by bringing about necessary institutional, structural, and attitudinal changes for the rural public".

The objectives of rural development include a sustained increase in per capita output and incomes, expansion of productive employment and greater equity in the distribution of the benefits of growth. Rural development over the years has emerged as "a strategy designed to improve the economic, social and cultural life of a specific group of people as well as living in rural areas". Increased employment, higher productivity, and higher income, as well as ensuring minimum acceptable levels of food, clothing, shelter, education, and health, are the main objectives of rural development. The faculty of IIT Hyderabad is actively involved in rural development.

Thrust areas Technologies for rural development

From healthcare to Heritage technology has influenced all walks of rural life. As a premier institute, the primary goal of IIT Hyderabad is also to develop socially relevant technologies.

Rural Education

Education is one of the thrust areas of rural development. Technological developments and Design thinking methodologies, if rightly introduced at appropriate levels of school education, will bring a great change in the overall development of students. IIT Hyderabad is an educational institute has a core competency in enhanced quality of education and learning. Hence, it is pertinent to disseminate the knowledge and understanding of imparting quality education to the rural education and learning systems.

Healthcare

Healthcare is one of the important areas to be addressed for the overall development of rural areas. The pandemic has shown the resilience of the country to address the healthcare issues in remote areas. Women's and child health in rural areas is also extremely important. Rural India is currently facing challenges in geriatric care.



Due to the skewed distribution of employment opportunities, youth migrate from the villages making the elderly vulnerable to health conditions. A collective approach of social engineering, technology and innovation is required to address such wicked problems.

Skill Development & Entrepreneurship

Digital technologies have democratized knowledge leading to grassroots innovation and entrepreneurial activities in rural areas. It is not enough because, currently, there is no ecosystem to support such entrepreneurs. Enabling rural innovators with end-to-end solution support is the need of the hour. The rural innovation and startup ecosystem is essential to address the localized needs of society.



Rural housing

Providing housing for the rural population has been one of the key areas of the government, and so has its importance in the country's development. Rural housing needs to be customized for geographic and climatic conditions. Also, it should leverage the availability of locally available construction materials, building typologies, social requirements, etc.

Water and Sanitation



As the country's economy develops, it also influences the rural economy. Thus it also influences the rural economy, which brings in changes in consumption patterns and lifestyles. This leads to some urban challenges like waste management and sanitation. If not addressed at a smaller scale, it can lead to larger problems affecting the nearby areas. The strategies for urban areas may not be suitable for rural areas, This requires further investigation and planning.

Food Security



Rural India contributes the majority requirements of the Food and nutritional requirement of the country. IIT Hyderabad is working on cutting-

edge technologies for Food and nutrition security in crop monitoring through drones, water quality assessment, drinking water and sanitation, digital communication platforms for real-time monitoring of production consumption and logistics management, etc.

The current methods of farming and agriculture are predominantly traditional. The adoption of novel scientific methods has to penetrate into rural areas.

Technologies like soil testing to match the crops, crop diversification, digital monitoring by drones, organic fertilizers, value addition, fortification, etc., will help in matching up to the growing needs of food and nutrition.

With these thrust areas, Rural Development Centre (RDC) has taken up several initiatives. Even before the setting of RDC, the Institute was actively involved in the Ministry of Education's rural development initiative of Unnat Bharat Abhiyan (UBA). The establishment of the RDC gave a fresh impetus to the rural development activities at the Institute. Post-pandemic, the emphasis was on rural education.

Prof BS Murty, Director, IITH, with other faculty, visited several schools in the rural areas around the Institute. This led to the setting up digital classrooms in schools in remote villages. To start with, 5 Government schools were identified for this program viz. Zilla Parishad High Schools in 1) Mamidapally, 2) Kandi, 3) Rudraram, 4) Cheriyal and 5) Yeddumailaram villages.



Not just setting up the digital classrooms but also facilitating online teaching for high school students in rural schools by the students and faculty of IIT Hyderabad. With a detailed timetable for each school, it was ensured that there was a dedicated faculty /student for each school for all six days in a week. It was also ensured that the IITH students do not have to compromise on their academics, and they have to dedicate

only one hour of teaching per week.

Another major initiative was to fund Rural Development (RD) project proposals from the IIT Hyderabad faculty. The Institute earmarked 50 lakhs (5 projects with 10 lakhs each) for the project in the year 2020-21. Following are the projects which are catering to different problems of the rural areas.

- IOT-enabled aquaculture monitoring system to assist the farmers
- Development of a generic low-cost device for detecting heavy metals in groundwater sources.
- Utilization of waste corn cobs for the production of furfural
- Improving Personal Health and Hygiene in Rural Schools through Interactive Installation
- Kitchen/Poultry waste for defluoridation of drinking water

Many of these projects have been successfully demonstrated and deployed in the villages or in the advanced stages of development. These projects have also acted as a catalyst for addressing problems in rural areas and are able to attract funding from industry and other sources to be developed further.

entrepreneurial venture of production of household products of hand-made soaps, Hand-pounded dals, cold-pressed oils, detergent cakes and liquid soaps, etc. Some of the packaging and branding of the products with the brand name of "Manjeera" was supported by IIT Hyderabad.

Some of the activities conducted in this direction include celebrating farmers' day on 23rd December, conducting health (cancer) screening camps in collaboration with the Mallareddy Cancer Hospital and Research centre,



Similarly, the Suzuki Innovation Centre (SIC), established in the IIT Hyderabad Research Park, which is also involved in the rural development initiative, is actively collaborating with the Institute. In this issue of KIRIITH, there are separate articles on the projects supported by SIC.

a 1-day Edu-Tech 360 conference emphasising rural education, etc.

As part of the academic activity, a 2-credit course in Rural Development called "Samagra Gramaseva" was introduced, which is intended to expose the students to the village environment, and it is open to all the students of the Institute. RDC also facilitated to conduct of some of the courses in the nearby villages so that students get first-hand exposure to the challenges of the rural environment.

We want to carry on with the current operations in a more efficient way and create more rural development projects that help the villagers improve their standards of living.



The RDC is also actively involved with private industries, NGOs, grassroots innovators, and mentors to facilitate development activities in rural areas. The members of the RDC have supported the cottage industry set up in the Gognlur village of Sangareddy district. The NGO Sarvodaya Foundation is helping the women

The RDC also regularly conducts events to engage with the community and the stakeholders involved in the rural development activities in the neighbouring areas leading to greater synergy and supporting cohesive plans to implement development activities in the rural areas.

[1] Prof Ramesh G

Chair - Rural Development Centre, IITH
Department of Mathematics

[2] Dr Prasad S Onkar

Associate Professor,
Head - Department of Design

हेल्थ टू हेरिटेज टेक्नोलॉजीस ग्रामीण विकास पहल @आईआईटीएच

KID: 20230103

20 वीं शताब्दी की शुरुआत में, महात्मा गांधी जी ने घोषणा की, "भारत की आत्मा अपने गांवों में रहती है"। यह आज भी प्रासंगिक है। भारत की अर्थव्यवस्था बहुत हद तक अपने ग्रामीण क्षेत्रों पर निर्भर करती है। विश्व बैंक की एक रिपोर्ट के अनुसार, 66.7% भारतीय आबादी अभी भी ग्रामीण क्षेत्रों में रहती है, जो दुनिया की ग्रामीण आबादी का लगभग 1/4 हिस्सा है। देश की विविधता इसकी ग्रामीण आबादी में भी परिलक्षित होती है।

ग्रामीण आबादी का वितरण भी विविध है। इस प्रकार, ग्रामीण विकास के लिए रणनीतियों को विशिष्ट ग्रामीण आबादी के लिए भी अनुकूलित किया जाना चाहिए।

आईआईटी हैदराबाद, एक प्रमुख तकनीकी संस्थान होने के नाते, ग्रामीण विकास को एक महत्वपूर्ण गतिविधि के रूप में संलग्न किया है। यह ग्रामीण क्षेत्रों के लिए प्रौद्योगिकी विकास, आस-पास के क्षेत्रों में गांवों तक पहुंच और समर्थन, और ग्रामीण समुदायों के लिए आउटरीच और हैंडहोल्डिंग गतिविधियां शामिल है। निरंतर प्रयास के साथ और ग्रामीण भारत की आकांक्षाओं को ध्यान में रखते हुए, आईआईटी हैदराबाद ने जुलाई 2020 में आईआईटी हैदराबाद में विकसित की जा रही नवीन प्रौद्योगिकियों के माध्यम से सरकार की ग्रामीण विकास पहलों का समर्थन करने के दृष्टिकोण के साथ ग्रामीण विकास केंद्र (आरडीसी) की स्थापना की।

ग्रामीण विकास को "स्थानीय संसाधनों के इष्टतम विकास और उपयोग के माध्यम से क्षेत्र और लोगों का एकीकृत विकास - भौतिक, जैविक और मानव और ग्रामीण जनता के लिए आवश्यक संस्थागत, संरचनात्मक और व्यवहार गत परिवर्तन लाकर" के रूप में परिभाषित किया जा सकता है।

ग्रामीण विकास के उद्देश्यों में प्रति व्यक्ति उत्पादन और आय में निरंतर वृद्धि, उत्पादक रोजगार का विस्तार और विकास के लाभों के वितरण में अधिक इक्विटी शामिल है। वर्षों से ग्रामीण विकास "ग्रामीण क्षेत्रों में रहने वाले लोगों के एक विशिष्ट समूह के आर्थिक, सामाजिक और सांस्कृतिक जीवन को बेहतर बनाने के लिए डिज़ाइन की गई रणनीति" के रूप में उभरा है। रोजगार में वृद्धि, उच्च उत्पादकता और उच्च आय, साथ ही भोजन, कपड़े, आश्रय, शिक्षा और स्वास्थ्य के न्यूनतम स्वीकार्य स्तर सुनिश्चित करना, ग्रामीण विकास के मुख्य उद्देश्य हैं।

आईआईटी हैदराबाद के संकाय ग्रामीण विकास में सक्रिय रूप से शामिल हैं।

ग्रामीण विकास के लिए थ्रस्ट एरिया टेक्नोलॉजीस

स्वास्थ्य सेवा से विरासत प्रौद्योगिकी तक ने ग्रामीण जीवन के सभी क्षेत्रों को प्रभावित किया है। एक प्रमुख संस्थान के रूप में, आईआईटी हैदराबाद का प्राथमिक लक्ष्य सामाजिक रूप से प्रासंगिक प्रौद्योगिकियों को विकसित करना भी है।

ग्रामीण शिक्षा

शिक्षा ग्रामीण विकास के प्रमुख क्षेत्रों में से एक है। तकनीकी विकास और डिज़ाइन सोच पद्धतियां, यदि स्कूली शिक्षा के उचित स्तरों पर सही तरीके से पेश की जाती हैं, तो छात्रों के समग्र विकास में एक बड़ा बदलाव आएगा। आईआईटी हैदराबाद एक शैक्षिक संस्थान है जो शिक्षा और सीखने की गुणवत्ता में वृद्धि में एक मुख्य योग्यता है। इसलिए, ग्रामीण शिक्षा और अधिगम प्रणालियों को गुणवत्तापूर्ण शिक्षा प्रदान करने के ज्ञान और समझ का प्रसार करना उचित है।

स्वास्थ्य देखभाल

स्वास्थ्य देखभाल ग्रामीण क्षेत्रों के समग्र विकास के लिए संबोधित किए जाने वाले महत्वपूर्ण क्षेत्रों में से एक है। महामारी ने दूरदराज के क्षेत्रों में स्वास्थ्य सेवा के मुद्दों को संबोधित करने के लिए देश के लचीलेपन को दिखाया है। ग्रामीण क्षेत्रों में महिलाओं और बच्चों का स्वास्थ्य भी बेहद महत्वपूर्ण है। ग्रामीण भारत वर्तमान में वृद्धावस्था देखभाल में चुनौतियों का सामना कर रहा है। रोजगार के अवसरों के असमान वितरण के कारण, युवा गांवों से पलायन करते हैं, जिससे बुजुर्ग स्वास्थ्य स्थितियों के प्रति



संवेदनशील हो जाते हैं। ऐसी दुष्ट समस्याओं को हल करने के लिए सामाजिक इंजीनियरिंग, प्रौद्योगिकी और नवाचार के सामूहिक दृष्टिकोण की आवश्यकता है।

कौशल विकास और उद्यमिता

डिजिटल प्रौद्योगिकियों ने ग्रामीण क्षेत्रों में जमीनी स्तर पर नवाचार और उद्यमशीलता गतिविधियों के लिए अग्रणी ज्ञान का लोकतंत्रीकरण किया है। यह पर्याप्त नहीं है क्योंकि वर्तमान में, ऐसे उद्यमियों का समर्थन करने के लिए कोई पारिस्थितिकी तंत्र नहीं है। ग्रामीण अन्वेषकों को एंड-टू-एंड समाधान सहायता के साथ सक्षम बनाना समय की आवश्यकता है। समाज की स्थानीय जरूरतों को पूरा करने के लिए ग्रामीण नवाचार और स्टार्टअप पारिस्थितिकी तंत्र आवश्यक है।



ग्रामीण आवास

ग्रामीण आबादी के लिए आवास प्रदान करना सरकार के प्रमुख क्षेत्रों में से एक रहा है, और इसलिए देश के विकास में इसका महत्व है। भौगोलिक और जलवायु परिस्थितियों के लिए ग्रामीण आवास को अनुकूलित करने की आवश्यकता है। इसके अलावा, इसे स्थानीय रूप से उपलब्ध निर्माण सामग्री, भवन टाइपोलॉजी, सामाजिक आवश्यकताओं आदि की उपलब्धता का लाभ उठाना चाहिए।

पानी और स्वच्छता



जैसे-जैसे देश की अर्थव्यवस्था विकसित होती है, यह ग्रामीण अर्थव्यवस्था को भी प्रभावित करती है। इस प्रकार यह ग्रामीण अर्थव्यवस्था को भी प्रभावित करता है, जो उपभोग पैटर्न और जीवन शैली में बदलाव लाता है। इससे अपशिष्ट प्रबंधन और स्वच्छता जैसी कुछ शहरी चुनौतियां पैदा होती हैं। यदि छोटे पैमाने पर संबोधित नहीं किया जाता है, तो यह आस-पास के क्षेत्रों को प्रभावित करने वाली बड़ी समस्याओं को जन्म दे सकता है। शहरी क्षेत्रों के लिए रणनीतियां ग्रामीण क्षेत्रों के लिए उपयुक्त नहीं हो सकती हैं, इसके लिए आगे की जांच और योजना की आवश्यकता है।

खाद्य सुरक्षा



ग्रामीण भारत देश की खाद्य और पोषण संबंधी आवश्यकताओं की अधिकांश आवश्यकताओं में योगदान देता है। आईआईटी हैदराबाद ड्रोन, जल गुणवत्ता मूल्यांकन, पेयजल और स्वच्छता, उत्पादन खपत और

प्रौद्योगिकियां, भोजन और पोषण की बढ़ती जरूरतों को पूरा करने में मदद करेंगी। इन महत्वपूर्ण क्षेत्रों के साथ, ग्रामीण विकास केंद्र (आरडीसी) ने कई पहल की हैं।

आरडीसी की स्थापना से पहले भी, संस्थान शिक्षा मंत्रालय की उन्नत भारत अभियान (यूबीए) की ग्रामीण विकास पहल में सक्रिय रूप से शामिल था। आरडीसी की स्थापना ने संस्थान में ग्रामीण विकास गतिविधियों को एक नई गति दी। महामारी के बाद, ग्रामीण शिक्षा पर जोर दिया गया था।

निदेशक प्रोफेसर बी एस मूर्ति ने अन्य संकाय सदस्यों के साथ संस्थान के आसपास के ग्रामीण क्षेत्रों के कई स्कूलों का दौरा किया। इससे दूरदराज के गांवों के स्कूलों में डिजिटल कक्षाएं स्थापित की गईं।

शुरू करने के लिए, इस कार्यक्रम के लिए 5 सरकारी स्कूलों की पहचान की गई थी, जैसे

- 1) मामिदपल्ली,
- 2) कांडी,
- 3) रुद्रराम,
- 4) चेरियाल और
- 5) येदुमैलाराम गांवों में जिला परिषद हाई स्कूल।



रसद प्रबंधन आदि की वास्तविक समय की निगरानी के लिए डिजिटल संचार प्लेटफार्मों के माध्यम से फसल की निगरानी में खाद्य और पोषण सुरक्षा के लिए अत्याधुनिक तकनीकों पर काम कर रहा है।

खेती और कृषि के वर्तमान तरीके मुख्य रूप से पारंपरिक हैं। नवीन वैज्ञानिक पद्धतियों को अपनाते से ग्रामीण क्षेत्रों में प्रवेश करना होगा।

फसलों से मेल खाने के लिए मृदा परीक्षण, फसल विविधीकरण, ड्रोन द्वारा डिजिटल निगरानी, जैविक उर्वरक, मूल्य संवर्धन, फोर्टिफिकेशन आदि जैसी

न केवल डिजिटल कक्षाओं की स्थापना, बल्कि आईआईटी हैदराबाद के छात्रों और संकाय द्वारा ग्रामीण स्कूलों में हाई स्कूल के छात्रों के लिए ऑनलाइन शिक्षण की सुविधा भी प्रदान की गई। प्रत्येक स्कूल के लिए एक विस्तृत समय सारिणी के साथ, यह सुनिश्चित किया गया कि सप्ताह में सभी छह दिनों के लिए प्रत्येक स्कूल के लिए एक समर्पित संकाय/ छात्र था। यह भी सुनिश्चित किया गया कि आईआईटी हैदराबाद के छात्रों को अपने शिक्षाविदों से समझौता न करना पड़े, और उन्हें प्रति सप्ताह केवल एक घंटे का शिक्षण समर्पित करना होगा।

एक अन्य प्रमुख पहल आईआईटी हैदराबाद संकाय से ग्रामीण विकास (आरडी) परियोजना प्रस्तावों को वित्त पोषित करना था। संस्थान ने वर्ष 2020-21 में परियोजना के लिए 50 लाख (10 लाख प्रत्येक के साथ 5 परियोजनाएं) निर्धारित किए। निम्नलिखित परियोजनाएं हैं जो ग्रामीण क्षेत्रों की विभिन्न समस्याओं को पूरा कर रही हैं।

- किसानों की सहायता के लिए आईओटी-सक्षम जलीय कृषि निगरानी प्रणाली
- भूजल स्रोतों में भारी धातुओं का पता लगाने के लिए एक सामान्य कम लागत वाले उपकरण का विकास।
- फर्फुरल के उत्पादन के लिए अपशिष्ट मकई कोब का उपयोग
- इंटरएक्टिव स्थापना के माध्यम से ग्रामीण स्कूलों में व्यक्तिगत स्वास्थ्य और स्वच्छता में सुधार
- पीने के पानी के निर्जलीकरण के लिए रसोई / पोल्ट्री अपशिष्ट

इनमें से कई परियोजनाओं को सफलतापूर्वक प्रदर्शित किया गया है और गांवों में या विकास के उन्नत चरणों में तैनात किया गया है। इन परियोजनाओं ने ग्रामीण क्षेत्रों में समस्याओं को संबोधित करने के लिए एक उत्प्रेरक के रूप में भी काम किया है और आगे विकसित होने के लिए उद्योग और अन्य स्रोतों से धन आकर्षित करने में सक्षम हैं।

इसी तरह, आईआईटी हैदराबाद रिसर्च पार्क में स्थापित सुजुकी इनोवेशन सेंटर (एसआईसी), जो ग्रामीण विकास पहल में भी शामिल है, संस्थान के साथ सक्रिय रूप से सहयोग कर रहा है। किरिथ के इस अंक में, एसआईसी द्वारा समर्थित परियोजनाओं पर अलग-अलग लेख हैं।

आरडीसी नियमित रूप से पड़ोसी क्षेत्रों में ग्रामीण विकास गतिविधियों में शामिल समुदाय और हितधारकों के साथ

"समग्र ग्रामसेवा" नामक एक 2-क्रेडिट पाठ्यक्रम शुरू किया गया था, जिसका उद्देश्य छात्रों को गांव के माहौल में उजागर करना है, और यह संस्थान के सभी छात्रों के लिए खुला है। आरडीसी ने आसपास के गांवों में कुछ पाठ्यक्रमों के संचालन की सुविधा भी प्रदान की ताकि छात्रों को ग्रामीण पर्यावरण की चुनौतियों का प्रत्यक्ष अनुभव मिल सके।



आरडीसी ग्रामीण क्षेत्रों में विकास गतिविधियों को सुविधाजनक बनाने के लिए निजी उद्योगों, गैर सरकारी संगठनों, जमीनी स्तर के नवप्रवर्तकों और सलाहकारों के साथ भी सक्रिय रूप से शामिल है। आरडीसी के सदस्यों ने संगारेड्डी जिले के गोगनलुर गांव में स्थापित कुटीर उद्योग का समर्थन किया है। सर्वोदय फाउंडेशन नाम का यह एनजीओ हाथ से बने साबुन, हैंड-पाउंड दाल, कोल्ड प्रेस ऑयल, डिटर्जेंट केक और लिक्विड साबुन आदि के घरेलू उत्पादों के उत्पादन में महिला उद्यमी उद्यम की मदद कर रहा है। "मंजीरा" ब्रांड नाम के साथ उत्पादों की कुछ पैकेजिंग और ब्रांडिंग को आईआईटी हैदराबाद द्वारा समर्थित किया गया था।

जुड़ने के लिए कार्यक्रम आयोजित करता है, जिससे ग्रामीण क्षेत्रों में विकास गतिविधियों को लागू करने के लिए अधिक तालमेल और समर्थन योजनाओं का समर्थन होता है।

इस दिशा में आयोजित कुछ गतिविधियों में 23 दिसंबर को किसान दिवस मनाना, मल्लारेड्डी कैंसर अस्पताल और अनुसंधान केंद्र के सहयोग से स्वास्थ्य (कैंसर) स्क्रीनिंग शिविर आयोजित करना, ग्रामीण शिक्षा पर जोर देने वाला 1 दिवसीय एडु-टेक 360 सम्मेलन आदि शामिल हैं।

शैक्षणिक गतिविधि के हिस्से के रूप में, ग्रामीण विकास में

हम वर्तमान कार्यों को अधिक कुशल तरीके से आगे बढ़ाना चाहते हैं और अधिक ग्रामीण विकास परियोजनाएं बनाना चाहते हैं जो ग्रामीणों को अपने जीवन स्तर में सुधार करने में मदद करते हैं।

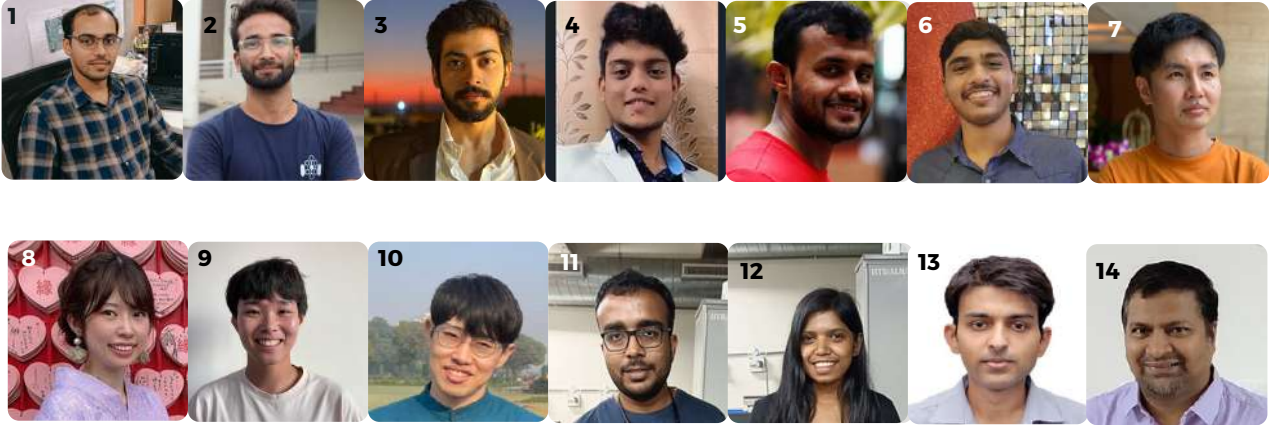
[1] प्रोफेसर रमेश जी

अध्यक्ष - ग्रामीण विकास केंद्र, आईआईटीएच गणित विभाग

[2] डॉ प्रसाद एस ओंकार

सह - प्राध्यापक, प्रमुख - डिजाइन विभाग

IoT-enabled aquaculture monitoring system to assist the fish farmers (MizuGuna 01)



KID: 20230104

1. Introduction:

Rural Development Center (RDC) at IITH was established with a vision to support rural development initiatives of the Government of India through innovative technologies being developed at IITH. We have interviewed nearby villagers and came to know that farming is their major source of income and fish farming is one of the most profitable farming for them. The government is providing fish ponds & fish seedlings (child fish) free of cost to improve the livelihood of nearby 35 villages. Still, the profit margins are very less due to fish mortality and ignorance of fish farming, water quality, and similar parameters. We took the challenge to support them technically by intimating water quality through a web application. The same web portal can be used by any entity to monitor water quality and take preventive measures.



Nearby 35 village fishermen, Fishery Officer of Sangareddy & IITH technical Team

One of the objectives of the RDC-01 project is to improve the productivity of Fish farmers by providing technology to monitor water quality and scientific knowledge on fish farming to avoid fish mortality.

This project has been initiated by Prof Shiv Govind Singh in collaboration with Dr Abhinav Kumar. Later on, Mr Chinmaya Panda joined to lead the project technically and deliver the product on time. The technical team consists of 3 IITH students (Mr Pranadipan, Mr Abhay, Mr Amandeep), One IIIT Raichur student (Mr Vibhanshu Jain) & 4 members from Suzuki Motor Corporation (Mr Aoki, Mr Taichi, Mr Shu, Ms Miwa), working with Suzuki Innovation Center (SIC). We also thank IITH MTech student Mr Tushar & Interns Mr Mandeep, Ms Sradha for their support during the initial phases of the project. We followed PDCI (Plan Design Check & Improve) method or Agile flow throughout the design cycle.

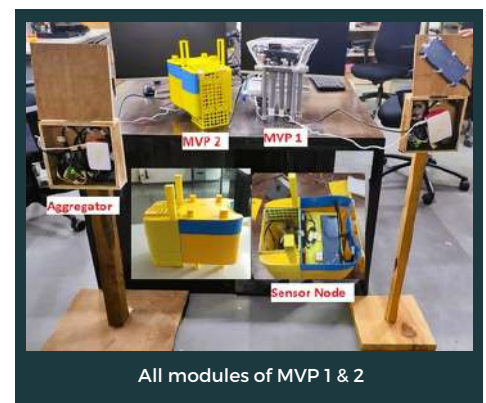
2. System design:

We designed a network of Sensor Nodes spread across fish farms, which continuously monitor water parameters like Temperature, Total Dissolved Solid (TDS), pH, and Dissolved Oxygen (DO)

and send data to the web portal through AWS cloud services. Each sensor node has wireless modules, which will send data to the nearby wireless receiver or Aggregator, and the aggregator has internet connectivity, so it will send filtered data to AWS cloud services.

We have several interlinked AWS services to store the data in Database and preprocess it and render it to web applications. Finally, all users will see the data in our web application. By monitoring the parameters, the farms or concerned authorities will take the required action to improve water quality, fish productivity, the health of fish & fish mortality.

We designed our Minimum Viable Product 1 (MVP 1) around Dec 2022 with basic sensors, acrylic casing, and a simple web application to monitor the data. Then we developed our MVP 2 around the month of March 2023 with improved functionalities. MVP-2 has highly accurate sensors, 3D printed casing & AWS cloud services. The casing has been designed in such a way that the product will float on water and can sustain basic applied forces from any direction. The casing has 2 distinct parts. Part one is for electronic circuits, which are completely waterproof & second part is a perforated chamber for sensors. With help of perforated holes, the water will interact with the sensors and also the sensor tips will be protected from external impacts. Aggregators will be placed in an indoor environment, so one wooden stand with circuitry and wireless modules has been installed.



All modules of MVP 1 & 2

We have done several fields and floating tests to observe the device stability, floating conditions, wireless communication range & failure cases.

We have hosted our web application with the domain name <https://jalagunaciketi.in/> Where the jala = water, guna = quality, ciketi = to observe, in combination, the domain name is for water quality observation.

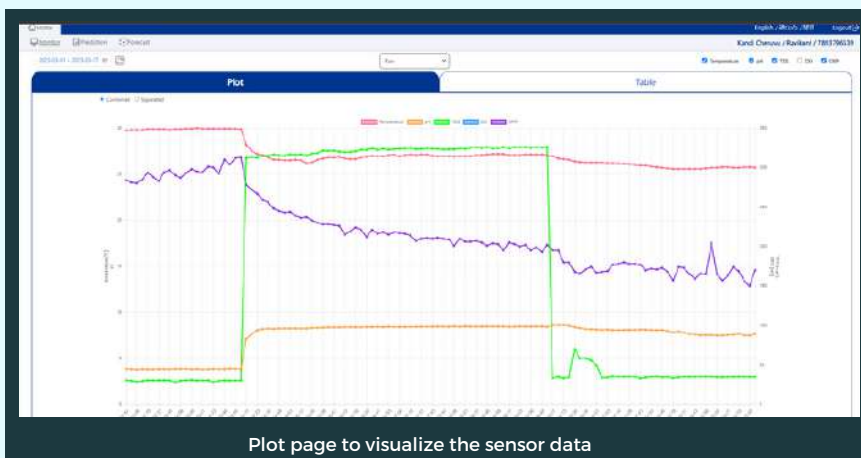
As this project is a collaborative effect of IITH & SIC and has Indian and Japanese developers so the product name has been decided as Mizu Guna 01 (Mizu = water, Guna = quality).



Training provided by IITH & SMC team to the fisherman



Advisory & Core development team from IITH & SMC



Plot page to visualize the sensor data

These web applications have lots of functionality. At present time we have demonstrated the Plot & table option of raw data for only one pond that we have considered for our experimentation.

We took the support of the Local fisherman community president. We had given basic instructions for device use, and operation, how it's important and how to understand the web application data.

To train the fishermen, we have created a tri language (English, Hindi, Telugu) training platform with lots of information, videos and animations. Time to time we will collect the information from the scientific community and will share the knowledge with fishermen to improve the fish quality and productivity.

3. Conclusion:

This product needs lots of modifications and has various future scopes. Not only inland fish farming, but similar products can also be used for Biofloc fish farming, prawn farming, ocean farming, and so forth. We are trying to get the exact water quality for different kinds of fish with different environmental conditions. With our collected data, we are going to implement various predictive models to assist farmers in decision-making. Also, we are interested in low-cost sensor designs to reduce the overall cost of the product. We have started working on the next product version i.e. MVP 3, with lots of advanced functionality by considering its global impact.

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(Background): Field test, where farmer seated above one boat is pulling the sensor node towards the middle of the pond by the help of one rope

Need for Rapid Antimicrobial Susceptibility Testing Devices in Rural Areas



KID: 20230105

Antibiotic/antimicrobial resistance (AMR) is among the looming global health concerns. In 2014, estimates and actual data show that infections with AMR led to the loss of over 7 million lives every year, and that number has been predicted to rise to 10 million lives by 2050. To tackle the growing issue of AMR, antimicrobial stewardship strategies are being adopted in health systems all over the world, mainly in hospitals. These programs are not well established in this industry despite the importance of primary healthcare services in providing healthcare to communities, especially in rural and remote areas.

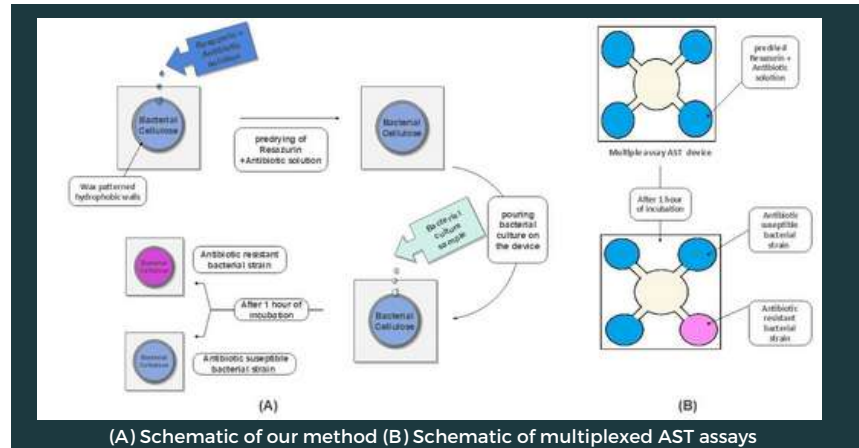


People in rural areas frequently face healthcare obstacles that restrict their capacity to get the care they need. Barriers to care include shortages of workers, health literacy, and stigma in remote regions. The risk of long-distance travel to obtain healthcare services is higher for rural people. In terms of travel time, expense, and lost productivity, this can be a heavy load.

Due to a lack of awareness of the misuse of antibiotics, restricted diagnostic facilities, self-medication, and unauthorized sale of antibiotics, rural residents are prone to the adverse effects of AMR. Even worse, some patients turn to traditional healers for their initial course of treatment, receiving herbal combinations for the management of illnesses. These chemicals, whose composition and

potency are unclear, may improve pathogen fitness and aid in the emergence of resistance.

biopolymer is known for its purity, high porosity, high retention, & water-holding capacity, & 3-D Nano fibrous network.



One of the intervention strategies to tackle AMR is to conduct Antimicrobial Susceptibility Testing (AST) rapidly to allow patients to follow the right therapy instructions. The conventional methods of broth dilution or disk diffusion are labor-intensive and expensive, requiring about 1-2 days to produce results. By then, the patient suffering a bacterial infection would be at risk of consuming broad-spectrum antibiotics. So, using Freeze-Dried Bacterial Cellulose (FDBC) as the substrate to carry out the visual detection assay seemed like an ideal solution. The fabricated device had FDBC as the substrate on which optimized volumes of antibiotics, resazurin dye, and a bacterial sample were added. Hydrophobic barriers are made with help of wax to control fluid flow on the devices. The color change due to pH-sensitive dye gives out the susceptibility results.



In the existing literature, filter paper-based microfluidic devices served the purpose of quicker detection. But these, too, have their own set of limitations, be it quick dry-up, low porosity, and poor water-holding capacity, which is not favorable for bacterial growth.

We (Micro Reaction Engineering Lab and Cellulose & Composites Group) were looking for a material/substrate that does not have these drawbacks. Bacterial Cellulose (BC), a

Moreover, this project aims to produce devices with aligned cellulose nanofibers which will expedite the detection. Hence, the developed device will be capable of detecting

susceptibility quicker (less than 1 hour) with very low volumes of fluid. The assay packaging and ease of use will be focused on in order to optimize the design for multiplexed AST. This would help to improve the clinical viability of the device.

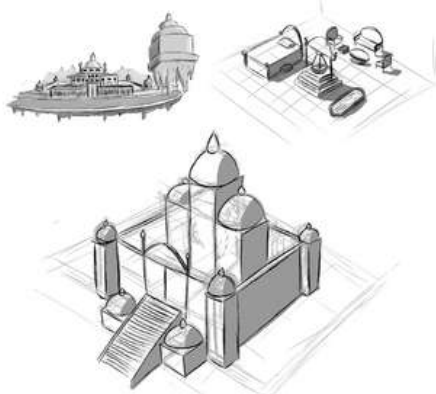
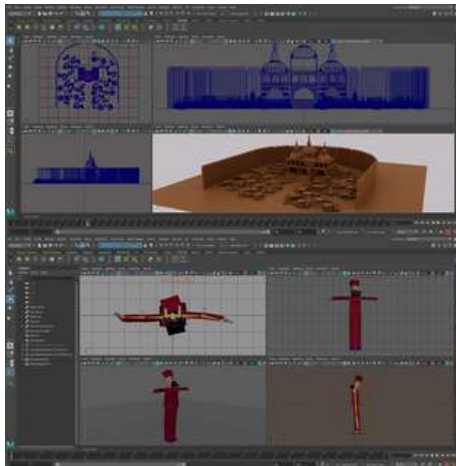
- [1] Mr Mukul Choudhary,**
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- [2] Ms C Sarita,**
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- [3] Dr Mudrika Khandelwal**
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Tee - Hee

by
Department of Design (DoD)

KID: 20230106

The pandemic era has resulted in several challenges for humankind. The effectiveness of hygiene practice is significant in controlling the spread of viruses and other diseases. This situation is more prominent in rural India, where there is limited technology and knowledge about hygiene. The initiative of IIT Hyderabad to execute the project on “Personal Health and Hygiene practice for rural school children” is intended to bring changes to the hygiene practices of school children in the rural areas of Telangana, specifically in the vicinity of IIT Hyderabad. This study investigates the teaching and learning of oral hygiene among rural children. To achieve this, rural children were interviewed to understand their problems through semi-structured interviews. The interviews resulted in a need to address oral hygiene practices.



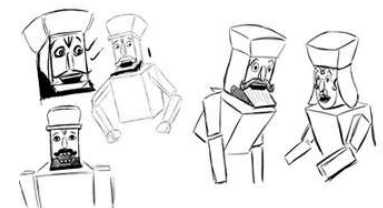
Gamification has been recognized as one of the effective methods to educate children. Puppeteering techniques were studied from different regions of India, and the Kathputli aesthetic was chosen. An interactive game (TeeHee) was developed to interactively learn and develop insights about oral hygiene. A story was developed using this style as an inspiration. The kids will start learning and practicing oral hygiene practices digitally in a game where fight food particles are going to attack the energized teeth of their respective avatars.

3D Animation was used as a medium to narrate the story and make the game, where multiple assets, characters and environments were developed. Assets like toothbrushes, tongue cleaners and flossing equipment were modelled to create an interaction on a multi touch monitor for kids to practice gestures needed for proper oral care. Characters and a story involving design, script development, storyboarding, modeling, texturing, rigging and animation were developed.



The gestures were incorporated into the game using Unity™3D Game engine software. The game, after the first stage of development, was deployed at the Zilla Parishad High School in Mamidipally village of Kandi Mandal, Sangareddy district, for heuristic evaluation, and insights from the deployment would be used to modify/add features to the game and the story.

The development of TeeHee is an example of how the culmination of technology and animation can be used to improve public health in rural India. By using games, we can make health education more accessible, especially in areas where healthcare awareness is limited.



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MDes (Visual Design)
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Reimagining our Rural Villages

Value Chain project supported by Suzuki Innovation Centre

KID: 20230107

The gap between rural and urban has been ever-decreasing in this digital world. In an attempt to understand rural India better, the IITH Department of Design and Suzuki Innovation Centre partnered to understand rural needs, wants, and aspirations deeply. Our team started off with a vision to empower rural India by focusing on the end-to-end supply value chain. Equipped with a research plan, thorough on-ground research, namely Focus group discussions, in-person interviews and surveys, were conducted in two remote villages of Telangana, namely Antharam and Salabatpur. A simultaneous secondary literature review suggests that the likes of rural people are trending towards that of the urban population. But it is not clear as to whether the same marketing and supply chain strategies which are deployed in the urban scenario will work in the rural areas. Also, how to modulate the strategies based on the geographic areas. This research attempted to address these gaps and try to identify specific guidelines to strategize and plan intervention in rural consumer ecosystem.

Phase 1 Research:

117 survey respondents and 2 focus group discussions later, the insights from the field visits made us understand that the villages were struggling to procure city-grade products. Insights led through primary and secondary research helped us understand the needs and desires of the people of Antharam. Survey results showed us that the villagers travel a lot, almost 20 km to sometimes even as far as 70 km, to get daily products like medicines, groceries, and household items. Only some people have their own vehicle for shopping in the city. There exists a willingness in the people to pay if the products are somehow available to them in their village only. They would prefer not to travel to the city if the availability of products is closer to home.



Phase 2 research:

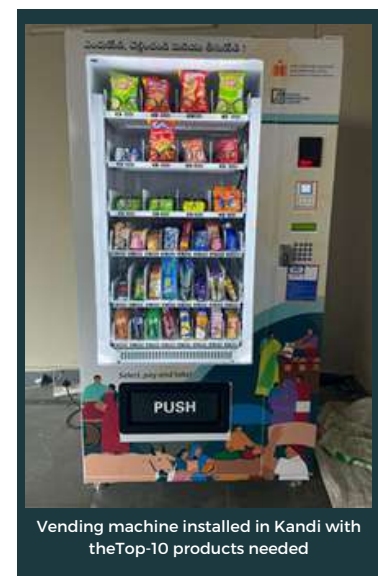
Research was expanded to more villages, namely Mamidipally, Kandi Mandal Gollagudem Thanda, Kandi Mandal, Bujirampet, Kawdipally mandal Mohammed Nagar, Kowdipally Mandal, Byathol and Sangareddy Mandal to gather richer data. We surveyed by directly interacting with the household members and shopkeepers in the village. We wanted to grab the data of the top 10 products and services that villagers are availing within the distance of 1-5 km, 5-10 km and above 10 km. The whole research helped us to brainstorm on design directions and solutions which would be feasible as well as usable for the villagers and would help in ease of living. Our team decided to go ahead with forming a system design intervention where the top most needed products would be available via a vending machine installed in the village premises. The research and its impact are in the assessment stage, wherein the response from the villagers will be recorded and analyzed. This project helped to deeply understand ways to improve the ease of living of rural inhabitants and implement those on the ground through action-oriented research. The project's present status is that customers are enthusiastic about the machine, and we feel that this intervention will lead to greater ease of living.



Focus group discussions and field visit interviews by our team in Antharam Telangana

The gestures were incorporated into the game using Unity™3D Game engine software. The game, after the first stage of development, was deployed at the Zilla Parishad High School in Mamidipally village of Kandi Mandal, Sangareddy district, for heuristic evaluation, and insights from the deployment would be used to modify/add features to the game and the story.

The development of TeeHee is an example of how the culmination of technology and animation can be used to improve public health in rural India. By using games, we can make health education more accessible, especially in areas where healthcare awareness is limited.



Vending machine installed in Kandi with the Top-10 products needed

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MDes 2Yr Department of Design

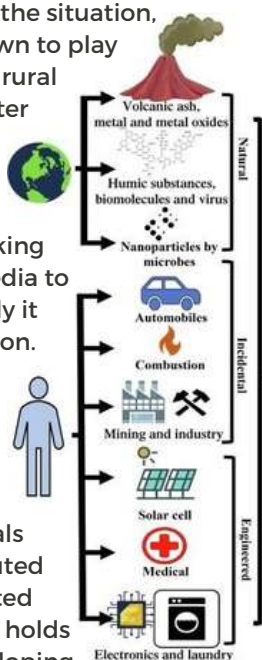
Water Filtration in Rural Areas

KID: 20230108

Water plays a significant role in the survival of humankind. A primary percentage of the rural population depends on water for agriculture, drinking, and survival. Water coming from rain and various sources getting contaminated because of the pollution and the effluents of factories near rural areas. Consuming this contaminated water causes problems and incurable diseases for humankind. Not only is the contamination caused due to pollution, but also some ponds, lakes, and rivers on which the rural depend contain harmful chemicals like fluoride and lead, causing fluorosis, which ultimately leads to bone deformation, various nanoparticles, and so on. From this, many lives have been in danger for a long time. Understanding the situation, filtration is known to play a crucial role in rural areas to get water for all its requirements.

We started working on Filtration media to design and apply it for depth filtration. Using natural materials to make the filter media should not inject harmful materials other than polluted and contaminated water. Cellulose holds a place for developing filter media. Cellulose is obtained from two (02) (majorly) routes from wood pulp and micro-organisms.

Cellulose developed from wood pulp requires the cutting of trees and chemical processing for getting pure cellulose. This cellulose extracted from wood pulp is impure and is very stiff enough, which is not recommendable for filter media.



Cellulose is obtained from a micro-organism which is a bacteria named *Acetobacter xylinum*. The cellulose obtained from this bacterium is in the form of nanofibers, which can be tune able according to its end usage. Because of to have the higher surface area and good particle capturing efficiency, we recommend using nanofibers, which are getting from the above-stated bacteria type and that form bacteria termed Bacterial Cellulose.

To remove the contaminants of solid particles with different particle-capturing mechanisms like interception, impaction, and straining. Other than the particle-capturing mechanism, adsorption plays a key role in capturing the dye and dissolved particles in the water. To implement this mechanism, we are using bacterial cellulose-based filter media for removing particles in the range of nano size.

The permeability and porosity were calculated on a laboratory scale to observe its viability for using it as filter media. The porosity (avg) for a bacterial cellulose pellicle was found to be $86.01 \pm 4\%$, & flux was also $300.1 \pm 10 \text{ Lm}^{-2}\text{h}^{-1}$, which enhances the possibility of using this pellicle as a filter media.

Filtration efficiency was calculated with experimental using AgNPs (Silver Nano Particle) of range between 30-40nm, got an efficiency of 99%, which shows the excellent particle holding power of a Bacterial Cellulose Pellicle.



(a) Before Experiment



(a) After Experiment
Bacterial Cellulose Pellicle as Filter Media

“Cellulose is obtained from a micro-organism which is a bacteria named *Acetobacter xylinum*”

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Research Scholar, ID PhD, Dept of MSME & CE

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Associate Professor,
Dept of Materials Science and Metallurgical Engineering

[3] Dr Seetha N
Assistant Professor,
Dept of Civil Engineering

*Image Reference: J Environ Pathol Toxicol Oncol. 2018; 37(3): 209-230. doi:10.1615/JEnvironPatholToxicolOncol.2018026009

Utilization of waste Corn Cobs for the production of furfural



KID: 20230109

Corn cob is an abundant agricultural waste around Hyderabad, rich in pentosans (~30 wt%) and cellulose (~40 wt%). United Andhra (4 MMT/year) is the second largest producer of corn, with the highest productivity (5.7 MT/hectare) in the country after Karnataka (4.4 MMT).

Therefore, this proposal was focused on utilizing waste corn cobs to produce industrially relevant organic chemicals: furfural and 5-hydroxymethyl furfural (HMF). Such kinds of technological initiatives will improve the economics of our country by creating job opportunities in rural areas.

The successful implementation of the project will also boost the growth of the agriculture-based industries in rural areas to produce green energy/organic chemicals. The process involves the dehydrocyclization of pentose and hexose sugars to furfural and HMF in the presence of a solid acid catalyst, such as cation exchange resin, sulfonic acid-functionalized silica, etc.

The reaction favours high furfural yield at lower reaction temperatures (140-180°C); however, the yield of HMF is prominent at higher reaction temperatures.

Representational Image



Prof Sunil K Maity
Dept. of Chemical Engineering



A step towards revolutionizing Rural Healthcare

KID: 20230110

Rural healthcare in India has long been a challenge due to a need for more resources, trained healthcare professionals, and infrastructure. Many rural areas in the country lack basic healthcare facilities such as hospitals and clinics, and those that do exist are often understaffed and under-equipped. The COVID-19 pandemic has further exposed the gaps in rural healthcare infrastructure in India. However, technology is playing a vital role in enhancing healthcare facilities in rural areas.

Only 31% of India's doctors serve 71% of India's population, which is the rural population. As a result, the quality of health services in rural areas is extremely low compared to urban areas. Adding to this problem are the connectivity issues in rural areas are extremely low compared to the urban areas.



What do we do?

We connect patients from rural areas to specialist doctors in the cities and implement the Electronic Health Monitoring System (EHMS) in both letter and spirit. The RMPs from the village will be our primary data source to measure the body vitals of patients. The data is to be stored in a database where it is analyzed by Anomaly Detection Machine Learning (ADML) algorithm to classify patients into healthy and critical patients. This data is sent to the appropriate specialist doctor.

The specialist doctor can view the details mentioned by the RMP and can advise him accordingly, or in case of an emergency, the doctor can directly come in touch with the patient and can ask him/her to be admitted at a nearby hospital based on severity.



"It is health that is the real wealth and not pieces of gold and silver." -- Mahatma Gandhi



Field Study

Our mission & vision

In conclusion, technology is playing a vital role in enhancing rural healthcare in India. Telemedicine, EHRs, mHealth technology, and AI are all being used to improve the quality and accessibility of healthcare in rural areas. However, it is important to note that technology alone cannot solve all the challenges of rural healthcare in India. The government and other stakeholders must continue to invest in healthcare infrastructure, healthcare workforce training, and healthcare financing to ensure that rural residents can access quality healthcare services. We at Vaidyo, are trying to solve the connectivity issues in rural areas and provide them with the same level of healthcare in urban areas through telemedicine. We would also decrease the need for traveling in some cases for physical consultations, which will benefit the patients in case of any severity. Not only will these doctors treat existing conditions, but also work to maximize prevention strategies.

Social media handles of Vaidyo:

- www.Vaidyo.life
- Insta: @vaidyo.life
- LinkedIn: vaidyo.life
- Facebook page: Vaidyo.life



Field Study

Current Situation

Rural populations are distributed in villages with different medical needs and expertise. There are about 1-2 RMPs and 1 ASHA worker for 1000 people. The RMPs' medical expertise lacks to a significant extent when compared to that of a doctor. Approximately only 1 PHC for 3-5 villages.

There are several ways in enhancing rural healthcare in India, including telemedicine, Electronic Health Records (EHRs), mobile health technology (mHealth), and AI, among many others.

Case study

In our survey, we found out about an unfortunate case of death because of negligence and delay. A lady was experiencing chest pain and had consulted RMP regarding this. The RMP suggested they check with a specialist, but they delayed this, and the lady passed away in her sleep. If Vaidyo were to be implemented, then we could connect the patient with a specialist for immediate help and could have prevented this unfortunate incident.

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MTech 2nd yr, Dept. of MAE

[2] Ms Gayatri Pudipeddi,

MDes 1st yr, Dept. of Design

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BTech 3rd yr, Dept of Physics

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BTech 3rd yr, Dept of CSE

Battery Cart from Scrap Steel



KID: 20230110

Background:

The high cost of transportation has been a major problem for farmers in villages near Sivaganga, Tamil Nadu. In rural villages, small farmers frequently transport their goods or produce in quantities less than a ton to the local markets. However, the high cost of hiring larger vehicles for transportation significantly reduces their profits. To overcome this problem, a low-cost prototype electric loader was developed using scrap metal and vehicle materials. This battery-powered vehicle is capable of transporting up to 500 kg of goods, including animal fodder, rice seedlings, bananas, and vegetables. This innovation provides an affordable and sustainable solution to the transportation problem faced by farmers in these areas.

Novelty:

The uniqueness of this idea lies in its low-cost solution to the transportation problem faced by farmers in rural areas. The use of scrap metal and vehicle materials to develop a battery-powered vehicle makes it an innovative and cost-effective solution. Moreover, the project can be viewed as a waste-to-value initiative that has benefited the agricultural sector.



The electric loader. (a) Design layout, (b) Testing on rocky terrain, (c) Travelling with a load on a rural road, (d) Transporting agricultural produce to the local market

Social & Sector Relevance:

The development of this low-cost loader has significant social and sector relevance. It has helped reduce transportation costs for farmers and enabled them to sell their produce at a higher profit. It has also provided a sustainable solution to the high cost of diesel-powered vehicles, reducing carbon emissions and improving air quality. However, it is to be noted here that the speed of the electric loader is designed to be less than 20 km/h, considering safety in this prototype model.

Future Aspiration:

The low-cost electric loader has the potential to revolutionize agricultural transportation in rural areas. The future aspiration of this idea is to promote its adoption in other villages and to develop further innovations in the field of agriculture using robotics technology.



Further References:

NEWS7 Tamil - links (<https://fb.watch/8UHx4RCY4u/>)
 SUN News - links(17.43) <https://www.youtube.com/watch?v=e7fUvHa-orY>

Mr Thamilselvam
 PhD Scholar, Dept of CSE

Activities at iTIC Incubator

KID: 20230112

Innovation Day

Innovation Day was celebrated on January 7, 2023, at Technology Innovation Park (TIP), which showcased 15+ startups, 15+ R&D innovations, and 7 facilitators. The event saw a footfall of more than 1200 visitors, including corporate delegates, aspiring entrepreneurs, startups, innovation leaders, ecosystem enablers, and students from all across the country.



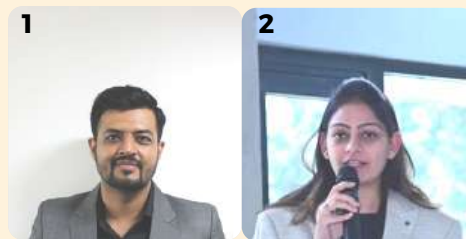
Innovation Day

ABCD

Acclimatization BootCamp for Defense (ABCD) is a unique program launched to identify civilian innovations and realign with defense applications. In the first cohort, iTIC selected 11 startups that are currently going through mentorship from the College of Defence Management (CDM) and rebuilding their prototypes suitable for defense applications.



Acclimatization BootCamp for Defense



iDEX Roadshow

iTIC being a Partner Incubator (PI) for the iDEX program under the Ministry of Defence, organized a roadshow for DISC 9 challenges which focuses on Cyber Security solutions. The roadshow had the presence of the Indian Cyber Crime Coordination Centre (I4C) CEO and iDEX team members as speakers of the event. The roadshow was attended by aspiring entrepreneurs, startups and students.



iDEX Roadshow



Semicon Roadshows

To promote innovations under semiconductor domains, iTIC and FabCI in association with NXP organized various roadshows across the country. The aim of the roadshows was to sensitize students and faculties about the support provided by the government for semiconductor innovations. A total of 6 roadshows across the country saw the participation of 1000+ students and 80+ faculties.



Semicon Roadshows

Entrepreneurs Meet

iTIC organized full-day entrepreneurs meeting on the outskirts of Hyderabad. The aim of the casual gathering was to enable deeper conversations and networking over fun activities.



Entrepreneurs Meet

Hyderabad E-Motor Show Exhibit

iTIC, along with 4 startups, exhibited at the E-Motorshow that took place in Hyderabad from February 8-10, 2023. The exhibit provided a good outreach opportunity and customer feedback for startups.



i-TIC Start-ups @E-Motor Show

Aero India Exhibit

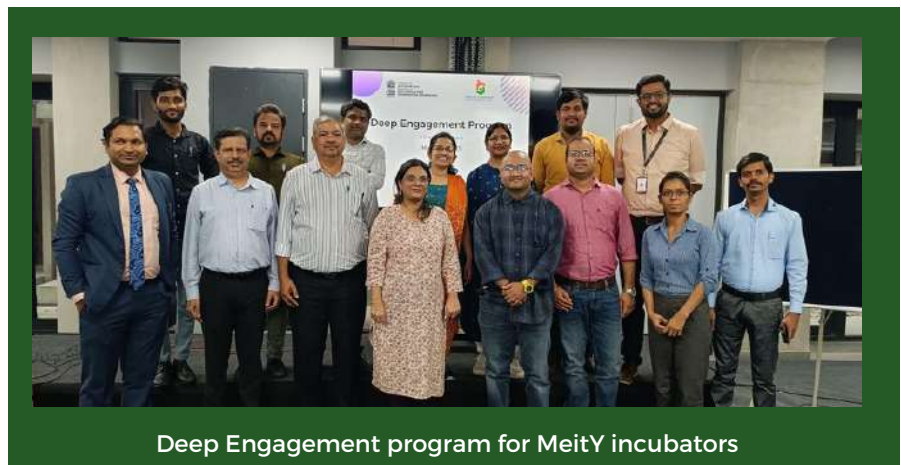
The Aero India Expo 2023 was held from February 13-17, 2023, at the Air Force Station Yelahanka, Bengaluru. The exhibition provided a platform for innovators, startups, MSMEs, academia, and investors from the defense and aerospace industry to come together and foster innovation.



Aero India Exhibit

Deep Engagement program for MeitY incubators

Deep Engagement Program, organized jointly by iTIC Incubator and SINE IIT Bombay, brought together 15+ incubator representatives from G2 and G3 MeitY-supported incubators for a day-long event focused on establishing and sustaining successful incubator programs. The event provided a platform for valuable insights and discussions among the incubator community, with speakers sharing best practices and policy interventions in academic institutions to build a startup ecosystem. Participants had the opportunity to exchange ideas on building startup pipelines, assessing startups, and supporting provisions for startups, including mentoring, labs, and fund disbursement.



Deep Engagement program for MeitY incubators

Weekly Sessions

Associated startups at iTIC Incubator are regularly provided an opportunity to interact with experts from varied domains as a part of structured mentorship support.

Below mentioned are some of the closed door expert sessions organized by iTIC.

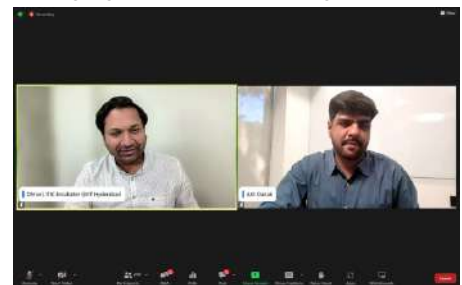
- Case Study on Nephroplus
- Business Modeling
- One-to-one mentoring for Branding a startup
- Expert session on Customer Acquisition
- The secret of storytelling
- How to make your startup fundable and investment ready



Weekly Sessions

Debriefing of the Indian Tech Startup Landscape Report

iTIC Incubator and the Department of Entrepreneurship at IIT Hyderabad hosted a debriefing webinar on the Indian Tech Startup Landscape Report. The report, created by Nasscom Zinnov, offers an in-depth analysis of the Indian Tech Startup Ecosystem, covering emerging trends and challenges.



Startup Stories

Sridevi Machinery Works

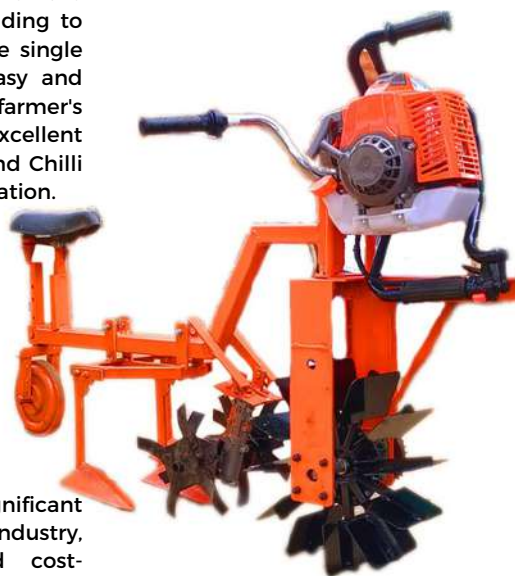
The agricultural sector in rural areas of developing countries still heavily relies on traditional farming techniques. Among these practices, weeding is a crucial step to ensure good yields. However, the use of traditional weeding techniques, such as bare hands or rudimentary tools, is physically demanding, time-consuming, and can damage crops. Large-scale farmers have turned to imported weeders, but these products often come at a high cost and have limited availability of spare parts.

To overcome these challenges, innovator Shanmukha Rao developed a new weeder with a single wheel that can be operated while sitting on it and operating. The product has been successfully tried and tested by farmers in the Mahabubabad district of Telangana.

The man-riding power weeder, designed by Sridevi Machinery, uses a petrol engine, gearbox, chain, and two iron ploughs. The entire set is less expensive compared to competitor products and has several advantages.

The new weeder with one wheel solves the problems caused by traditional 2-wheel differential gear weeders, which can cause damage to the plants and inconvenience farmers. The absence of gears in the new product eliminates the difficulty in turning, which causes pressure on the shoulders of the operator, leading to discomfort and plant loss. The single wheel also makes turning easy and smooth without stressing the farmer's shoulders, making it an excellent option for crops like Cotton and Chilli for weeding and internal cultivation.

The product's advantages do not stop there; the operator does not get tired of using the weeder, making it an excellent option for large-scale farming operations. The low cost and easy maintenance also make it a valuable investment for small-scale farmers. The single-wheel weeder is a significant innovation in the farming industry, providing an efficient and cost-effective solution to traditional weeding methods while improving crop yield and farmer comfort.



Mono wheel weeder



Shanmukha Repalle
Director
Sridevi Machinery Works Pvt. Ltd.

Niwas Repalle
Director

Sridevi Machinery Works Pvt. Ltd.



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Manager - Programs, iTIC Incubator, IITH

[2] Ms Ritu Chaturmutha

Executive - Programs, iTIC Incubator, IITH

Enabling Rural Communities with Technology

TiHAN @IITH



KID: 20230113

IITH has good rural development initiatives that include R&D, skill development, and entrepreneurship activities. DST, MEITY, DRDO, and industries fund various research and development projects. Under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), the Department of Science and Technology (DST) has sanctioned the prestigious Technology Innovation Hub at IITH in the technological verticals of autonomous navigation and data acquisition systems. Entering its fourth year, TiHAN has become part of many projects and development activities that contribute well to rural development and, hence, to the development of our country.

TiHAN and IITH, in collaboration with various industries and academic institutions, have conducted multiple hackathons, skill development workshops, and collaborative projects as below.

1. ANTRA (Autonomous Navigation for Transformation of Rural Areas)

IRMA-ISEED Foundation is a technology business incubator supporting and nurturing early-stage rural, social, and collective enterprises. ISEED encourages individuals and institutions to experiment with empathy, helping them innovate new products, services, and institutions that impact livelihoods. They work with our Social Enterprise Partners (SEP) and Ecosystem Partners (EP) to co-create a dynamic and vibrant social entrepreneurial ecosystem and focus on the objective of supporting and nurturing the FPOs and social enterprises through capacity building, research, and a strong focus on enabling sustainable transformation.

Due to the uniqueness of the foundation, TiHAN-IITH has



Address during the ANTRA Hackathon by Mr Girish, Hub Executive Officer, TiHAN-IITH

collaborated with the IRMA-ISEED foundation and conducted this hackathon.

The top five winners out of the twenty final participants were as follows:

| Name of the Participant | Organization |
|-------------------------|----------------------|
| Raiat Nikhade | Viroha Food Pvt Ltd. |
| Shruti Mehta | Bharat Godam |
| Vishal Singhal | Temperate Tech |
| Ajith Kumar | Sand Bird |
| RLVN Sai Gnana Sagar | Agri AI |



One of the Startups sponsored by TiHAN-IITH during the ANTRA Hackathon

2. Skill Development Workshops

A skill development program called "SKILLS ON WHEELS" was initiated by TiHAN, in which the kits were taken to various schools and colleges near IITH. This program intends to provide an opportunity to learn the basics of technology in the Unmanned Aerial and Ground Vehicles domains.



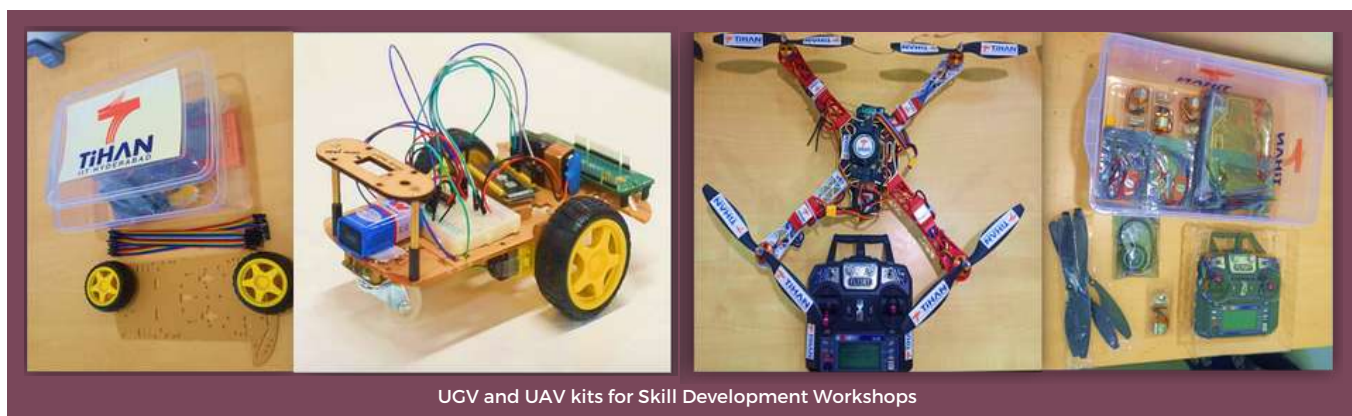
Skill Development Workshop at ZPHS, Sangareddy



SKILLS ON WHEELS program by TiHAN-IITH



UAV & UGV Design demonstration to Students



UGV and UAV kits for Skill Development Workshops

TiHAN-IITH has developed easy learning kits which are utilized to conduct skill development classes at various avenues. These kits consist of a quadcopters and

ground vehicles basic structures, Raspberry Pi board, required basic sensors, Brushless DC motors and other necessary controllers.

Skill development workshops were conducted using these kits, which impacted the students and attracted them to learn such advanced technology.

3. Leveraging the UAV-based technology for crop residue: Important resource for crop-livestock farming community:

This ongoing project by TiHAN, IITH in collaboration with International Crops Research Institute for Semi Arid Tropics (ICRISAT), Hyderabad is with an objective of UAV-enabled assessment of crop residue.

Using UAVs, the quantity of dry biomass is estimated as a factor of height of the plant and the canopy cover. This also aims at estimating the nitrogen content and digestibility factor of the crop residue.



UAV Surveying to estimate canopy cover



Concept Explanation on field by TiHAN-IITH and ICRISAT

4. Advanced Aerial mapping (AAM) Rider:

This is another ongoing project by TiHAN and IITH in collaboration with IIIT Sricity with an objective of Data collection and database creation for structured or unstructured mango farms.

This project also aims at automating the monitoring process and estimation of yield in the mango farms. This project gives an estimated yield of produce without the need of plucking the produce from the field.

Once the produce reaches its full yield time as determined by the estimator, the produce can be sent to market for improved revenue.



AI Estimator for Mango yield

Rural Development Centre

Rural Development Centre (RDC) at IITH was established in July 2020 with a vision to support rural development initiatives of the Government through innovative technologies being developed at IITH.

The main objectives of RDC are as follows:

- To identify the problems and needs of the rural people through direct interaction or with the help of reputed institutions/ organizations/ NGOs working for rural sectors.
- To strengthen the UBA activities conducted in the villages adopted by IITH.
- To help the NNS team to conduct activities in nearby villages.
- To facilitate the faculty/staff/students who are passionate to develop technologies to be used in the field such as agriculture, sanitation, drinking water, etc. in rural areas.
- To collaborate with institutions/industries interested to contribute meaningfully for the development of the rural sector.
- To organize training/workshops on skills development to educate the villagers.
- To spread awareness among rural people about the importance of hygiene and cleanliness.
- To develop an academic framework for working on societal problems, their solution, and delivery.
- To involve and motivate the students to work for the welfare of society.
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- To involve and motivate the students to work for the welfare of society.

Prof Rajalakshmi P,
Project Director, TiHAN - IITH
Professor, Department of Electrical Engineering

SIC-GRIPP: Empowering Rural Entrepreneurs to Build Sustainable Communities

KID: 20230114

Suzuki Innovation Centre (SIC) was jointly established by Suzuki Motor Corporation, Japan (SMC), and IITH in February 2022. SIC has a mission to build an open innovation platform to stimulate the Japanese entrepreneurial spirit and to encourage broad stakeholders to take on ambitious challenges and explore new frontiers in India. We believe that India is now rapidly transforming into one of the world's most dynamic and energetic places for innovation. SIC aims to leverage this transformation by creating an open innovation platform through the following principles.



MoU signing between IITH and Suzuki, Feb 2022

#1 ENGAGE: Involving India and Japan in the circle of partnership for universities, startups, and industries from India and Japan to connect.

#2 EXCHANGE: Catalysing mutual learning through interaction between human resources and skill development between India and Japan.

#3 INNOVATE: Promoting innovation in the domains of rural development, sustainability, mobility, and carbon neutrality.

Among them, we would like to share one highlighted project this time. Our supply chain project will be shared by the Design department in this newsletter, so please check it out.

GRIPP (Grassroots Innovations Pilot Project)

Innovation has always been considered the domain of the privileged and urban areas.

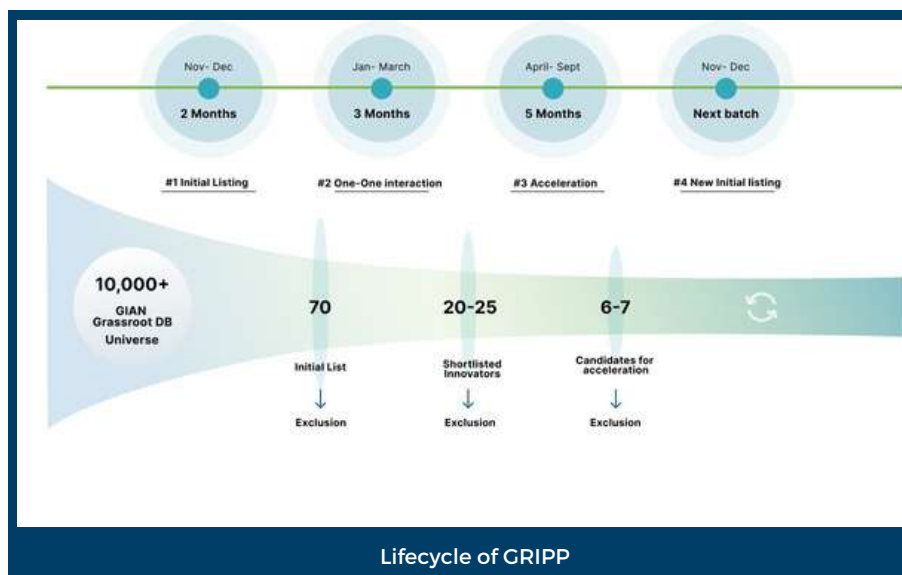
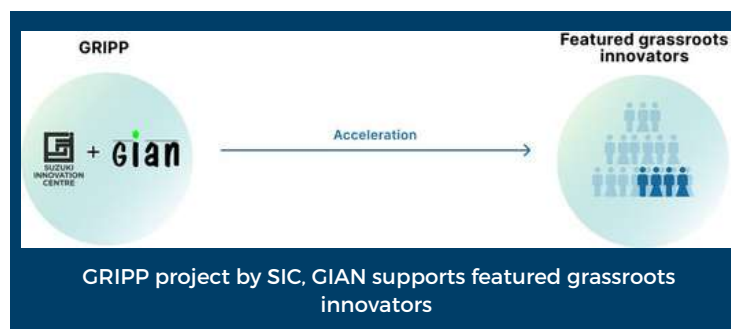
However, the reality is that the biggest population lies in rural areas, and the greatest innovation often comes from there. SIC recognized this and launched the Grassroots Innovations Pilot Project (GRIPP) jointly with the Grassroots Innovation Augmentation Network (GIAN) in October 2022.

GRIPP is an acceleration program to scale up the grassroots entrepreneurs in an ethical manner. GRIPP provides a platform for connecting rural innovators, technology experts, and business experts in order to accelerate the growth of rural innovators.



GRIPP's main activities include identifying grassroots entrepreneurs who improve rural households' quality of life, establishing an ecosystem of mentorship, resources, and capital to accelerate their growth, and creating forward and backward links for rural enterprises to achieve a self-sufficient society in rural areas.

Grassroots innovators typically reside in rural areas and are passionately working to solve local problems with unique and feasible solutions. These innovators have a deep understanding of the problems faced by their communities and are using their knowledge to make a positive impact.



The collaboration partner; GIAN organization (Gujarat Grassroots Innovation Augmentation Network), is working with us to identify and scout grassroots innovations. GIAN is the first incubator of grassroots innovations, founded in 1997 in India. Their database contains over 10,000 grassroots innovators and 70 high-impact innovations in rural areas have been shared with GRIPP. GRIPP had shortlisted 20 innovations. GRIPP has visited these innovators, met with them in person, and listened to their life, how the invention idea came to their mind, and how passionate they are to change their villagers' lives.

Based on these one-on-one interactions with the 20 innovators, 6 innovators have been selected for the acceleration program. The program will provide handholding support to these rural entrepreneurs to connect with the market, find suppliers, and access the latest technology to enhance their productivity and competitiveness.

In order to ensure that these entrepreneurs have access to the latest technology, GRIPP, in collaboration with domain experts in IITH, aims to empower these innovators with the tools they need to transform their local communities and make a positive impact on the world.

Example of innovations supported by SIC-GRIPP:

Sanjay Tilwa, a farmer's son from Gujarat, India, invented the 'Multipurpose Groundnut Digger' to tackle labor shortages during groundnut harvesting. The tool helps speed up the process, which is critical due to the risk of rain during the harvest season. The same machine can be used for other root crops like turmeric and garlic.

GRIPP supports Mr Sanjay Tilwa in expanding his customer base and increasing sales by establishing distribution and finance partnerships. We aim to improve operating economics and reduce production costs while maintaining the highest standards of quality.

Paddy Transplanter:

Mr Nishi Biswas from Bhopal invented the 'Paddy Transplanter' to reduce the labour-intensive process of transplanta-tion and to mitigate drudgery, especially for women in rice transplantation. Weighing 20 kg and with a pulling force capacity of 2kg, the machine is suitable for single-person operation.

To scale up Mr Nishi's product, GRIPP provides support in connecting him to farmers for user feedback to improve the machine's design and efficiency, reducing production cost, and devising effective go-to-market strategies. GRIPP also assists in establishing a distributor network to support him in selling his current stock.

To achieve these, GRIPP will work with IITH's design department to refine the machine's design based on user feedback, with an emphasis on boosting competitive features, ergonomics, and efficiency.

SIC believes that rural entrepreneurs have the potential to create a positive impact on the community and drive economic growth. GRIPP keeps working to make the future of rural entrepreneurship in India bright.



Mr Nishi Biswas from Bhopal invented the 'Paddy Transplanter'



Mr Sanjay demonstrating his machine at his workshop, Rajkot

[1] Ms Prathyusha Thammineni

Project Head of GRIPP
Suzuki Innovation Centre, TRP, IITH

[2] Ms Rama devi

Rural Innovator
Suzuki Innovation Centre, TRP, IITH

Unnat Bharat Abhiyan

@IITH

KID: 20230115

Unnat Bharat Abhiyan (UBA) is a flagship program of the Ministry of Education launched in the year 2014 and spearheaded by IIT Delhi as a National Coordinating Institute. Unnat Bharat Abhiyan is inspired by the vision of transformational change in rural development processes by leveraging knowledge institutions to help build the architecture of an Inclusive India. IITH joined the program as a participating institute and is actively involved in the cause of rural development. In the beginning, the Institute adopted five villages in Medak District, and later, in 2020, two more villages were adopted in the newly formed Sangareddy district. The primary goal of the UBA program is to build connect with the adopted villages and initiate development programs in those villages. The essential aspect of this is to understand the grassroots problems by conducting interactions with the village community, which are known as Grama Sabhas. Grama Sabhas are regularly conducted from time to time with all the stakeholders of the village, like the Gram Panchayat members, Accredited Social Health Activist (ASHA) and Auxiliary Nurse and Midwife (ANM) workers, Self-Help Groups (SHG) representatives and other residents of the village. The participating institutes also help in supporting Gram Panchayats in preparing Village Development Plans.

The typical process involves conducting a baseline survey to assess the demographic structure of the village and plan interventions based on the capabilities of the participating organizations. Though the UBA program facilitates generic developmental activities in the adopted villages, but it has identified six thematic areas to focus on, which are:

- 1) **Convergence,**
- 2) **Basic amenities,**
- 3) **Artisans, Industries and Livelihood,**
- 4) **Renewable energy,**
- 5) **Water Management, and**
- 6) **Organic Farming**

IIT Hyderabad is helping the villages to excel in the above-mentioned areas by conducting various awareness camps. Artisan training, technical field demonstrations, etc. IIT Hyderabad also supported actively during the pandemic by providing groceries for the migrant population, conducting awareness camps and managing Covid-19-related protocols. IITH is also closely working with the National Institute of Rural Development and Panchayat Raj (NIRD-PR) Hyderabad, which is also the Regional Coordination Institute (RCI) for the UBA program to implement some of the best practices of rural development.



To make the rural development as part of the curriculum, a 2-credit course on Rural Development was developed and offered to all the students of the Institute. The course was named "Samagra Gramseva". The concept of "Samagra Gramaseva", proposed by Mahatma Gandhi, envisaged the overall development of the village as an inclusive community activity. Originating from the same thought process, within the scope of Unnat Bharat Abhiyan (UBA).

It was proposed as a course to educate the students about the village environment and rural development aspects. The broad outline of the course was to sensitize the students about the broad aspects of Rural development through a) Classroom activities like lectures, Talks, Discussions, etc. and b) Field Visits

Dr Prasad S Onkar

Associate Professor and
Head - Department of Design



Play, Study, Learn and Enjoy

Give your best in all the tasks!!!

KID: 20230116

Currently, I, Dr Ajay Kumar, am working as Assistant Professor at the Department of Electronics and Communication at J.K. Institute of Applied Physics and Technology, University of Allahabad (Central Government University). Before joining the University of Allahabad, I was working as SCIENTIST I - EO (AI LABS) at Cropin Technology Solutions, Bengaluru, Karnataka, India. I worked there from 1 Sept 2021 to 26 Feb 2023 (one and a half year). I was working on "Discrimination of Crop Residues from Bare Soil, Vegetation, Burnt Areas" to reduce stubble-burning activities, especially in Punjab, India. It will also help to detect the farmer/human activity of land/farm and to detect other carbon-positive activity like carbon sink, no-tillage and mild tillage. I used multispectral data from Sentinel-2 and hyperspectral data from PRISMA for this purpose.

I did my PhD from the Department of Electrical Engineering at IITH under the supervision of Prof. P. Rajalakshmi. Before joining IITH from 1 Jan 2015 to 1 March 2023. During my PhD, I worked on "Techniques for Estimation of Crop Yield, Stress, and Flowering Stage using UAV-based Remote Sensing." I developed a technique to discriminate filled and unfilled rice grains of different varieties of aerobic rice. We have used the thermal property of filled and unfilled grain for this discrimination. We filed an Indian Patent on this, which is under process. I did my Post Graduation (MTech) from the Department of Electronics and Communication at the Indian Institute of Technology (Indian School of Mines) Dhanbad Jharkhand from July 2012 to May 2014. After finishing my Post Graduation from IIT (ISM) Dhanbad, I was looking to do research at any good institute. I got an opportunity to give an interview to Prof P Rajalakshmi at WiNet Lab, from the Dept of EE at IITH.

It was a great experience meeting with Prof P Rajalakshmi, and I got the chance to join her lab and IITH as Project Associate. I enjoyed the Deep Learning course by Dr Vineeth N Balasubramanian. There is nothing as such that enjoyed least.



The reason why I will always miss IITH



Convocation - IITH



The best thing I got from IITH

In PhD life, you do not get much time for other activities. We made our PhD football team for our relaxation and to release frustration. Many PhD students and other IITH staff joined us. We played a few matches with the football team of BTech. Students and Faculty. Our PhD football team helped a lot of research scholars to refresh their minds and charge up for their research work.



I did my PhD and research work at IITH. During this, I got training for so many things. I got a chance to learn how to fly a drone and acquire good-quality images and generate Orthomosaic and Digital Elevation Models using Agisoft Photoscan.

In my previous job at Cropin Technology Solutions, Bengaluru, Karnataka, India, I was doing crop monitoring using Satellite-based Remote Sensing. I got a basic understanding of remote sensing by doing UAV-based remote sensing, Python, Machine Learning, and Image & data processing at IITH.

There are many moments. Almost all the moments with my best friends are the best moments. I miss my football matches and evening tea near the mess entrance with my friends.

I like the Infrastructure of IITH, and it is kept on surprising me every day. I would like to do any course once again and live a part of my life at this developed campus.

However, IITH should focus more on Mess-Food to improve its quality and PhD duration. PhD duration should be a maximum of 4 years, and it can be done if Professors have problem statements already defined and they have a plan for the student. They should involve more with PhD student activities related to their research.

Dr Ajay Kumar

PhD (2023)

Department of Electrical Engineering



Khushi Lalit



M V Srinivas



Abhishek Ganesh



Avinash Eranki



C Harish



M Suresh



M V Srinivas



Abhishek Eranki



Idea to Being Implement, IITH celebrates first-of-its-kind Innovation Day with a showcase of 30 Implement-ready Innovations. Read more:

<https://pr.iith.ac.in/pressrelease/IITHID.pdf>.

A Glimpse:

<https://youtu.be/kVFeIDYOD7g>.



IITH scientists within InPTA paving the way to charting Interstellar 'Weather'.

Read more:

<https://pr.iith.ac.in/pressrelease/INPTA.pdf>

Video Abstract:

<https://youtu.be/fJXGC-KDObc>



Celebrating National Science Day, IITH established an 'Advanced Darksky Observatory' inaugurated by Dr K Radhakrishnan, Honorary Distinguished Advisor in the Department of Space and Former Chairman of ISRO.

Read more:

<https://pr.iith.ac.in/pressrelease/ADO.pdf>



IITH established a Ground-breaking Raindrop Research Facility (RRF) inaugurated by Dr VK Saraswat (Hon'ble Member, NITI Aayog, Government of India)

Read more:

<https://pr.iith.ac.in/pressrelease/RRF.pdf>

Electronic Release:

<https://youtu.be/x6k-emUTnMA>

Entrepreneurship Summit 2023
"An Arduous Carrefour"
By Entrepreneurship Cell - IITH



Book Discussion on "Migration and Development in India: The Bihar Experience" by Dr Amrita Datta, Assistant Professor, Department of Liberal Arts, IITH



"Generative AI: why all the fuss?" A Special talk by Prof Toby Walsh On Artificial Intelligence Day. Link to Talk: <https://youtube.com/live/zTLMC6RoqsM?feature=share>



Workshop on "Research Grant Writing & Fund Management" organized by Sponsored Research & Consultancy Office @IITH by Dr Rajiv Tayal, and Dr Prasada Raju.



IITH on behalf of the Indian Institution of Bridge Engineers (IIBE) Hyderabad hosted the Curtain Raiser for Bridge - 2023 a seminar on "Rapid Construction of Bridges and Viaducts"



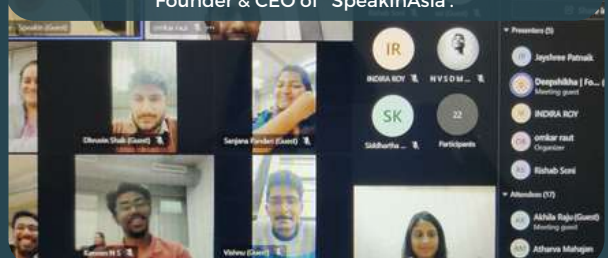
Pariksha Pe Charcha, Live Streaming at IITH



A Workshop On "कंप्यूटर पर हिन्दी में टंकण कैसे करें" by Smt Mitalee Agarwal, PRO-IITH



Dept of EM & IIC, IITH has organized 16th Lecture as a part of the Entrepreneurship Talk series by Ms Deepshikha Kumar, Founder & CEO of 'SpeakInAsia'.



A session on "Motivation" by Cmde Manohar Nambiar (Rtd.), Registrar, IITH.



Dept of EM & IIC, IITH has organized "Achieving Problem-Solution Fit and Product-Market Fit," by Mr Ajay Jain, Founder, and Managing Partner, Silver Needle Ventures.





Dept of EM & IIC, IITH has organized the 18th Guest Lecture as a part of the Entrepreneurship Talk Series by Mr Manish Advani, Founder and CEO of 'MIMO Potentio'.



A talk on "Artificial Intelligence, Drones, UAS & Emerging Technologies for Future Warfare" by Dr V K Saraswat (Hon'ble Member, NITI Aayog, Government of India)



First JICA Chair lecture by Prof Taichi Ono, Director, Health Care Policy Concentration, the National Graduate Institute for Policy Studies (GRIPS), The University of Tokyo.



Career Guidance Series Lecture by Dr Anne Bazin, Expert in Materials Engineering, Project Management, and Multicultural Team Management.

I-STEM Awareness Workshop at IITH



A Lecture cum Interactive session with Dr Sumedh Gostu Technical Risk Manager - Hydrometallurgy Expert at M/s Glencore, USA



IITH, under aegis of IIC_IITH, has organized a workshop by Dr Namratha Vedire, Director, Platform & Operations at Engage, also BTech (2012), Dept of Electrical Engineering, IITH.



A Talk on "The Science & Art of Technical Paper Writing" by Prof Rao S Govindaraju Bowen Engineering Head of Civil Engineering, IISc Bangalore



IITH under the aegis of IIC has organized a talk by Dr Sai Sidhardh, Assistant Professor, Dept of Mechanical & Aerospace Engineering at the DAV School, IITH.



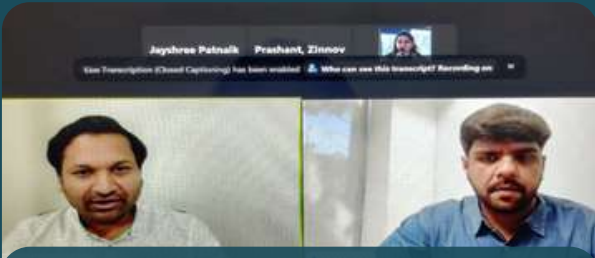
IITH, under the aegis of IIC_IITH, has organized an "Expert Talk on Tech Transfer by Mr Sonal Mishra, Director of Patents & Principal Attorney at law (L S Davar & Co)



The IIM Student Affiliate Chapter at IITH Organized an IIM Lecture by Prof Sriperumbudur Jaikishan Chairman and Secretary, Correspondent at Bhavans New Science College Hyderabad



SPARC Workshop "Indo-UK workshop on translating laboratory Astrophysics Instrumentation for Human Assistance" by Dept of Physics, IITH, in association with TIFR, University of Oxford, & Rutherford Appleton Laboratory, UK



IITH organized a webinar on "Evolution of Technology Start-up landscape in India: A debriefing Session". Jointly hosted by iTICIncubator at IITH, Dept of EM, IITH and Zinnov.



'IIM Lecture series' by Dr Sanjay Thakur, Director, Quality & Reliability Assurance, STATS ChipPAC Ltd.

"Students' Grilling Professors on Entrepreneurship"
A faculty and student interaction session



School Outreach Program by
Optica Student Chapter, IITH



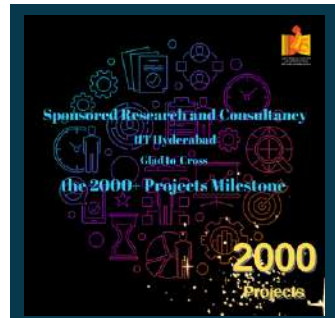
EML Session by Byrana Nagappa Suresh, Indian aerospace scientist, former Director of Vikram Sarabhai Space Centre, & Honorary Distinguished Professor at ISRO HQ.



IITH has hosted grand launch of book "Engineered in India" by the iconic Founder Chairman of Cyient - Dr BVR Mohan Reddy. Link to Talk: <https://youtube.com/live/exrCVnTpPhc?feature=share>



Inauguration of Indian Institute of Metals Student Affiliate Chapter at IITH



Sponsored Research and Consultancy, IITH is glad to Cross the Milestone of 2000 projects.



Poster Making Competition on the occasion of National Pollution Control Day at DAV School IITH Campus



Poster Making Competition on the occasion of National Energy Conservation Day at DAV School IITH Campus



IITH is gratified to have the admiration of 40k followers on the Twitter Handle

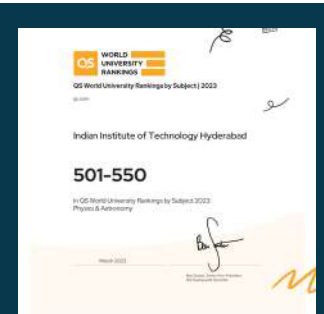


Youth Day Walkathon at IITH



PASSION

Passion, a strong & intractable or barely controllable emotion or inclination towards something. Have a look at the aura of passion at IITH. Video Abstract: <https://youtu.be/pPnapeYZFNk>



IITH is glad to make it to again QS World University Ranking by Subject 2023. 501-550, a 100+ Rank jump from previous under Physics & Astronomy



BTL, IITH presented the exhilarating introduction of its Neophytes. Watch all stories behind the lens: <https://youtu.be/DaTz8iVdDjg>



Inauguration of Hybrid Classroom facilitated by Mr Sean Yalamanchi, President & Co-founder of Info vision

Indian Institute of Technology Hyderabad & Basavarakam Indo-American Cancer Hospital - Research Institute
Jointly announce
MSc in Medical Physics 2023

- Approved by Atomic Energy Regulatory Board (AERB), Govt. of India.
- Three year post-graduate program with a strong emphasis on clinical applications.
- Intended for highly motivated individuals interested in pursuing a career from a clinical or research perspective, or in professions that involve a knowledge of medical physics.

Mode: Self Sponsored

Eligibility:

- B.Sc. (Physics) with 60% marks, &
- Valid JAM2023 score/ICET/NET scholarship
- Final selection through interview.

Course Duration: 3 Years

Fees:

- For the first 2 years of course-work (40 credits) - Rs. 16,000/credit
- For the last 1 year of mandatory internship (24 credits) - Rs. 5,000/credit

Online Application Dates:
April 1st - 15th 2023

Contact:
Ms. Divya Dasari

The highly energetic and passionate students of IITH, intensely participated in the Institute Volleyball League 2023

IITH & BIACH-RI jointly announced MSc In Medical Physics.
For more details, visit:
<https://cip.iith.ac.in/assets/pages/msc.html>



IIT Hyderabad
received the
Haritha Haram Award
from CII, Telangana

IITH is delighted to receive the Haritha Haram Award from the Confederation of Indian Industry (CII), Telangana, for the mass plantation activity which has been carried out.

IITH has successfully swished the Institute Basketball League 2023

IITH has successfully concluded the Institute Hockey League 2023 with the ecstatic participation of the IITH Student Community



Introducing **QURVE**

IITH, now joins the ranks of the select campuses in India, & all the best intl institutions, in publicly committing itself to the right to equality, safety, & dignity of persons of all gender identities & sexual orientations.

How and why to come to the DoD_IITH?
Prof Deepak John Mathew, Department of Design, IITH, shared the uniqueness of the Department of Design in the interaction with YourPedia, at All India DIC Meet 2023.
Watch the full Video at:
<https://www.youtube.com/watch?v=mRPczcxYTcc>

IITH, with immense passion and zeal, concluded the Institute Football League 2023



Thank You...

IITH is gratified to have the admiration of 5k followers on the Instagram Handle..

Iitic Incubator showcased the startups working in Defense related products at the Aero-India show as part of the iDEX partner Incubators.

A visit by CISC to the Department of MSME, IITH



Inauguration of demonstration-purpose Scanning Electron Microscope by Thermo Fischer in the Department of MSME

Dept of Liberal Arts, IITH is delighted to share the glimpses of "Post Secular Theory-Text and Context", a Book Discussion by Dr Shuhita Bhattacharjee, Assistant Professor, Department of Liberal Arts, IITH.



Welcome
Prof Seeram Ramakrishna
as Distinguished Professor

IITH is pleased to welcome Prof Seeram Ramakrishna as the Distinguished Professor, a FREng, Everest Chair, working as Professor, National University of Singapore NUS.



IITH, in association with INYAS, announces Model G20 Initiative, a National Level Youth Challenge. Read more: <https://pr.iith.ac.in/pressrelease/MG20.pdf> For details, visit: <https://modelg20.iith.ac.in/> Model G20 Message from IITH: <https://youtu.be/DErFGsqrSvs>



Launch of model G20 initiatives | Interaction with Prof Chandrashekar Sharma (Dean R & D IIT Hyderabad)



Welcome
Dr Rajakumara Eerappa
as Head - Department of Biotechnology

IITH is pleased to welcome Dr Rajakumara Eerappa, Associate Professor as Head of the Department of Biotechnology.



The Department of Liberal Arts, IITH organized an Exhibition of Paintings done by students as part of the CA course Madhubani Painting.

On the enlivening occasion of International Womens Day, Student Cymkhana, IITH made an attempt to Know & learn from the Women of IITH "Their journey & Achievements in various roles & positions & their inspirational stories". Featuring: Dr Shuhita Bhattacharjee - LA, Dr Jayshree Patnaik - EM, Dr Shruti Upadhyaya - CE and Ms Mitalee Agrawa - PRO.



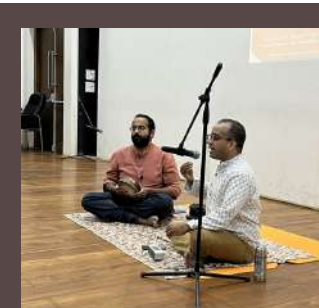
IITH is overwhelmingly excited to share that its YouTube Channel has hit 5K Subscribers.



IITH has crossed its milestone placements with 508 offers from 144 companies during Phase 1 of the Campus Drive, which could not be possible without the untiring endeavors of the Office of Career Services. Applauding this amazing team behind the success, a token of appreciation is being accorded.

Behind The Lens, the Filmmaking Club of IITH, with immense pleasure, announces the release of the video "Women of IITH," which celebrates the women of our institution.

Link to the Video: <https://youtu.be/DkZCMrbclYc>



Department of HST, IITH hosted an enthralling HST Musical Evening.



Dept of EM, IITH hosted the "Overseas Training for Fostering Global Entrepreneurs (Tongali Project)".

Doctoral Representatives, Gymkhana--2022-2023, IITH, has organized Khoj 2023, Institute Research Scholar's Day to encourage and showcase the hard work and cherish the unwavering spirit of all the research scholars at IITH by conducting friendly sports events for Faculty, Staff, and Scholars



E-Cell, IITH, and the Department of Entrepreneurship and Management, in association with IITH Alumni Association, under the aegis of IIC_IITH, organized the "LEAD Pitch" competition to foster leadership and creativity among budding bosses.

Art of String Quartet by Gestalt Quartet, Germany at IITH



Plantation Drive January 2023



Plantation Drive February 2023



Green Colour Day at DAV Campus School, IITH



IITH has successfully conducted the Plantation Drive for March 2023 by planting 60 Plumberia and 60 Ganneru plants.



Inter IIT Sports Meet
Internal Felicitation Ceremony IITH



Students at IITH exuberantly embraced the entry into New Year 2023 with fun-filled Cultural and DJ night.

IITH in an exhilarating and joyous way jubilated the Family Get Together of IITH Faculty and Staff to welcome 2023 enthusiastically



Spicmacay, IITH Hosted the Classical Evening on the occasion of Tyagaraja Aradhana



From the vibrance of the tricolor to the vivid color of celebrations of being Republic IITH. Acting Director, Prof KVLS, Dept of Civil Engg, charged the spirit of patriotism with an encouraging & energizing address to the gathering.



Celebrating the joy of kites & Rangoli the Festive vibes at DAV Campus School, IITH



Pongal/Lohri/Sankranti Celebrations at IITH



IITH rejoiced this Pongal with the Kite Festival, Games (Kho-Kho, DodgeBall, and Tug of War), Rangoli, and Lohri performances



The 14th Edition of Elan & Nvision, brought out the ultimate entertaining and enthralling experience this Feb



Khoj 2023, an Institute Research Scholar's Day at IITH



Alumni Meet Up - 2023 at Tokyo, Japan

IIT Hyderabad Presents a YouCast - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/4BWGORBBzYE>

Mr Aditya Angare
BTEch (2016), Department of Chemical Engineering, IITH
Currently: Co-founder & Director, TIEL

Season: 1 - #IITHAlumniDiary
Episode: 10 - #TeachingTheThousands

Feb 19 Sun

IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: https://youtu.be/19_KJGE_pQ4

Mr. Ashwin Nandapurkar
Block Chain Officer in a Nuclear Fusion Company
BTEch (2015), Dept of Mechanical & Aerospace Engineering IITH

Season: 1 - #IITHAlumniDiary
Episode: 2 - #ShappingStartUps

Jan 01 Sun

IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/jbgkOqFULr0>

Mr Sai Kiran Wupadrasta
BTEch (2015), Department of Computer Science & Engineering, IITH
Currently: Product Manager, Honeywell, Bengaluru

Season: 1 - #IITHAlumniDiary
Episode: 4 - #StayRelevant

Jan 08 Sun

IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/DFW4o6WezcY>

Dr. Appina Balasubramanyam
MTEch (2015) & PhD (2019), Department of Electrical Engineering, IITH
Currently: Assistant Professor, IIT Indore

Season: 1 - #IITHAlumniDiary
Episode: 5 - #BeCurious

Jan 15 Sun

IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday

Ms Shweta Suresh Thakare
MA - Development Studies (2021), Department of Liberal Arts, IITH
Currently: Co-founder & COO - GramHeet

Season: 1 - #IITHAlumniDiary
Episode: 6 - #RuralEntrepreneurship

Jan 22 Sun

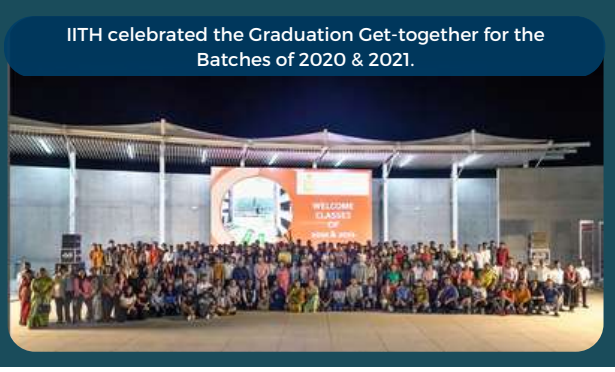
IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/zjr81DyVtSc>

Ms Mridul Hedau
MTech-Integrated Design & Manufacturing (2018), Department of MAE, IITH
Currently: Squadron Leader - Indian Airforce

Season: 1 - #IITHAlumniDiary
Episode: 7 - #BeBold

Jan 29 Sun



IIT Hyderabad Presents a YouTube Series - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/dgNpHKSz4Ts>

Dr R Sai Chandra Teja
MTech - Microelectronics & VLSI (2012), Department of Electrical Engineering, IITH
Currently: COO - Green PMU Semi

Season: 1 - #IITHAlumniDiary
Episode: 8 - Live Locally & Grow Globally

Feb 05 Sun

IIT Hyderabad Presents a YouCast - **IITHum**
Hear the Voice of IITH

Stay Tuned to our YouTube Channel
4 New Episode every Sunday
Watch here: <https://youtu.be/JJdfc4FYZOE>

Dr Mahendra Kumar Pal
MTEch (2012), Department of Civil Engineering, IITH
Currently: Assistant Professor, IIT BHU

Season: 1 - #IITHAlumniDiary
Episode: 9 - #BreakTheCeiling

Feb 12 Sun



Indian Navy/ WESEE

IITH joined hands with Indian Navy/ WESEE for establishing a Co-developmental Technology Innovation Centre (CTIC) at IITH - TRP

Tokyo City University, Japan

IITH Collaborates with Tokyo City University, Japan



Auckland University of Technology

IITH Collaborates with Auckland University of Technology, Newzealand's leading modern University.



Mahalanobis National Crop Forecast Centre

IITH collaborates with Mahalanobis National Crop Forecast Centre, Ministry of Agriculture & Farmers' Welfare, GOI, to facilitate the exchange of ideas, development of new knowledge, and enhance high-quality research acumen.



Central Manufacturing Technology Institute, Bangalore

IITH collaborates with Central Manufacturing Technology Institute, Bangalore to recognize each other as Centres of Excellence for Academic and Research collaborations and to share their facilities and resources for research and other mutual benefits (in accordance to mutually agreed commercials)



Nuclear Fuel Complex, Hyderabad

IITH inked an MoU with Nuclear Fuel Complex, Hyderabad, for a long-term partnership in Research, Education, and Training, including the undertaking collaborative Research in areas of mutual interest.



Atomic Minerals Directorate for Exploration & Research, Hyd

IITH inked an MoU with and Atomic Minerals Directorate for Exploration and Research (AMD), Hyderabad, for a long-term partnership in Research, Education, and Training, including the undertaking collaborative Research in areas of mutual interest.



Universitat Siegen, Germany

IITH inks an MoU with Universitat Siegen, Germany, to facilitate Academic Cooperation in the mutual interests of Education, Research, and Scholarship and as a contribution to increased International Cooperation.



Qulabs Software (I) Pvt. Ltd.

IITH inks an MoU with Qulabs Software (I) Pvt. Ltd. to facilitate joint collaboration in the area of Quantum Communications, Research, and Development of the components of Quantum Network Infrastructure for Quantum Network in India.



**Prof Kirti Chandra Sahu**
Department of Chemical Engineering

Being elected as a Fellow of the Indian Academy of Sciences (FASc)

**Dr Swathi Krishna S**
PhD Alumnus (2018)
Department of Liberal Arts

Being appointed as an Assistant Professor in the School of Humanities, Social Sciences, & Management at IIT Bhubaneswar

**Mr Parikshith Shashikumar & Ms Anushree Gupta**
Department of Liberal Arts

Being selected for the Future Research Talent fellowship at the Australian National University

**Prof Renu John**
Department of Biomedical Engineering

Being elected as a Fellow of the Royal Society of Biology (FRSB)

**Ms Ishita Naskar**
PhD Scholar
Department of Chemistry

Being awarded the 2nd Best Poster Award at the National Symposium of Convergence of Chemistry and Materials held at BITS Pilani, Hyderabad.

**Dr Pranav R T Peddinti**
PhD (2020)
Department of Civil Engineering

Being selected as an Invited Researcher under the "Brain Pool Fellowship" by National Research Foundation, South Korea

**Ms Siva Mouni Nemalidinne**
Department of Electrical Engineering

Being awarded the Best Poster Award in COMSNETS 2023

**Mr Avinash P K (MDes, Design)**
Ms Subhashree Mohapatra (IITH SUT JDP PhD scholar, Design)
Ms Krithika Sridharan (PhD scholar, Climate Change) &
Dr Shiva Ji (Assistant Professor, Dept of Design)

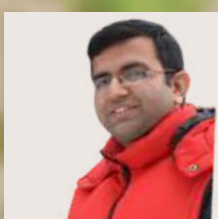
Received the Best Paper Awards in International Conference on Research into Design 2023 at Indian Institute of Science, Bangalore.

**Dr Lakshmi Prasad Natarajan**
Assistant Professor
Department of Electrical Engineering

Being selected for the INSA Young Scientist Award (Indian National Science Academy)

**Ms Anamika Dixit**
MSc student, Department of Chemistry

Being selected for the Future Research Talent Fellowship at the Australian National University

**Dr Mayur Vaidya**
Assistant Professor
Department of Materials Science and Metallurgical Engineering

Being selected for the INSA Young Scientist Award (Indian National Science Academy)

**Prof Mahendrakumar Madhavan**
Department of Civil Engineering

Being Elected as a Fellow of the American Society of Civil Engineers (ASCE)

**Mr Aszad Alam**
PhD Scholar
Department of Materials Science & Metallurgical Engineering

Received the First Prize in the National Blog Writing competition at the India International Science Festival in 25+ category for the topic "Leveraging Science, Technology, & Innovations for an Atma Nirbhar Bharat"

**Mr Sai Kumar Gobbilla**
PhD Scholar, Department of Chemistry

Receiving the Best Poster Presentation Award from Dalton Transactions at the International Conference on Main Group Synthesis and Catalysis (ICMGSC-2023) held at IISERTiruvananthapuram.



Dr Bhushan Praveen Jangam
PhD (2021)
Department of Liberal Arts
 Being appointed as an Assistant Professor in the School of Management & Entrepreneurship at IIT Jodhpur



Ms Purva Kherkar
Lady Physical Training Instructor,
Department of Sports
 Received Two Gold Medals in the Discus Throw & Shot Put Events in the 43rd National Masters Athletics Championship held at Salt Lake Stadium, Kolkata.



Ms Ruchi Yadav
Sports Officer Grade-I, Department of Sports
 Received a Gold Medal in the Discus Throw Event in the 43rd National Masters Athletics Championship held at Salt Lake Stadium, Kolkata.



Ms Rupan Das Chakraborty
PhD Scholar
Department of Chemistry
 Received the Best poster presentation award at the International Conference on Electrochemistry for Industry, Health, & Environment, EIHE-2023 held at DAE Convention Centre, BARC, Mumbai organized by the Indian Society for Electroanalytical Chemistry (ISEAC)



Dr Krishnarjun Banerjee
PhD (2022)
Department of Physics
 Being awarded the Prestigious Marie Curie Postdoctoral Position from the Queen Mary University of London



Dr Chandan Bose
Assistant Professor &
Dr Shuhita Bhattacharjee
Assistant Professor
Department of Liberal Arts
 Being awarded a Major Research Project Grant of Rupees Fifteen Lakhs by Indian Council of Social Science Research (ICSSR)



Mr Debanjan Maity
PhD Scholar
Department of Chemistry
 Being awarded the Best Poster Presentation Award at International Conference in Recent Trends in Chemical Sciences and Sustainable Energy (RTCSSE) - 2023 held at NIT Delhi



Mr Vineet Gairola
PhD Scholar
Department of Liberal Arts
 Being awarded 2023 APS Student Grant by the Association for Psychological Science (APS)



Ms Madhushri Bhar
PhD Scholar
Department of Chemistry
 Being awarded Best Oral Presentation Award at International Conference on Women in Electrochemistry (ICWEC-2023) Organized by Electrochemical Society of India at IISc



Ms Ratna KNSR
PhD Scholar
Department of Liberal Arts
 Her paper being selected as 'Best Presentation' in the 5th International Conference on Natural Language Processing.



Mr Ritesh Kumar
PhD Scholar
Department of Electrical Engineering
 Being awarded the Best Paper Award (Communications Track) at the 2023 National Conference on Communications held at IIT Guwahati



Dr Shashank Vatedka
Assistant Professor
Department of Electrical Engineering
 Being awarded the Best Paper Award (Communications Track) at the 2023 National Conference on Communications held at IIT Guwahati



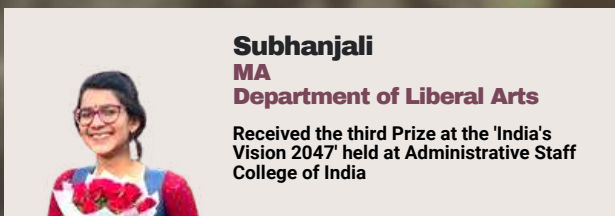
Amisha
MA
Department of Liberal Arts

Received the First Prize at the 'India's Vision 2047' held at Administrative Staff College of India



Riddhi
MA
Department of Liberal Arts

Received the First Prize at the 'India's Vision 2047' held at Administrative Staff College of India



Subhanjali
MA
Department of Liberal Arts

Received the third Prize at the 'India's Vision 2047' held at Administrative Staff College of India

A-Two-Day Workshop on Striding towards technology independence - A self-reliant & climate resilient developed India.

Workshop Dates: May 1-2, 2023.

TIFAC 2023
1st - 2nd May, 2023
A Two-Days Workshop on
Striding towards technology independence -
A self-reliant & climate resilient developed India
Organized by
Indian Institute of Technology Hyderabad
Workshop Co-ordinator : Prof. Chandra Shekhar Shurma,
Dean (Sponsored Research & Consultancy), IIT Hyderabad

FAPV 2023
8th - 12th May, 2023
A Five Days Workshop on
Fundamental and Advanced Skills for Futuristic Vehicles and Autonomous Navigation
You are cordially invited to participate in person at IIT Hyderabad and interact and visit labs during workshop.
You are also invited to submit research abstract for poster presentation during the workshop.
Organized by
Indian Institute of Technology Hyderabad
Workshop Co-ordinator : Prof. Ashok Kumar Pandey,
Mechanical and Aerospace Engineering, IIT Hyderabad

Five-Day Workshop on Fundamental and Advanced Skills for Futuristic Vehicles.

Workshop & Poster Presentation Date: May 8-12, 2023.

Hyderabad Soft Matter Day
Symposium Date: May 13, 2023



IIT Hyderabad
Ph.D. Admissions July 2023

DEPARTMENTS

- Artificial Intelligence
- Biomedical Engineering
- Biotechnology
- Chemical Engineering
- Chemistry
- Civil Engineering
- Climate Change
- Computer Science & Engineering
- Design
- Electrical Engineering
- Entrepreneurship & Management
- Heritage Science and Technology
- Liberal Arts
- Materials Science & Metallurgical Engineering
- Mathematics
- Mechanical & Aerospace Engineering
- Physics

INSTITUTE HIGHLIGHTS

- National Institute Ranking Framework (NIRF) Ranking #9 | ARRA Ranking #7
- IITH stands 14th among Indian Universities in QS World Rankings
- 300+ faculty with teaching and research excellence
- 200+ state-of-the-art laboratories
- 8040+ Scopus Publications with 135,000+ Citations and 5140+ WoS publications with 89,650+ citations
- 5000+ sponsored/ consultancy projects | 125+ start-ups
- 479 research equipment shared on I-STEM portal, which is the highest among all IITs.
- State of the art Infrastructure, Laboratories & Equipment
- Collaborations with International Universities & Student Exchange Programs

Apply now
20th March, 2023 to 30th April, 2023
Date extended till 30th April, 2023
<https://iith.ac.in/phdadmissions/>
Applications are accepted only in online mode.

IIT Hyderabad announced the PhD Admissions for July-2023 Cycle
Link to Apply:
<https://iith.ac.in/phdadmissions/>
Last Date: Apr 30, 2023.

IIT Hyderabad announced the PG Admissions for July-2023 Cycle
Link to Apply:
<https://admissions.erp.iith.ac.in/>
Last Date: Apr 27, 2023

IIT Hyderabad
M.Tech./M.Des./M.A. Admissions July 2023

INSTITUTE HIGHLIGHTS

- National Institute Ranking Framework (NIRF) Ranking #9 | ARRA Ranking #7
- IITH stands 14th among Indian Universities in QS World Rankings
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- 200+ state-of-the-art laboratories
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- State of the art Infrastructure, Laboratories & Equipment
- Collaborations with International Universities & Student Exchange Programs

Eligible M. Tech Programmes

- Artificial Intelligence
- Biomedical Engineering
- Biotechnology
- Chemical Engineering
- Civil Engineering
- Climate Change
- Computer Science and Engineering
- Electrical Engineering
- Materials Science and Metallurgical Engineering
- Mechanical and Aerospace Engineering
- Network and Information Security
- Teaching Entrepreneurship
- Quantum & Solid State Devices
- Sustainable Engineering

Interdisciplinary M. Tech / M.Sc. Programmes

- Additive Manufacturing
- Energy Science and Technology
- E-Waste Resource and Engineering Management
- Integrated Sensor System
- Medical Device Innovation
- Polymers and Biopolymers Engineering
- Smart Mobility
- Software Engineering
- Integrated Circuits and Microsystem Packaging
- Medical Physics

Online M. Tech Programmes

- Computational Markets
- Communication and Signal Processing
- Power Electronics and Power Systems
- Microelectronics and VLSI
- Industrial Metallurgy
- AI/ML in Data Science (AI/DS)
- Heritage Science and Technology

Online Interdisciplinary M. Tech Programmes

- Integrated Computational Materials Engineering
- Electric Vehicle (EV Technology)

Online M.Des. Programmes

- 2+D/3D Printing

MA Programmes

- MA Development Studies
- MA in Health, Gender and Society
- MA in History, Gender and Society
- MA in History of Design

Apply from 18th March 2023 to 26th April 2023
Date extended till 27th April 2023.
<https://admissions.erp.iith.ac.in/>
Applications are accepted only in online mode.

Academic Staff



Prof M V Panduranga Rao

Professor
Department of Computer
Science & Engineering

Prof M V Panduranga Rao received his BTech degree from REC Warangal (now NIT Warangal), MTech from IIT Kanpur, and PhD from IISc Bangalore. Prior to joining IITH, he worked as a Scientist at the Tata Research Development and Design Center, Pune. He joined IITH in 2009.

My Experience at IITH:

I have been very fortunate to have excellent colleagues in the CSE department—excellent both technically and in terms of values and qualities. I have learned a lot from them and the great students with whom I have had the opportunity to work and interact. I have had the pleasure of working with great colleagues outside the department as well, in various circumstances and capacities. Having joined in the early years of IITH, it has been gratifying for me to see the CSE department and the Institute grow from strength to strength over the years.

Prof Sathya Peri has been with IITH as an Assistant Professor from 2014 to 2016 and as an Associate Professor from 2016 to 2023. Prior to this, he was an Assistant Professor in the Computer Science at IIT Patna from 2010 to 2014. Dr Sathya Peri obtained a Master of Computer Science and Applications in Computer Science from Madurai Kamaraj University. He obtained Masters degree and PhD degrees in Computer Science from the University of Texas at Dallas in the area of distributed systems. Then he was a Postdoc at INRIA, Rennes, France and Memorial University, St John's, Canada. His research interests broadly comprise of parallel and distributed systems.

My Experience at IITH:

It has been a great learning experience. I started at IIT Hyderabad in May 2014 as Assistant Professor. From there, I grew to become Associate Professor and, recently as a Professor. I was able to learn and understand three facets of any faculty member: (a) teaching, (b) research (c) administration load. Further, I was also able to learn the art of generating funds to support your research through sponsored research projects. Thus, I grew in several directions and dimensions at IIT Hyderabad.



Prof Sathya Peri

Professor
Department of Computer
Science & Engineering



Dr Shruti Upadhyaya

Assistant Professor
Department of Civil
Engineering

Prior to joining IITH, Dr Shruti Upadhyaya was a Postdoctoral Researcher at Advanced Radar Research Centre (ARRC) as well as Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma, USA, from 2018. Dr Shruti is an elected chair of the Early Career Committee of the American Geophysical Union's Precipitation Technical Committee, and she is an academic affiliate at ARRC, University of Oklahoma. Dr Shruti did her BTech from BLDEA's Dr P G Halkatti College of Engg and Tech, Vijaypur, Karnataka, and obtained her MTech and PhD from IIT Bombay. She received the best PhD thesis award from the Indian Society of Hydraulics. Dr Shruti's research interests are in the fields of satellite hydro-meteorology, specifically precipitation and associated hazards, and Explainable AI (XAI/ML), probabilistic ML for hydro-meteorological applications.

My Experience at IITH:

I am still in the early stages of my journey here at IITH, and I am constantly learning about the culture and environment. It is a truly amazing feeling to be back in my home country and to have the opportunity to work in the noble profession of teaching and research. I feel incredibly fortunate to have already met so many wonderful and supportive individuals here at IITH, including some old friends. I am now eagerly looking forward to embarking on my academic journey and collaborating with esteemed academicians and researchers at IITH and other organizations to tackle some of the major research challenges of our time.

Dr M Annadhasan obtained his PhD from the University of Madras, Chennai, in 2016. Before joining IITH, Dr Annadhasan started his independent research career at IISER Kolkata as a DST INSPIRE Faculty in 2022. In 2015, he received the prestigious Dr D S Kothari postdoctoral fellowship from UGC India and worked at the University of Hyderabad (2015-2018). Next, he worked as a postdoctoral researcher (2018-2020) at the University of Hyderabad, in an Indo-Russian joint project by DST-SERB. He was also awarded the Institute of Eminence Post-Doctoral fellowship by the University of Hyderabad in 2021 to advance his carrier further. His primary research interest lies in organic/inorganic materials, Single particle photonic studies, optoelectronic devices, and flexible crystal-based organic photonic integrated circuits.

My Experience at IITH:

I am privileged to be part of the energetic, vibrant, dynamic, fast-growing, and reputed institution. I am overwhelmed by the welcoming atmosphere both at the department level and at the Institute level. My colleagues provided me with very professional and friendly support to get settled in the initial phase. While interacting with the department colleagues, I found they are very much approachable and helpful in all possible ways. I want to particularly mention the administrative support, from day one, their agility and helpfulness have been a big part of my smooth integration here. It has been an exciting start, and I am looking forward to contributing and growing along with the department and the Institute.



Dr Annadhasan M

Assistant Professor
Department of Chemistry

Non- Academic Staff



Mr Chinthala Satheesh

Multi Skill Assistant
(Electrical), CMD

Mr Chinthala Satheesh has done ITI in Electrician Trade from Pavan ITI College Sarapaka, National Council for Vocational Training. After completing of his ITI, he did his apprenticeship in Singareni Collieries Company Limited-KGM Region, Telangana State. He has more than 3 years of experience in the field of Power Systems with Experience in 33 KV, and 11 KV substations Operation and Maintenance, Building Electrical Maintenance, Street Lights Maintenance works, LT ACBs Operation, LT cables jointing works, Earthing works, Pump- Motor set connections, and he has experience in Solar Power Plant of 30MW Capacity at SCCL Solar PV Plant project, Manuguru, Bhadradri Kothagudem district.

My Experience at IITH:

It feels great to be part of India's reputed technical institute. I had a fantastic experience at IITH due to the very friendly atmosphere at both the department and institute levels. It feels like a great opportunity to learn technical skills that can give you the ability to offer low-cost and high-tech solutions as an institute is under phase 2 construction which is advantageous for learning new technical skills and enhancing our technical knowledge.

Mr Mohammed Faheem Khan has done his Secondary School Education from Sarath Vikas school. He has 7 years of experience as Office Attender. He holds a Diploma in Computer Applications.

My Experience at IITH:

It's an excellent experience of working in this weather with IITH. One of the best institute till date of my experience.



Mr Mohammed Faheem Khan

Multi Skill Assistant
MS Section



Mr Jakka Jagadish Kumar

**Junior Technician(Civil
Supervisor), CMD**

Before joining IITH, Mr Jagadish did his BTech in Civil Engineering from Aurora's Engineering College, Jawaharlal Nehru Technological University Hyderabad, in 2016. After completion of his graduation, he joined Telangana State Tourism Development Corporation for the Buddhavanam project at Nagarjunasagar, Telangana State. He has more than 3.9 years of experience as a Site Engineer/Assistant Executive Engineer.

My Experience at IITH:

It's a dream destination to work, and it came into reality on 04.01.2023 to me. I have a good team at CMD who are more supportive of beginners and it's a great opportunity to associate with them, and I'm looking forward to learning new things from them. The campus has a good environment and everyone wants to live there.

Mr Prashanth P has done BTech in Electronics and Communications Engineering degree from Kakatiya University, Hanumakonda, at Kakatiya Institute of Technology and Science, Hanumakonda. Before joining IITH, he served as Lecturer for more than 2 years in the Department of Electronics and Communication Engineering at Warangal Institute of Technology and Science, Warangal and followed by TRR Institute of Technology, Hyderabad.

My Experience at IITH:

Working in IITH makes me feel proud, and words fall short to describe my experience. Every day in IITH is like a learning day with takeaways of knowledge and skills. I feel honored to be a part of this esteemed institution, and I will give my best to fulfill my goals.



Mr Pulla Prashanth

**Junior Technician,
Department of Biomedical
Engineering**



Mr Karn Choudhary

**Technical Superintendent
Computer Centre**

Mr Karn holds a Bachelor's degree in Electronics & Communication Engineering from the National Institute of Technology (NIT) Silchar. He has a combined work experience of 8 years, including 7 years at Bharat Sanchar Nigam Limited (BSNL) and 1 year at National Institute of Technology (NIT) Jaipur. He was involved in design, implementation, troubleshooting, and resolving network-related issues, ensuring smooth operations and optimal performance.

My Experience at IITH:

Joining IITH as a technical staff has been an enriching experience. Cutting-edge technology, a collaborative work environment, and an emphasis on innovation have provided ample opportunities for professional growth. The supportive work-life balance and vibrant community make it a fulfilling and rewarding place to work. Excited to continue contributing to the institution's excellence.

Mr Bhalerao Ganesh has done BTech in Mechanical Engineering from Dr Babasaheb Ambedkar Marathwada University, Aurangabad. After completion of his graduation he worked in Private Firm Medpulse Devices Pvt. Ltd. He has more than 1.5 years of experience in the field of General Administration. He joined IITH in January 2023.

My Experience at IITH:

It feels great to be a part of the Institute of National Importance ie. IITH. The work Culture, Professional and supportive behavior of all staff and faculties, Registrar, and Directors motivate me to work efficiently and effectively. The infrastructure and eco-friendly, pollution-free environment of IITH plays a crucial role in maintaining the sanctity of the Workplace. The quote WORK IS WORSHIP is really appreciated and applicable as far as this institute is concerned.



Mr Bhalerao Ganesh Dnyaneshwar

**Multi Skill Assistant
HR Section (Faculty)**



Mr Ch Venkata Krishnaiah

Junior Technician
Department of Chemical
Engineering

Mr CH Venkata Krishnaiah has done BTech and MTech in Chemical Engineering from Sri Venkateswara University College of Engineering, S V University, Tirupati. Before joining IITH, he worked in the Department of Chemical Engineering, S V University College of Engineering as an Academic Consultant for about 8 years.

My Experience at IITH:

I feel very happy to be a part of the highly reputed institutions. I am very happy to work with the experienced staff in my department and institute level, who are very helpful and supportive. This is the best opportunity for me to enhance my skills and upgrade my knowledge by contributing to institute goals.



Mr J Manikyam

Junior Technician
Department of Biomedical
Engineering

Mr J Manikyam has done BTech in Biomedical Engineering from Padmasri Dr B V Raju Institute of Technology, Narsapur, Medak, and also done MTech in Embedded Systems from B V Raju Institute of Technology. After completing his education, he joined as Assistant Professor in ECE at JBIET and later joined as Assistant Professor in Biomedical Engineering at BVRIT. He has more than 8 years of experience in Teaching. His areas of interest are Biomedical Instrumentation, Sensors and Transducers, and Embedded Systems.

My Experience at IITH:

It's a great opportunity for me to work with the prestigious Institution, IITH. I am happy to see world-class research facilities. Thus working here will improve my skillset and research abilities.



Mr Muthyala Satheesh

Junior Technician (Civil
Supervisor), CMD

Mr M Satheesh has done BTech in Civil Engineering from JNTU University, after completing his education; he joined construction works in an MNC Company and worked there for 4 years. For the past 1.5 years, he worked at the National Institute of Technology, Warangal as a Junior Engineer (Civil) on a contract basis. He has more than 6 years of experience in the field of construction of water treatment plants, buildings, and routine maintenance of buildings.

My Experience at IITH:

I am proud to join the IITH, it is a dream destination to work, and it came into reality. I have a good team at CMD who are more supportive of beginners, and it's a great opportunity to associate with them, and I'm looking forward to learning new things from them. The campus has good infrastructure and transport facilities, an environment with a good green cover, which everyone wants to live in.

Mr Rajana Sravanakumar has done BTech in Electrical and Electronics Engineering from JNTUK University College of Engineering Vizianagaram campus and also done MTech in Industrial Power and Automation from National Institute of Technology Calicut, Kerala. After completing his education, he joined BSNL and worked as a Junior Engineer (Telecom Services) in Pondicherry for 5 years and was later selected as a Junior Engineer (Electrical) in Construction and Maintenance Division at IITH. His areas of interest are Multiple input DC-DC Converters and Hybrid renewable energy systems.

My Experience at IITH:

This is a great opportunity for me to work in one of the best-reputed institutions in India. The work culture and support from my department colleagues are very friendly and helpful to upgrade my technical knowledge. In this institute, newly constructed projects are very useful to enhance my technical growth in my career. I will work very hard with passion to reach the institute's goals as well as my career growth.



Mr Rajana Sravanakumar

Junior Engineer (Electrical),
CMD



Mr Janapati Srinu

Junior Technician
Department of Chemistry

Mr Janapati Srinu did his MSc Five Years Integrated Course in Chemistry from Osmania University in 2015 and also cleared CSIR-JRF-NET exam with All India 41 Rank. Not only this he also qualified GATE and TS&AP-SET exams many times. After completion of his education, he joined as a research scholar in the department of Chemistry at Nizam College, Osmania University and was later selected as Junior Technician in the department of Chemistry at IITH.

He has more than 4 years of research experience in the chemistry field and his areas of interest are zeolite encapsulation of metal amino acid complexes. He has also formerly worked as a guest lecturer for physical chemistry.

My Experience at IITH:

I am feeling very comfortable in the IITH. Everyone receives our ideas and thoughts in the department. Especially HOD Dr Martha sir, guide me a lot. I can say the campus is a more peaceful and friendly environment. The staff is also encouraging and respects our ideas. Orally I am very happy to join the IITH.

Mr Sudarshan Khandagale completed his BTech from Mumbai University and MTech from IITH. He has a total of 10 years of experience in the manufacturing industry in different departments like QA/QC, Inspection, and Design. Before joining IITH, he served as a senior design engineer in TATA Aerospace and Defense.

My Experience at IITH:

I feel proud to be a part of IITH - one of the fastest-growing and reputed institutions. I would like to thank the IITH administration for making my joining process smooth. I am delighted to be part of the IITH family, and I look forward to contributing to the growth of the institute and the nation by supporting the teaching-learning and research fraternity of IITH with the support of my colleagues.



Mr Khandagale Sudarshan Baburao

Technical Superintendent
Department of Biomedical Engineering



Mr Devadevan V

Deputy Registrar
Academic Section

Mr Devadevan V has done MTech (IT) at SRM University, Chennai, with first rank and has more than 25 years of wide experience as an IT Professional, Trainer, Researcher/ Faculty, and administrator in private and Govt. Organizations. Started his career as a computer programmer in the year 1996. During the period of 1997 to 2006, he trained several graduates, PG students, and others in the capacity of faculty cum programmer at a private training center. During 2006-2019, he worked as a Research Associate (IT) at the Indian Institute of Forest Management (an autonomous institution under the Ministry of Environment, Forest and Climate Change, GoI) and was involved in research, system admin, web admin and conducted capacity development programs related to IT field at IIFM. From 2019 to 2022, he worked at the All India Council for Technical Education (AICTE), (A statutory body of the Ministry of Education, GoI), New Delhi, and actively participated in formulating various policies and academic planning for technical education. Before joining IIT-H, he worked as an Assistant Director & Regional Officer at AICTE, South Western Regional Office, Bangalore.

My Experience at IITH:

I feel proud to be a part of IITH, which is one of the national importance institutes under the Ministry of Education. As I have a mix of Academic, Information Technology, and Administrative Experience, I am happy to contribute to the betterment of efficient delivery of my duties as a Deputy Registrar (Academics).

Mr Tata Bapuji is a postgraduate in Power Electronics from the National Institute of Technology, Calicut. Before joining IITH, he worked as an SSE at Rail Vikas Nigam Limited. He has more than 3 years of experience in the field of Construction, Project management, Electrical maintenance, Preparing Electrical installation plans & Estimates, and Quality testing.

My Experience at IITH:

Really proud to be working at IITH. Great work environment and a Great opportunity to learn new things which are useful to upgrade our career.



Mr Tata Bapuji

Junior Engineer
(Electrical) , CMD



Ms Archana Singh

**Assistant Registrar
Academic Section**

Ms Archana Singh holds a Master's degree in Geography from St. Xavier's College Ranchi and Post Graduate Diploma in Marketing. In addition to this, she has also done her PGP in Entrepreneurship and Enterprise management. She joined IITH as Executive Assistant in 2012 and has more than 11 years of experience. She has been part of the OCS team since the very beginning and worked as an interface between IITH & various national & international companies for placement-related activities & now she has been associated with the Academic office for the last 2 years, and a few of her job roles include handling- PhD office, ministry & Parliament queries and admissions of the candidates from armed forces and DRDO. She is also liaising with the international office and acts as a POC for foreign students at the academic office.

My Experience at IITH:

It has been more than a decade I have been associated with IITH. The work culture here is exceptional, and I appreciate the positive and collaborative atmosphere that encouraged creativity and innovation, IITH helped me grow personally and professionally. I was given the opportunity to work on challenging projects that enhanced my skills and helped me develop new ones. My colleagues and supervisors were supportive and encouraging, and their guidance helped me to become a more confident and efficient worker.

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