Annual Report 2022-23

(Sep 01, 2022, to Aug 31, 2023)

IIC-IIT Hyderabad

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

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

Contents

A. About IIC Institute

- **Vision / Mission of IIC established at the Institute**
  - Identification of the best of ideas and providing them a 'womb' to incubate eventually to transform into a Startup or entrepreneur endeavor.
  - Soliciting an entrepreneur through the application of knowledge and expertise, academic as well as industrial.
  - Empowering an idea with all important ingredients and resources aiding its conversion into a successful product or service.
  - Helping entrepreneurs to grow holistically with business acumen.
  - Bring socio-economic change in the country by finding innovative solutions to daily met problems.
  - Meet once a quarter to formalize the discussion and keep action points for activities in the coming quarter and regularly update it.

- **Journey of IIC established at the Institute**

  Institute Innovation Council at IIT Hyderabad was initially established in February 2018 with Innovation, IPR, and Entrepreneurship as its 3 pillars. Later in February 2021, the council was reconstituted with 22 Representatives, per the IIC norms, with an appropriate framework designed for its Objectives, Functions, Roles, and Responsibilities. Since then, all the innovation and entrepreneurship-related activities of IIC have been strictly implemented by the Council. The IIC meetings were conducted timely with all the representatives of the Council. IIC at IIT Hyderabad has 32 active members to inculcate the culture of Innovation & Entrepreneurship on campus.

  Institute Innovation Council at IIT Hyderabad has a robust Innovation and Entrepreneurship culture with 16 IIC Calendar Activities, 13 Celebrations, 7 MIC-driven Activities, and 25+ Self-driven Activities. IIC at IITH enjoyed Top rating of 4-star for two consecutive years, and hopefully, it will continue to lead in the field. Innovation and Entrepreneurship Quotient reflects with3rd Rank in NIRF (Innovation) 2023, 240+ Patents, 130+ Startups, 1,100+ PhD Graduated and 2,200+ R & D Projects.

- **Diversified representation in the IIC established at the institute from industry, Interdisciplinary & Departments/ Units, etc.**
  - **Startup / Alumni Entrepreneur**: Prathyusha Thammineni, President, IITH Alumni Association
  - **The expert from nearby Industry / Industry association/ Ecosystem Enabler**: Mr Vinay Chilakapati (CEO, Innomet Advanced Materials Pvt. Ltd.)
  - **FI/ Bank Investor/ Angel Investor/ VC**: Mr Reehan Shaik, Bank Manager, Canara Bank, IITH Branch, Ex-officio
  - **Incubation Centre**: Dr Siva Rama Krishna Vanjari, Faculty-in-Charge, FabCI
  - **Patent Expert:** Mr Anna Eswara Reddy, Patent Analyst

B. Brief mention of key functionaries at the IIC Institute

- **President**
  Prof B. S. Murty, Director, IITH
- **Vice President**
  Prof Chandra Shekhar Sharma, IITH
- **Convenor**
  Dr Nakul Parameswar, Assistant Professor, Department of EM
- **Coordinators etc.**

- Innovation Activity Coordinator: Dr Sumohana Channappayya, Former Dean (R&D), IITH
- Startup Activity Coordinator: Prof S. Surya Kumar, Faculty-in-Charge, Incubation Centre, IITH
- Internship Coordinator: Dr Abhinav Kumar, Faculty-in-Charge, Office of Career Services
- IPR coordinator: Dr Pradeep Kumar Yemula, Faculty-in-Charge, IP Cell
- ARIIA coordinator: Dr Priyotosh Bandyopadhyay, ARIIA Coordinator
- NIRF coordinator: Dr Sai Santosh Kumar Raavi, NIRF Coordinator
- Innovation Ambassador: Prof Deepak John Mathew, Head, Dept. of Design
- Innovation Ambassador: Dr Mudrika Khandelwal, Associate Professor, Dept. of MSME
- Entrepreneurship Coordinator: Dr M. P. Ganesh, Entrepreneurship & Management Dept.
- Innovation Ambassador: Dr Meduri Praveen
- Innovation Ambassador: Dr Sayak Banerjee
- Innovation Ambassador: Dr Suhanya Duraiswamy
- Innovation Ambassador: Dr Mudrika Khandelwal
- General Member: Prof Ramesh G, Chair - Rural Development Centre
- General Member: Dr Prasad Onkar, FIC – Unnat Bharat Abhiyan (UBA)
- General Member: Dr Avinash Eranki, FIC - Students Affairs
- Social Media Coordinator/ Secretary: Ms Mitalee Agrawal, Public Relations Officer, IITH
- General Member: Prof Mohan Sangeneni, Advisor-Innovation & Translational Research
- Startup / Alumni Entrepreneur:
  - Dr Sai Chandra Teja, President, IITH Alumni Association
  - Ms Prathyusha Thammineni, President, IITH Alumni Association Expert from nearby Industry: Mr Vinay Chilakapati (CEO, Innomet Advanced Materials Pvt. Ltd.)
- FI/ Bank Investor/ Angel Investor/ VC: Mr Reehan Shaik, Bank Manager, Canara Bank, IITH Branch, Ex-officio
- Incubation Centre: Dr Siva Rama Krishna Vanjari, Faculty-in-Charge, FabCI
- Patent Expert: Mr Anna Eswara Reddy, Patent Analyst
- Startup Activity Coordinator:
  - Mr Srijan Shahi, Head, E Cell
  - Mr Shreyansh Agrawal, E-Cell Head
- Innovation Activity Coordinator:
  - Mr Bapatu Manoj Kumar Science &Technology Secretary, Student Gymkhana
  - Mr Kotha Harshith Science &Technology Secretary, Student Gymkhana Innovation Activity Coordinator
- Internship Coordinator:
  - Mr Sreejith R R, OCS Overall Head
  - Mr Jai Goyal Internship Coordinator
- IPR Coordinator:
  - Mr Samyak Joshi, Tinkerer's Lab Head
  - Mr Adil Salim IPR Coordinator
- Social Media Coordinator:
  - Mr Anand Sharma, Social Media Coordinator, Student Gymkhana
  - Mr Ekshan Raj Verma Social Media Coordinator
- General Member: Mr Priyabrata Rautray, PhD Scholar, Dept. of Design

C. Portfolio/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution

- **Total No. of IIC M8mbers: 31**
- **Total No. of IAs: 8**
- **Total No. of faculty Mentors from Portal:** 20
- **Pre-Incubation Units: 10**
- **Incubation Units: 4**
- **IP Facilitation Unit: 1**

D. Highlight Facilities, Infrastructure of Pre-Incubation & Incubation kind, and Student bodies/clubs engaged in the promotion of Innovation and Entrepreneurship on the campus.

Incubators:

i-TIC foundation:
i-TIC Foundation is the Technology Business Incubator (TBI) at IIT Hyderabad. The focus is on creating a supportive and nourishing environment for entrepreneurs. The thrust areas at the Incubator are Artificial Intelligence, Aerospace, Telecommunication, Digital Manufacturing, Chip Design, Sensors, IT, Bio-Medical, Automotive, Advanced Materials, Energy, Flexible Electronics, and Other Emerging Technologies. A few companies that are incubated, related to ICT are SKIoT (IoT), Acausal (Robotics), SenseHealth (Bio-Medical), Osure (Healthcare), and Skelregen (Bio Material). i-TIC provides the necessary facilities to these startup companies, along with guidance and mentoring by the faculty members of IITH and experts from the industry, to develop a robust ecosystem for entrepreneurship.

Center for Healthcare Entrepreneurship:
The Foundation for the Center for Healthcare Entrepreneurship is sponsored by two IIT Bombay alumni and is focused on making universal healthcare a reality. The CfHE program is dedicated to achieving universal healthcare by igniting the spark of entrepreneurship in our youth and providing them with focused training and top-notch mentorship. The Center's objective is to catalyze healthcare innovation to bring about affordable solutions to address the healthcare needs of India. The Center hopes to foster entrepreneurs to deliver a pipeline of cost-efficient, increasingly 'commercialized'. NemoCare, BeAble, KvayatMedical, Heamac healthcare, Aerobiosys, VaccineOnWheels.com, and chemioptic Healthcare have incubated to start up their dream idea. They become incubated companies at CfHE and continue to attract support both in terms of mentorship, access to funding opportunities, and physical space in our state-of-the-art IIT Hyderabad location dedicated to the CfHE Incubator.

Fabless Chip Design Incubator:
The Fabless Chip Design Incubator (FabCI) is a flagship program being executed with the support of the Ministry of Electronics and Information Technology (MEITY) and focuses on creating an ecosystem wherein these primary activities get executed for any startup in the area of chip design. The primary motivation for this unique incubator program is to provide a one-stop solution for start-ups focusing on the area of chip design. We want to help incubate multiple "Make-in- India' chip design companies. We aspire to build an ecosystem wherein the incubates are not only provided with the relevant infrastructure hardware and software but also are handheld through the path of success with the help of mentors who are pioneers in this field The grand vision is to leverage the design expertise that exists in India to create Indian IP and to make a mark in chip design internationally.

TiHAN
Technology Innovation Hub on Autonomous Navigation (TiHAN) is a multi-departmental initiative, including researchers from Electrical Engineering, Computer Science & Engineering, Mechanical, and Aerospace Engineering, Civil Engineering, Mathematics, Design, and Entrepreneurship at IIT Hyderabad with collaboration and support from reputed institutions and industry. TiHAN is recognized as a Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research. The vision of this hub is to become a global destination for next-generation smart mobility technologies that utilize reliable and efficient autonomous navigation and data acquisition systems in the next five years. The mission of this hub is to accelerate the adoption of autonomous navigation and next-generation smart mobility technologies for use in intelligent transportation and agricultural applications, not only in India but also in a global context.

Technology Research Park:
"IITH Technology Research Park" is an independent Section 8 Company, founded, promoted, and hosted by IIT Hyderabad, governed by a Board of distinguished academicians, faculty of IIT Hyderabad, and industry professionals, to inoculate the idea of innovative Entrepreneurship in collaboration with Research Development. IIT Hyd Research Park is a self-reliant team endorsed by IIT Hyd and its alumni. The IIT Hyd Research Park promotes the betterment of research and development by the institute through friendship with industry, helping in the advancement of modern ventures, and build-up economic development. The IIT Hyd Research Park assists organizations with a research target to set up an infrastructure in the park and advantage of the expertise available at IIT Hyd**.**

Student Clubs:

Scitech Council:
A Science Technology club to provide a platform for technocrats to explore their ideas and bring in new innovations Clubs under Scitech Council.

Entrepreneurship Cell:
The Workshop Series hosted by E-Cell IITH provides an environment for students from various colleges to network, and learn together about the latest developments in different fields of technology.
Megathon is one of the biggest student entrepreneurship hackathons in Hyderabad co-hosted by E-Cell IITH and IIITH which aims to provide a common platform for student entrepreneurs to network, work on innovative solutions and build startups.

E. Highlight Achievements (Narrative/Graphical/tabular representation)

- Number and Different types of I&E and IPR activities Conducted: 63
- No. of student's & faculty ideas generated: 1506
- No. of student's & faculty Innovation/prototypes developed: 30
- No. of IPs generated, published, and granted: 46
- No. of Student & Faculty Start-ups/Ventures established: 131
- Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus: Rs. 5,37, 526/-
- Amount grant or fund supported to student & Faculty lead Innovations, start-ups, and IPR: Rs. 3,40,28,450/- (It may be noted that while overall Innovation & Entrepreneurship ecosystem is sychronized through IIC of the Institute, from an accounting and book-keeping perspective, the Startup grants are supported through DST approved society registered as I-TIC Foundation IIT Hyderbad.)
- No. of Technology Transfer and Commercialisation happened: 1

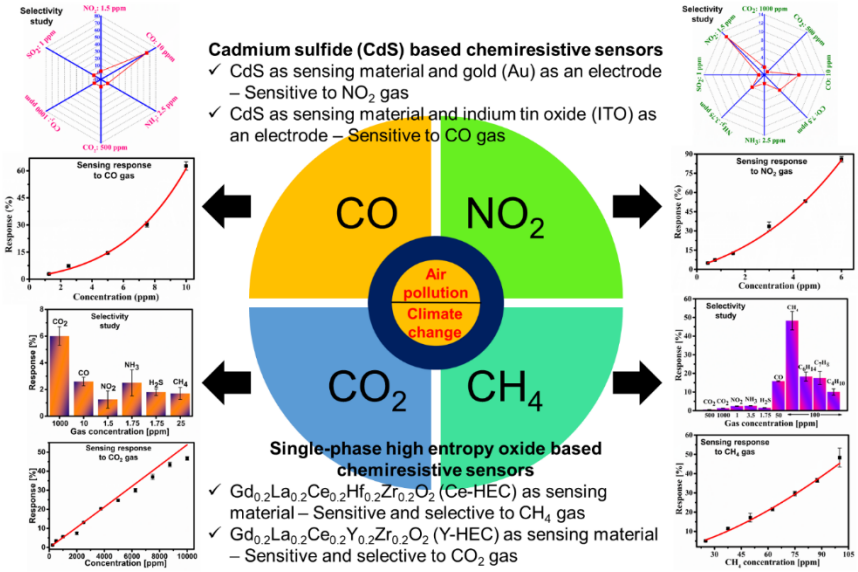
F. Highlight few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forum

- **Gas sensing performance of the fabricated sensors by Professor Shiv Govind Singh – Professor & Head, Department of Electrical Engineering**

Air pollution is one of the most concerning public health topics of the 21st century. According to statistics, more than seven million people die annually due to air pollution, especially in low- and middle-income countries, where people suffer from the highest exposure. Alongside, since the mid-20th century, climate change has also become a hotly debated topic because of the impact of global warming on the Earth's climate, which is caused by increasing levels of greenhouse gases (GHGs). This is actually occurring on Earth due to increased air and environmental pollution,

which is mainly caused by vehicle emissions. In fact, various air pollutants such as Inhalable micrometer particulate matter (PM2.5 and PM10), nitrogen dioxide (NO2), sulfur dioxide (SO2) and carbon monoxide (CO), and GHGs such as carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) and ozone (O3). Therefore, effective methods for monitoring these gases and VOCs are in great demand for atmospheric environmental measurement and control, as well as human well-being and health monitoring.

These gases can therefore be accurately quantified using highly sensitive analytical techniques such as spectrophotometry, gas chromatography (GC) and high-performance liquid chromatography (HPLC). While these techniques are accurate and precise, they are generally expensive, unportable, and power-intensive. Further, such methods frequently require complex and time-consuming pretreatment steps, as well as highly skilled operators. Therefore, to replace these conventional methods, alternative systems for monitoring these gases are needed. In this aspect, electrically-transduced chemiresistive sensing platform are considered due to their simplicity, non- line-of-sight detection, compatibility with wireless transmissions and standard electronic equipment, the possibility of continuous monitoring, and portability.



Summary of the gas sensing performance of the fabricated sensors for monitoring two types of gases.

Here, in our studies, we chose two air pollutants (CO and NO2) and two GHGs (CO2 and CH4) because these gases are mainly emitted from various sources including vehicle emissions. To monitor vehicle emissions, we need an increased spatial coverage system because vehicle emissions are a mobile source. Therefore, we have successfully fabricated a four different chemiresistive sensors to detect these air pollutants and GHGs. These four sensors exhibited the following characteristics, such as the largest sensing response to the target gas, high selectivity with respect to interfering gases, adequate detection limits for ambient levels, short response time and recovery time, and good long-term stability.

G. Highlight selected best Innovations & images with mention of inventor/innovation

- **<u>Climatological aspects of rainfall and urban flood modeling for the City of Hyderabad by Dr Satish R</u>**

  Every year in the recent past we observed severe flooding in Hyderabad city which witnessed human fatalities along with monetary loss and in the least it caused hindrances in daily life activities. In fact the floods that happened during October 13 -18th, 2020 were unprecedented which caused loss of life and property. The rising trend of urban floods does raise certain questions - are these floods resulting from anthropogenic climate change ? or are these floods a

result of unplanned urbanization ? It can be said unequivocally that both the aspects i.e., changing climate and urbanization are responsible for floods in cities. In this context as well as for the effective flood mitigation measures, understanding of the region's climate and effects of urbanization is necessary. Rainfall analysis for the city of Hyderabad suggested that the spatial patterns of climatological rainfall attributes have a relatively large amount of rainfall depth and intensity for the central region of Hyderabad. In regards to rainfall intensities an increased spatial extent was observed over the time and increasing year wise mean rainfall depth and intensity over the study area implied non-stationarity of rainfall. Comparison of rainfall amounts between the study area and its suburban region suggest the likelihood of larger rainfall amounts for the urban region hinting influence of urbanization and its effects.

H. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name.

- **Once Is Not Enough by by Khushbu Baid and Vijay Baid**

ONCE IS NOT ENOUGH was established to tackle the challenge of plastic pollution in society. Co-founded by Khushbu Baid and Vijay Baid, the company firmly believes in the possibility of recycling and upcycling plastic materials in a commercially viable manner. A significant amount of plastic waste ends up in landfills or is burned in industrial kilns. Plastic recycling activities often lack profitability and certain plastics cannot be recycled.

Their work on 3D Printing technology allows for high-value addition to recyclable plastics, while their EcoTiles transforms economically non-viable plastics into 100% waste material floor tiles. Currently they are producing 500 tiles daily, preventing 15-20 tons of plastic waste per month from entering landfills. The company is also developing a 3D Printer extruder which can directly print granular form of plastics reducing down the costs. They also aim to 3D print scrap plastics and recycle them into unique products.

I. List if any breakthrough Innovations/ Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation

- **Smart Mobility @IIT Hyderabad by Prof Rajalakshmi P**

IITH has many Smart Mobility initiatives, including RnD, skill development, and entrepreneurship activities. As part of many funded projects from DST, Meity, DRDO, and Industries, various activities are carried out at IITH. Recently Department of Science and Technology (DST), under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), Government of India has sanctioned the prestigious Technology Innovation Hub to IIT Hyderabad in the technological vertical of Autonomous Navigation and Data Acquisition Systems (UAVs, ROVs, etc.) (TiHAN).

TiHAN Testbed on Autonomous Navigations (Aerial & Terrestrial): IITH has made a magnanimous effort in building a unified and first of its kind state-of-the-art Testbed to develop autonomous navigation technology for ground and aerial vehicles. The testbed is one of the collaborative platforms with Industry/ Academia/ R&D labs in our endeavours aiming at translational research & commercialization of technology development at both national and international levels. The Facilities include Proving Grounds, Test tracks, Mechanical integration

facilities like Hangers, Ground control stations, Anti-drone detection systems, State of the art Simulation tools (SIL, MIL, HIL, VIL), Test tracks/circuits, Road Infra – Smart Poles, Signalized & Unsignalized Intersections, Environment Emulators like Rainfall Simulators, V2X Communications, Drone Runways & Landing area, Control Test centres.

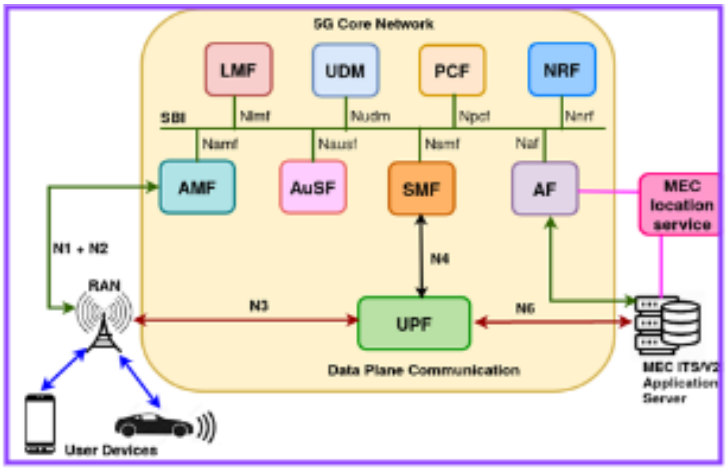
Technology developments: UAV: In Nano/Micro category drones, Bio-Inspired drones like Quad-wing UAV (Dragonfly based) and Flapping Wing Micro Aerial Vehicles (Aerial Birds based), Nano drone swarms are being developed. In Medium/Large category drone, the focus is on developing solutions air cargo, urban air mobility, etc., as a means of solving traffic congestion in the downtown of large cities. In medium category drones, high-end sensors like hyperspectral, multispectral cameras, RGB cameras, and LIDAR are integrated for various applications like agriculture, land survey, health monitoring, etc..

Heavy payload Drone – Air cargo

- **<u>5G and Edge Computing assisted Mission Critical ITS Applications by Prof Kiran Kuchi</u>**

We are living in a world with breathtaking technological innovations. Starting from self-driving cars to remote robotic surgeries in healthcare, there is no dearth of inventions. With these creative inventions uncovered every minute to improve the standards of living, there is a constant need for the fuel that will enable these technologies to function at their maximum potential. "The Internet, like the steam engine, was a breakthrough that changed the world"-Peter Singer, no doubt. But, we would not be wrong to state that "5G is the breakthrough that we all needed to enable the rapid advancements in technology in the 21st century". It enables a new kind of cellular broadband that is designed to connect virtually everyone and everything together, including machines, objects, and devices.

Current advancements in 5G and edge computing infrastructure increase the need to deploy location-based services for mission-critical and delay-sensitive applications like Vehicle to everything (V2X) and Intelligent Transport System (ITS). Research shows that human error is completely or partially the cause of accidents in most cases. And due to this, V2X communication has been continuously researched for more than a decade now with respect to safe transportation.



5G System Architecture for Location Services

- **<u>Lidar Technology by Prof P Rajalakshmi</u>**

  "Any sufficiently advanced technology is indistinguishable from magic" - Arthur C Clarke

  If you watched cartoons during the 90's, then you would remember a futuristic sitcom called the Jetsons, which had flying cars, jetpacks, autonomous navigation, and robots doing household chores. While we are far from being in this technological utopia, the future of navigation is certainly heading towards connecting vehicles, autonomous navigation and UAV-based systems. Achieving these would require significant progress in various fields ranging from the design of specialized sensors and hardware, AI/ML, and communication systems to engines, aerodynamics and design. There has been a lot of exciting research in recent years, particularly by groups at TiHAN and IITH, towards making these dreams a reality. Let us take machine learning, which has emerged as one of the hottest topics in recent years. There have been great strides made in the areas of object detection, computer vision and natural language processing. However, there are new challenges that are unique to the problem of autonomous and connected vehicles. If we are to make transportation "smarter," vehicles have to be fitted with a variety of sensors, including cameras, RADAR, LIDAR, GPS, etc., and the data generated by these are used to train deep learning algorithms for navigation, route planning, traffic control and infotainment services. However, each car can now generate several gigabytes of data in just a few hours, which is a lot to communicate and process and can contain sensitive information that needs to be kept private. A majority of the work on machine learning today assumes that all the training data is available at one place (aka a centralized server), which is not true in the setting above. The training data is actually generated by various devices (or "clients") that are distributed, whereas the machine learning model is to be obtained at a centralized server which is connected to each of the clients typically through noisy/communication-constrained links. The need of the hour is to design algorithms for learning reliable models at the centralized server in a setting where client data is to be kept private, and the amount of communication between the clients and the server is limited. To solve this problem, there has been a flurry of recent work in emerging fields of distributed and federated learning [1,2]. This has led to several new problems and cross-fertilization of ideas in various areas, including distributed optimization, machine learning, cryptography, security, information theory, and statistics, just to name a few.

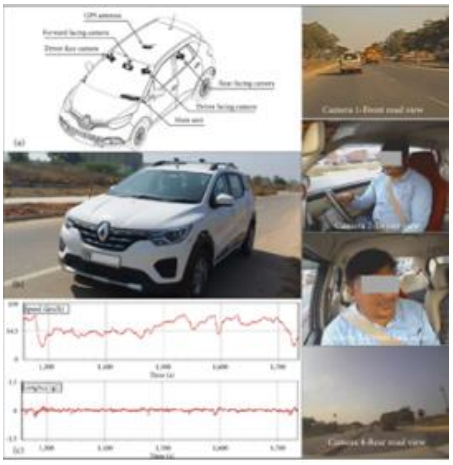
  To give a very brief overview of the main challenges, contrast this with the standard supervised machine learning problem where we have labelled data, and the goal is to typically train a model such as a neural network using this data. In the setting mentioned previously, the data is instead distributed across a large number of clients. A naive solution would be to ask the clien to send all their data to the server and then use this to train the model.

  However, this approach would be extremely communication-intensive, insecure, and violate privacy requirements.

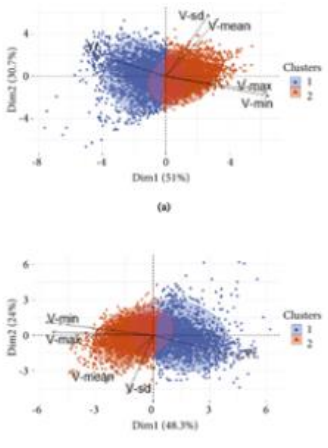
Representation Image of Lidar Technology

- **<u>"Heterogeneity in the Driver Behavior: An Exploratory Study Using Real-Time Driving Data Dr Digvijay S Pawar</u>**

  Road traffic accidents are one of the leading causes of death, resulting in approximately 1.35 million deaths every year [WHO, 2018]. The factors associated with road crashes have been studied over decades, and driver behaviour is concluded to be the major contributory factor. Therefore, understanding the driver's behaviour is important for many applications like driver assistance or personalized feedback provision for enhancing driving safety, economy, and comfort. In addition, the implications of driver behaviour research are significant inputs for the design of autonomous vehicles. Driver behaviour indicates the manner of executing various driving tasks, which can be perceived as controlling the vehicle in the longitudinal and lateral directions. The habitual way of performing driving manoeuvres is considered a driving style, which characterizes the individual driver or a group of drivers. Many researchers have attempted to classify the drivers and the driving styles based on the outcomes of driving tasks from the perspective of driving safe and this context, the study investigates the extent of variations in the individual's driving styles during routine driving. The driving styles are conceptualized using the vehicle kinematic data, that is, speed and accelerations performed during longitudinal control.



Instrumentation details



Cylindrical imperfection measured using DIC

J. Participation of IIC-institute in various programs of Central and State Govt. Highlighting specially for the schemes or programs

- **ARIIA/ NIRF (Innovation) 2023 -** Ranked 3rd
- **NISP Adoption status - Trained Faculty, Policy Formulation, Policy Implementation**
  Policy formulated & circulated in the institute.
- **Smart India Hackathon/ Innovation Challenges in the country:** Yes

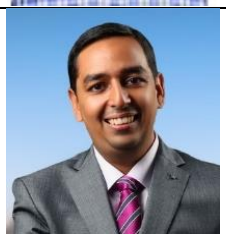
K. Details of social media & Connections of IIC institute

S. No.	Social Media Site	No. of Followers
1	Twitter	43,700
2	Facebook	15,400
3	Instagram	6,515
4	Linkedin	46,017
5	Youtube	5,850

L. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell

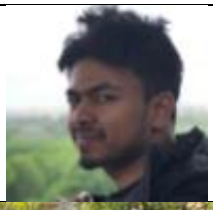
S. No.	Name & Designation	Testimony	Photo
1.	Prof B S Murty Director, IITH President, IIC-IITH	IIC at IITH has redefined the approach towards motivating IITH fraternity towards innovation and engagement in entrepreneurship activity. This council brought subject experts together under an umbrella and will facilitate the seamless transformation of idea into implementation.	
2.	Prof Chandrashekhar Sharma Dean (SRC)/Vice President	IIC has unified the various stakeholders, such as our tech incubator, research park, patent cell, R&D section, and academics under one roof with a single aim of synchronizing all activities related to innovation and research	
3.	Dr Sumohana S Channappayya Associate Professor, Department of Electrical Engineering Innovation Activity Coordinator, IIC-IITH	Invention and innovation (in addition to research and teaching) are now the pillars on which modern institutes of higher learning are built. Therefore, the IIC has a pivotal role to play in ensuring that invention and innovation at IITH are keeping pace with national and international trends.	
4.	Prof S Surya Kumar FIC – Innovation, Incubation & Start-up Startup Activity Coordinator, IIC-IITH	Setting the goals and synchronization of various sections of the institute towards that goal is a crucial step in fostering an active innovation ecosystem at an Institute. We look forward to IIC for playing that role.	

5.	Dr Nakul Parameswar, Convenor, Assistant Professor, Department of Entrepreneurship & Management/ Convenor	IIC@IITH provides a platform to nurture an entrepreneurial mindset amongst the members of IITH Fraternity and society at large. The various activities undertaken focuses on covering all the facets of Innovation & Entrepreneurship thereby providing a platform for thought, dialogue and action in the pursuit of creating an enabling ecosystem.	
6.	Dr Abhinav Kumar Faculty-in-Charge, Office of Career Services Internship Coordinator, IIC-IITH	IIT Hyderabad, has led innovation and entrepreneurship in engineering and technology. IIC is a great step in this direction, bringing multiple stakeholders together to facilitate the process further.	
7.	Dr Pradeep Kumar Yemula Faculty-in-Charge, IP Cell IPR Coordinator, IIC-IITH	IIC @ IITH, is the perfect platform to facilitate the vision of IITH of inventing and innovating technologies for humanity.	
8.	Dr Priyotosh Bandyopadhyay Department of Physics ARIIA coordinator, IIC-IITH	IIC, promote incubation, innovation and entrepreneur activity. It also creates awareness among the faculty members towards the inter-disciplinary research activity related to innovation, the importance of patenting technology and the developing different TRL level technologies	
9.	Dr Sai Santosh Kumar Raavi, Department of Physics NIRF Coordinator, IIC-IITH	IITH, has improved this overall ranking in both QS and NIRF in 2022 largely due to excellent graduate outcomes as well as to the research advances made by the faculty. IIC plays a crucial role in sensitizing the IITH fraternity to innovate and take the lab-scale research to higher technology readiness levels, as is evident by a strong 75% jump in terms of patents filed by faculty during the year 2021 compared to 2020. Also, the BUILD project initiative that enables the students to work on innovative ideas creates a vibrant entrepreneurial and start-up culture in IITH.	
10.	Dr M P Ganesh, Head - Department of Department of Entrepreneurship & Management Entrepreneurship Coordinator, IIC-IITH	Innovativeness as a mindset is essential for each one of us in situations ranging from day-to-day problem-solving to long-term goal achievement. IIC, as an entity, tries to inculcate such a mindset among the IITH community.	

11.	Dr Prasad S Onkar, Associate Professor, Department of Design, Coordinator UBA General Member, IIC-IITH	Creative human sprit to overcome contextual challenges is an essential nature of design and innovation. IIC gives an opportunity to systematically explore and agglomerate such endeavours for the betterment of the society.	
12.	Mr M Sai Kiran, CEO, Founder (SK IOT) Startup / Alumni Entrepreneur	IIC provides a platform that enables various stakeholders from academia, industry, budding entrepreneurs, students, etc., in steering the innovations that can make India a global technology leader.	
13.	Dr Avinash Eranki Assistant Professor, Department of Biomedical Engineering, Faculty-in-Charge - Students Affairs General Member, IIC-IITH	The institution Innovation Council is a great initiative by the Ministry of Education to help individual institutions to create and lead innovation that can lead to translatable outcomes and help India toward self-reliance.	
14.	Prof Deepak John Mathew, Head, Department of Design Innovation Ambassador, IIC-IITH	Key to innovation is an open mind and willingness to experiment and explore. The one who doesn't fear failure will taste the nectar of success.	
15.	Dr Mudrika Khandelwal Department of MSME Innovation Ambassador, IIC-IITH	A comprehensive and well-rounded outlook is important for sustainable and useful innovation that IIC provides.	
16.	Dr Meduri Praveen Department of Chemical Engineering Innovation Ambassador, IIC-IITH	The key to the advent of technology and the modern insurmountable challenges is innovation.	

17.	Dr Sayak Banerjee Department of Mechanical and Aerospace Engineering Innovation Ambassador, IIC-IITH	IIC@IITH, will act as a springboard for breakthrough made-in-India technology development and commercialization in Hyderabad in the coming years	
18.	Dr Suhanya Duraiswamy Department of Chemical Engineering Innovation Ambassador, IIC-IITH	Knowledge and creativity give birth to a fledgling called an idea which needs determination and drives to take flight into an innovative venture.	
19.	Ms Mitalee Agrawal Public Relations Officer Social Media Coordinator & Secretary, IIC-IITH	IITH well known as a pioneer institute for world-class innovations that promote entrepreneurship equally. IIC at IITH has given an amazing boost to innovation and entrepreneurship programs	
20.	Sai Chandra Teja R Alumni Association Representative	IIC, with its unwavering commitment to fostering innovation and entrepreneurship, provided us with a remarkable platform to explore, experiment, and collaborate with diverse community Students, Faculty, entrepreneurs, and industry experts. Being a part of the working group for the evaluation of BUILDs project initiative has been incredibly inspiring. We are proud to have been associated with IIC, and we look forward to staying engaged with this dynamic innovation ecosystem community through Alumni Association	
22.	Mr Vinay Chilakapati (CEO, Innomet Advanced Materials Pvt. Ltd.) Expert from nearby Industry	As IIC @ IITH gains momentum, we wish all the stakeholders to engage in a spirit of national development through Innovation.	
24.	Dr Siva Rama Krishna Vanjari Faculty-in-Charge, FabCI Incubation Centre, IIC-IITH	IIC is the right step at the right time to provide the impetus required for researchers putting sincere effort in the pursuit of Atmanirbhar Bharat. Collective success is the mantra	

25.	Mr Anna Eswara Reddy, Patent Analyst		
26.	Mr Shreyansh Agrawal, E-Cell Head 2022-23 Head, Activity Coordinator (Students), IIC-IITH	Being a Startup Activity Coordinator of the IIC has been a rewarding and enriching experience for me. IIC has been a great platform for all the stakeholders to come together and plan the activities to foster innovation. I have organized various events and activities that promote innovation and entrepreneurship among the students of our institute.	
30.	Mr Ekshan Raj Verma Media Secretary, Student Gymkhana Social Media Coordinator (Students), IIC-IITH	IIC's meetings inspire collaboration among diverse members, promoting innovation. This initiative harnesses collective wisdom to address chosen areas, fostering meaningful progress within our institution. It's a commendable platform for sharing insights and driving positive change.	
31.	Mr Anand Sharma Social Media Coordinator	IIC at IITH is the driving force behind innovation and entrepreneurship on our campus. It helps us turn those ideas into reality and encourages us to dream big. It's all about fostering innovation and nurturing creativity in our community.	
32.	Mr Bapatu Manoj Kumar Reddy Innovation Activity Coordinator		
33.	Mr Sreejith R R Internship Coordinator	As a member of IIC and a student, I've witnessed firsthand the transformative impact of IIC at IIT Hyderabad. It's more than a bridge; it's a catalyst for dreams. IIC empowers our students to harness their creativity, turning ideas into innovations and ambitions into reality. This vibrant hub fosters an environment where ideas flourish, sparking the entrepreneurial spirit in our students. With IIC's unwavering support, our talented minds are poised to shape the future. I'm inspired by the culture of innovation and excellence that IIC instills in IIT Hyderabad and through that in the country, and I'm confident it will continue to drive our students to	

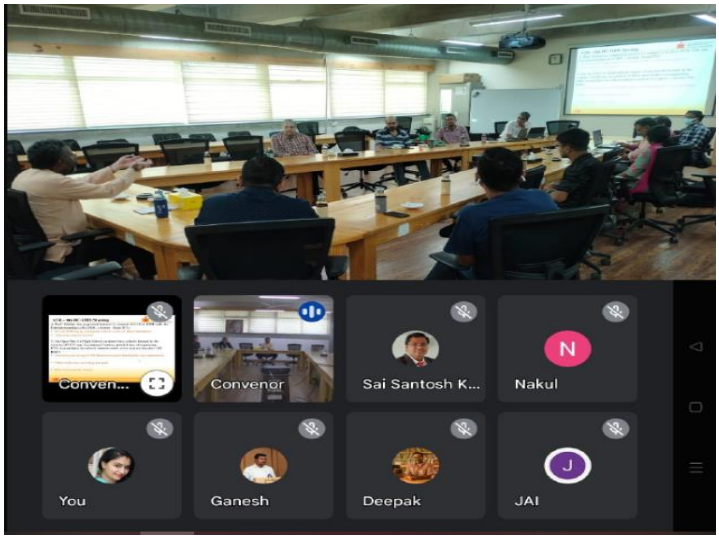
		unparalleled success.	
34.	Mr Srijan Shahi Startup Activity Coordinator	IIC holds a great potential to impact innovation and entrepreneurship	
35.	Mr Samyak Joshi, Convener (Overall Head) of Tinkerers' Lab of IITH IPR Coordinator	To promote 'innovation', which is the core motto of IIC & ignite the capacity to experiment with emerging technologies, IIC of IITH guarantees that the Standard Operating Procedure (SOP) shall be exclusively linked to the machinery & not to the technological possibilities.	

M. Images

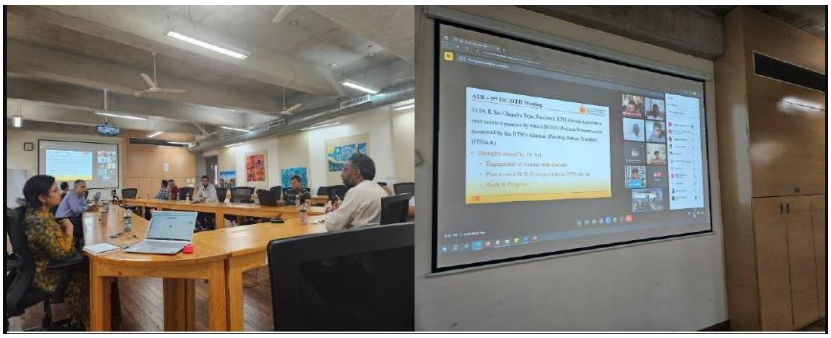
- **IIC Meetings' Screenshots:**

Quarter-1, AY 2022-23

Quarter-2, AY 2022-23

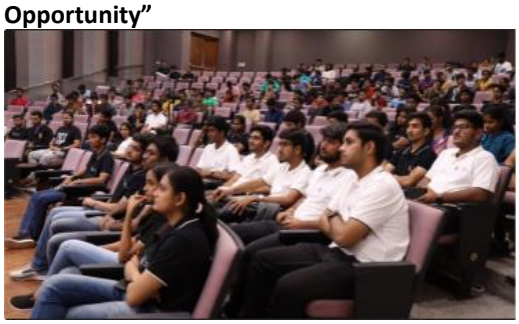
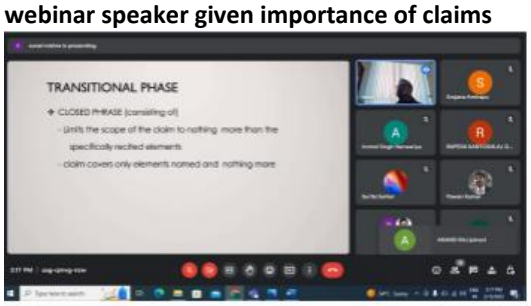


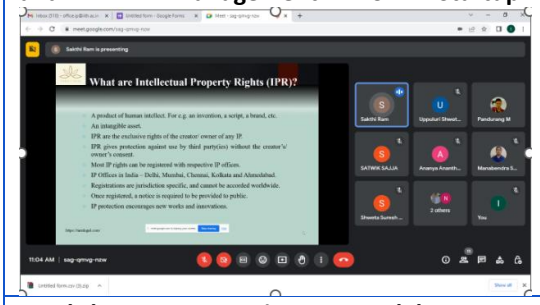
Quarter-3-AR-2022-2023



Quarter-4-AR-2022-23

- **Snapshots of few entrepreneurship & innovations sessions at IITH:**

"Entrepreneurship and Innovation as Career Opportunity" 	**"Demonstration of IIT Hyderabad IInvenTiv Exhibition's Industry-ready Technologies** 
Innovation Day Exhibition 	**This event is a "Patents:Claims Drafting". In this webinar speaker given importance of claims** 
Workshop on Process of Innovation Development, Technology Readiness Level (TRL); Commercialization of Lab Technologies	**Workshop on Entrepreneurship Skill, Attitude and Behaviour Development**

& Technology Transfer 	
Entrepreneurship Talk by Mr Ajay Jain 	Organizing Innovation and Entrepreneurship Outreach Program in School – "Innovations and applications of piezoelectric materials" 
Webinar on "Intellectual Property Rights (IPRs) and IP Management for Startup" 	Prototype/Process Design and Development 
Workshop on Business Model Canvas 	Lean Start-up & Minimum Viable Product/Business 

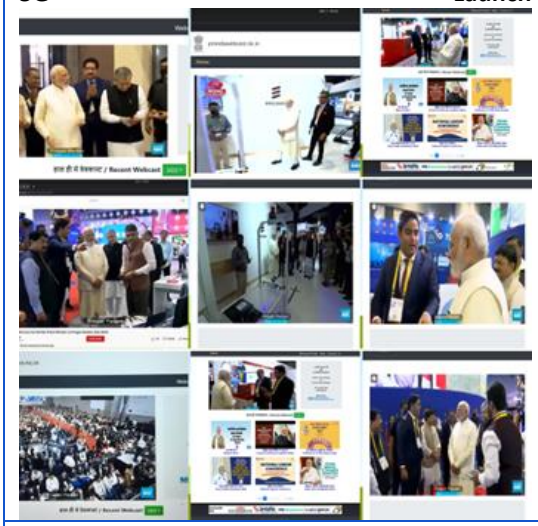
Lean Start-up & Minimum Viable Product/Business

VC Funding Opportunity for Early-Stage Entrepreneurs by Mr Ajay Jain

Converting Innovation into a Start-up/ Achieving "Value Proposition Fit

Accelerators/Incubation- Opportunities for Students & Faculties- Early-Stage Entrepreneurs

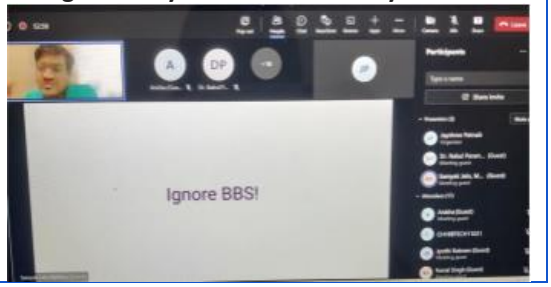
5G Launch



Entrepreneurship Talk by Mr Saurabh Jain

Entrepreneurship Talk by Mr Pankaj Dubey

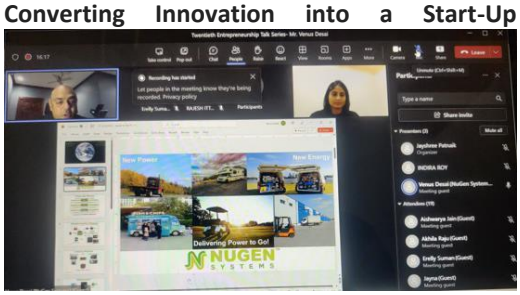
Instilling Entrepreneurial Mindset right from College by Mr Samyak Jain



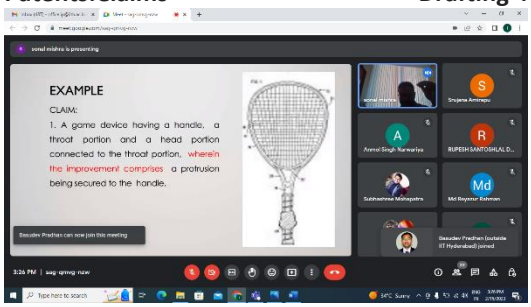
Zilla Parishad High School (ZPHS) Rudraram School Students Visit to IITH Entrepreneurship and Career in Science and Technology

E-Summit '23 - "An Arduous Carrefour"

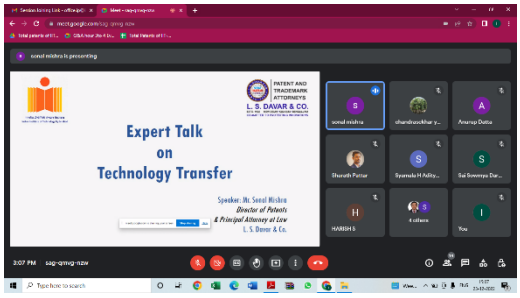
Converting Innovation into a Start-Up



Patents:Claims Drafting".



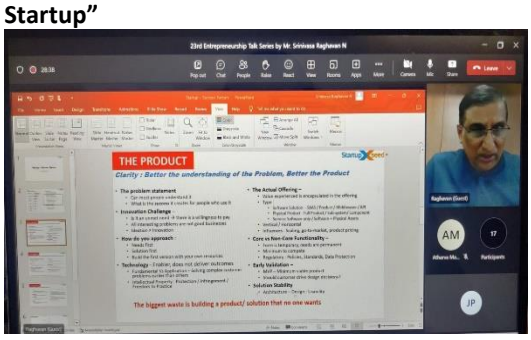
This event is a "Expert Talk on Tech.Transfer". In this webinar speaker given importance of Tech.Transfer

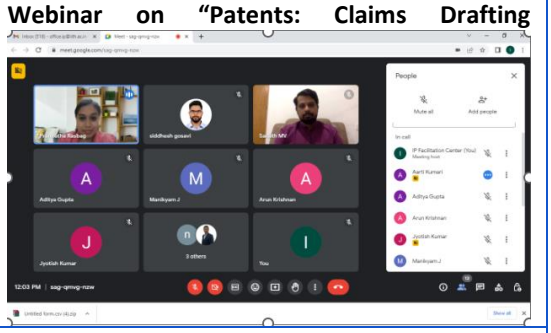
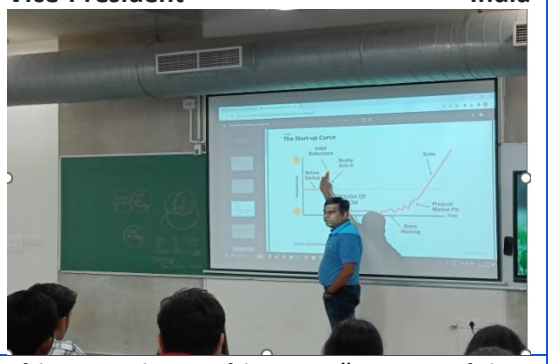
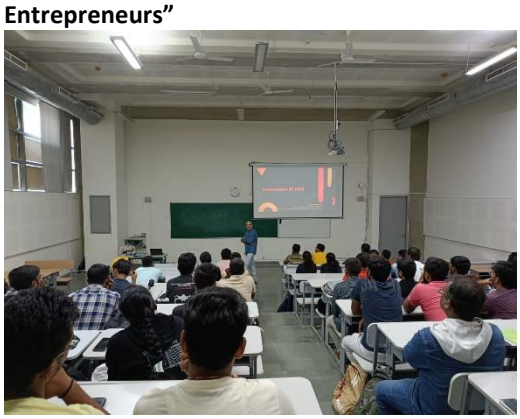
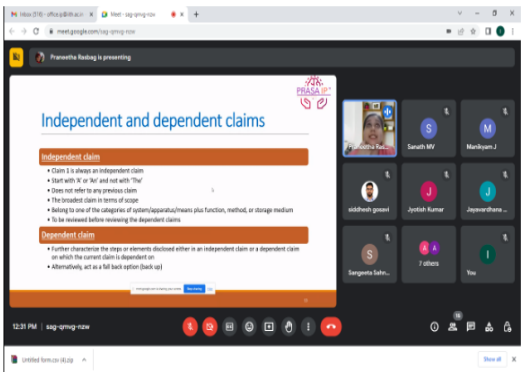


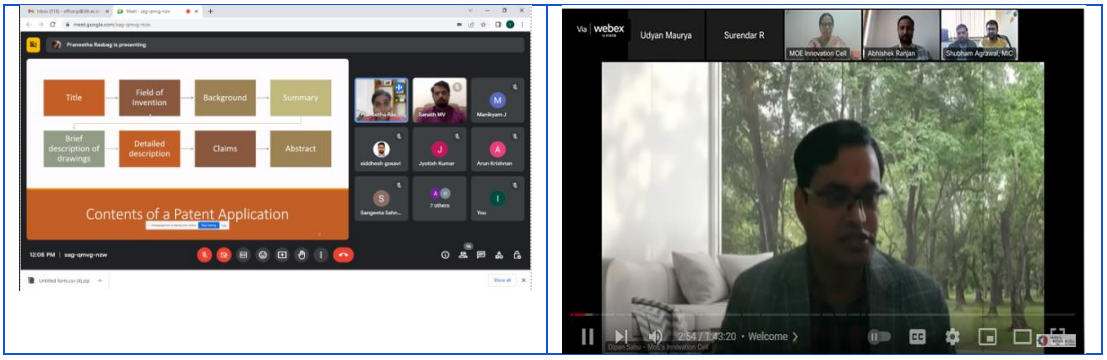
The title of this talk was "My Story Motivational Session by Successful Innovators".

Student outreach program

The title of this talk was "Success Factors for Startup"



Evolution of Technology Startup Landscape: A Debriefing Session 	**Students grilling Professors on Entrepreneurship** 
LEAD Pitch" competition to foster leadership and creativity among budding bosses 	**Webinar on "Patents: Claims Drafting** 
The title of this talk was "Lean Start-up & Minimum Viable Product/Business" 	**The title of this talk was "Converting Innovation into a Start-up / Achieving "Value Proposition Fit" & "Business Fit". In this regard, Mr Raghu Mangaraju, Senior Vice-President India** 
The title of this talk was Accelerators/Incubation- Opportunities for Students & Faculties- Early-Stage Entrepreneurs" 	**This event is a webinar on "Patents Claims Drafting". In this webinar the speaker explained about importance of claims, types of claims and how draft the claims.** 
Session on "Branding and storytelling in the digital era Under Business Plan/ Prototype" by Ms Jocelyn Joseph, Co-Founder, Client Management at the Brandit Co.	**Session on the orientation session on IIC hosted by Mr Deepan Kumar Sahu. He had given a brief insight into what IIC .**



N. Contact

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Mail ID: convenor.iic@iith.ac.in