



भारतीय प्रौद्योगिकी संस्थान गुवाहाटी  
Indian Institute of Technology Guwahati  
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# ज्ञानवर्षा

The Monthly Newsletter of IIT Guwahati

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The Minister of External Affairs Dr. S. Jaishankar Glimpses Interaction with the Faculty, Staff and Students

## North-East Research Conclave 2022

The North-East Research Conclave-2022 was organized from May 20-22, 2022 at IIT Guwahati under the Chief-Patronship of Hon'ble Union Minister of Education, Skill Development and Entrepreneurship Shri Dharmendra Pradhan and the Co-Chief Patronship of Chief Minister of Assam, Dr. Himanta Biswa Sarma.

The mega conclave hosted more than 7000 participant delegates over the three days. More than 150 academic institutions/colleges/schools and over 100 start-ups/MSME/industries participated. Significant contribution was obtained as the part of the technical sessions. More than 500 oral presentations with more than 500 poster presentations were made by delegates from all the academic institutions in NE India. During the conclave delegates showcased their R&D activities through Research and Innovation Exhibition. Over 300 exhibitors participated this grand mega event and display their research in various Pavilions designated to IITs/NITs/CFIs/CFTIs across the NE states.

Targeted Participants of the Mega Event NERC-2022 Conclave were-(a) Educational Institutes/-Schools/Colleges of North East (Universities/

Institutes of: Assam, Arunachal Pradesh, Tripura, Mizoram, Sikkim, Nagaland, Meghalaya), (b) Ministries/Departments of Government of India & North East State Government, (c) Research Councils, Policy Organizations, (c) Industries, PSUs, Start-ups & Private sector companies, (d) National Research Laboratories & Technical Institutes of North East region.

Promising number of Exhibitors had participated from all across the NE states in the NERC-2022 conclave. The delegates from all the NITs, CFTIs, CFIs and several other research organisations, such as, DST, DBT, CSIR, TISS, NECTAR etc showcased the working models of their inventions. Distinctive pavilions were arranged for all.

Also we got excellent response from the Start-Ups all across the NE states. FINER partnered with NERC-2022 as an Industry Partner and they showcased 50 start-ups as a part of the Exhibition under the FINER Pavilion. Other significant organizations that came forward to showcase their allied R&D start-ups were the Oil and Natural Gas (Oil & Natural Gas Pavilion), Indian Army (Defense Pavilion) and NE-Railway (NE-Railway Pavilion).



The activities which were showcased:

- Research & Innovation exhibition by North East Researchers/Industries.
- Industry Start-up show-case related to North East region.
- Interactive session between Industry and Researchers.
- Eminent talks by Policy makers, Industrialists and Academicians.
- Strategic panel discussion on various challenges/opportunities in R&D sector by Eminent Dignitaries.
- Sensitization of Research Ethos among school students to pave the future R&D road map of North East region.
- Women research and Entrepreneurial summit with award distribution.

#### NERC 2022 AT A GLANCE



#### ABC-2022 as Part of NERC-2022

Under the umbrella of NERC-2022, Assam Biotech Conclave-2022 was also organized. Assam Biotech Conclave 2022 - the third edition was all set to bring together the Biotech Entrepreneurs, industry leaders, researchers, academicians, Government Representatives, policy makers, innovators and investors together on one platform to explore the possibilities of Biotechnology in North East India and to discuss the new opportunities in the transition. The Conclave also put forward the facilities offered by Guwahati Biotech Park wherein prospective Biotech ventures may avail incentives/subsidies etc. through the provisions laid under the Biotechnology Policy for the State of Assam.

#### Impact of NERC 2022

- Setting up of Cluster University in NER for Knowledge Enlightening. The cluster university concept is a step towards giving motion to education!
- Collaboration among NE Academic & Research Organizations for Sustainable Society.
- Academia-Industry Partnering towards Cultivation of Translation Research in NER

- Transforming Network of Excellence to Tower of Excellence
- Transforming Organizations into hubs of Indigenous Products and Technology
- Hand holding among NFR, Defense and other Sectors with Academia for Translational Research
- Establishing NE Research & Innovation Hub to cater all the needs of NER Society for sustainable Science and Technology. Establishing Hub of Traditional Knowledge

#### MoU between IIT Guwahati and the Govt. of Assam

The inauguration ceremony of the NER conclave was followed by the signing of a MoU between IIT Guwahati and the Government of Assam to establish 'The Assam Advanced Health Innovation Institute (AAHII)'.







Hon'ble Union Minister of Education, Skill Development and Entrepreneurship Shri Dharmendra Pradhan interacting with students, Industrialist, Start-ups, Indian Army, etc during the exhibition of NERC 22.

### Shri Dharmendra Pradhan and Dr. Himanta Biswa Sarma unveil 'Guwahati Declaration' during NERC 2022 at IIT Guwahati

Indian Institute of Technology Guwahati will be playing a key role in the implementation of the 'Guwahati Declaration,' unveiled by Shri Dharmendra Pradhan, Hon'ble Union Minister of Education, Entrepreneurship and Skill Development and Dr. Himanta Biswa Sarma, Hon'ble Chief Minister of Assam during North East Research Conclave (NERC) 2022 held from 20th to 22nd May 2022 at IIT Guwahati.

The Guwahati Declaration launched at the valedictory function of the conclave by Shri Lok Ranjan, Secretary, Ministry of Development of North Eastern Region (DONER), in the presence of Shri Kailash Karthik, Deputy Commissioner, Kamrup is intended to create a set of guidelines, through which individual, as well as a collective responsibility to promote

and encourage innovation at the grass-root level and strive to stimulate and execute indigenization and entrepreneurship, can be taken up. It also encourages advancement in discoveries through sustainable routes.

At least 100 start-ups are expected to be incubated with around 100 doctoral students to be added within the next three years. The ecosystem support necessary for these developments will be provided for achieving their success.

Speaking on the significance of the declaration Prof. T. G. Sitharam, Director, IIT Guwahati, said, that this Guwahati Declaration, prepared after extensive deliberation with Hon'ble Minister, Secretaries, and Senior Officials will help to develop a robust ecosystem of innovation and entrepreneurship across the northeast region and beyond. It will also facilitate better coordination among institutions by promoting collaborations in the field of science & technology, protecting indigenous know-how and sustainability in traditional knowledge and translational research areas.

Prof. Parameswar K. Iyer, Dean (Public Relations, Branding and Ranking), IIT Guwahati mentioned, that this Guwahati Declaration is a unique document, and its objectives will bring boundless synergy among stakeholders from governments, funding agencies, industries, academia, research institutes, philanthropists and grass-root innovators and help promote local entrepreneurship, self-reliance and accomplish larger objectives of sustainable growth.

Prof. Vimal Katiyar, Dean (Research and Development) and Convener NERC2022, IIT Guwahati said, that this conclave has helped to shape this historic Guwahati Declaration which was developed on the suggestion by Shri Dharmendra Pradhan ji and will lead to self-sustenance at every level across the region and contribute to the overall growth of R&D, entrepreneurship and sustainability and fulfill the objectives of this mega conclave.

Under this declaration, a framework to achieve holistic and converging objectives and build targeted mission-mode collaborative efforts will be initiated. Progress on ten broad thrust areas will be initiated that would lead to sustainable socio-economic development, efficient bio-resources utilization, automation of indigenous tools and technology, disaster management, and climate change aspects.

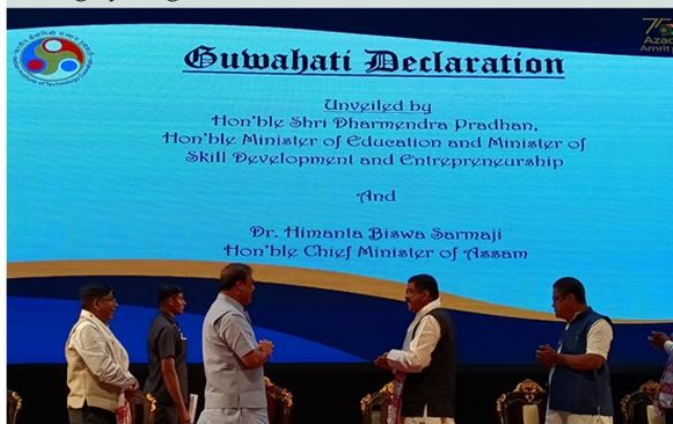


These broad working areas include:

1. Biomedical and Environmental devices development and testing
2. Food Processing Technology
3. Advanced Functional Materials and Biomaterials
4. Drug Discovery from Natural Resources
5. Drone Technology Development and Application
6. High Altitude Waste Management
7. Fossil fuel and Alternative Energy Utilization and Devices
8. Geo-Spatial Technology
9. Livelihood Projects
10. Automation in Agriculture, Sericulture, Pisciculture

The declaration requires individuals and institutions to build upon their strengths and expertise for promoting and nurturing innovation at the grass-root level, engaging individuals from an early level so as to inculcate the values of innovative thinking and collective growth. IIT Guwahati has already been working with self-help groups of women making Pitha (an Assamese delicacy) and helping them in increasing the shelf-life, packaging, and branding of Pitha.

Institutes and Universities across the northeast region and nation will have to be intertwined with various state and central government ministries, PSUs and industries and create a knowledge center, facilitating the declaration objectives. Feedback from participating institute heads, was obtained after a brainstorming session, and broad working areas were identified and listed in the declaration document. This declaration that was released during the valedictory function of the NERC2022 is expected to encourage innovation and entrepreneurship by combining synergies of all stakeholders.



Shri Dharmendra Pradhan and Dr. Himanta Biswa Sarma unveiling the 'Guwahati Declaration' during NERC 2022 at IIT Guwahati



Launch of 'Guwahati Declaration' at the valedictory function by Shri Lok Ranjan, Secretary, Ministry of DONER, in the presence of Shri Kailash Karthik, Deputy Commissioner, Kamrup

## Visit of Hon'ble Minister of External Affairs Dr. S. Jaishankar

Hon'ble Minister of External Affairs Dr. S. Jaishankar visited IIT Guwahati for an interaction with the student, staff and faculty members on 28 May 2022. He was accompanied by the Hon'ble Chief Minister of Assam, Dr. Himanta Biswa Sarma. They were given traditional welcome by Ek Bharat Shreshtha Bharat team. The hon'ble Ministers interacted with the international students of the Institute and visited the Technology display by IIT Guwahati students, start-ups at Conference Center.







Director, IIT Guwahati, Prof. T. G. Sitharam felicitated the Hon'ble Guests Hon'ble Minister of External Affairs Dr. S. Jaishankar and Hon'ble CM, Assam Dr. Himanta Biswa Sarma at the Dr. Bhupen Hazarika Auditorium and delivered the welcome address.



The Guest of Honour, The Hon'ble Chief Minister of Assam said that, IIT Guwahati has immense potentiality which need to be properly explored. He said that IIT Guwahati is known for its environment of academic excellence in the entire country. The globally competitive human resource and research activities carried out at this institute has significantly benefitted our society . Dr. Sarma added that IIT Guwahati has made remarkable progress in the field of research during the COVID period. He said that North East has seen tremendous development since 2014 under the leadership of Prime Minister Narendra Modi. Mr. Sarma said that now New Delhi has come to Assam to solve the problems of the state which is unprecedented.



The Chief Guest Minister of External Affairs Dr. S. Jaishankar in his address he urged the students to have a problem solving approach in their engineering so that it would benefit the society. He further said that engineers must have a vision for their country. He added that the world has witnessed this during the COVID situation and Russia- the Ukraine war when India evacuated its citizens. Dr. Jaishankar said that diplomacy is the first line of defence and every society needs to be secured.







Glimpses Interaction with the Faculty, Staff and Students



Delegation consisting His Excellency Mr. Didier Talpain, Consul General of France in Kolkata, Ms. Anjita Roychowdhury, Press Attaché and Mr. Nicolas Facino, Director of Alliance Française du Bengale on their visit to IIT Guwahati.



IIT Guwahati signed MoU with NTT Advanced Technology Corporation, Japan to collaborate on various technology, student internship and other joint programs.





## IIT Guwahati and ASSTC collaborate for training in the field of Survey and Settlement, using drones and emerging technologies

Indian Institute of Technology Guwahati is going to collaborate with Assam Survey and Settlement Training Centre to promote the training of ASSTC officers. IIT Guwahati will conduct courses related to drone operation, training, maintenance, data collection, application in various sectors, theory classes on modern land management, and Research and Projects by leveraging their respective expertise in this area. It is the first instance across the country where training on drone technology will be imparted to all levels of officers and it is a unique step to integrate knowledge-based technological advancement as part of the training curriculum for state officials.

An MoU was signed on 4th of May 2022 between the two institutions in the presence of Shri Jogen Mohan, Hon'ble State Minister Revenue and Disaster Management, Shri Shantanu Gotmare, IAS, Director of Land Records and Surveys, Assam, Prof T. G. Sitharam, Director, IIT Guwahati, Shri Pankaj Chakravarti, Principal, ASSTC and Joint Director Assam Survey and other officials from ASSTC and faculty from IIT Guwahati.

In his address, Shri Jogen Mohan, State Minister of Revenue and Disaster Management said, "In this new era of technology and education, this MoU is a great step towards helping the region. I thank IIT Guwahati for this collaboration. This will help the region and encourage people to work for the development of the region."

Within the framework of this MoU with ASSTC, IIT Guwahati will impart training to the Government Administrative and Technical staff in Survey and Settlement as well as to private candidates. Both ASSTC and IIT Guwahati will work closely to collaborate and co-operate with each other to support the needs of ASSTC Govt. of Assam officers and select manpower, as mentors, trainees, and skill development and upskilling.

Speaking on the significance of the collaboration, Prof. T. G. Sitharam, Director, IIT Guwahati, said, "We are delighted to be able to extend our services to the region through this heritage organization ASSTC and be associated with its activities. IIT Guwahati specifically recognizes this futuristic step and we

look forward to technology-based networking, and academic training programs both on campus as well as on-site and support other technology-based initiatives for the socio-economic benefit of the state and the region. I am very glad that today we will be able to initiate the academic courses related to this drone technology to ASSTC and in the near future we hope to make a more positive contribution to the state and extend this technology to various other sectors."

The duration of course work (both practical and theory) will be of one week for Recorder's Certificate Class Course (RCCC) students and 4 days for officer's class including one examination/submission of project report/presentation at the end of the session conducted by IIT Guwahati.

Elaborating further, Prof. Parameswar K. Iyer, Dean of Public Relations and Branding IIT, Guwahati, said, "It is indeed a historic step to integrate knowledge-based technological advancement as part of the training curriculum for state officials which I am sure will improve the overall data collection and processing of land records and other areas."

For Assam and the Northeast being vulnerable to various natural calamities such as floods, landslides, land erosion by rivers, huge fires, the drone-based technologies can be extremely useful for land survey, river mapping, forest cover, agriculture sector, highway/traffic monitoring, border surveillance, etc. by providing real-time information and data at a time scale not possible manually or by other means.



Prof. T. G. Sitharam, Director, IIT Guwahati and Pankaj Chakravarty, Principal, ASSTC during the MOU signing





Lt. Gen. D. S. Rana GOC Gajraj Corps visited IIT Guwahati and held meeting with Prof T.G. Sitharam, Director, IIT Guwahati to talk through key areas of ongoing R&D and subsequent mutual coordination between both entities.



IIT Guwahati & Automotive Research Association of India (ARAI) signed a Statement of Intent (SoI) for the “Establishment of a Digital Twin Center for Emerging Automotive Applications”. Dr. Reji Mathai, Director, ARAI and Prof. T. G. Sitharam, Director, IITG were present during the event.



Director, IIT Guwahati, Prof. T. G. Sitharam addressing the gathering at 'Men in Menstruation' training, an India Book of Records event at IIT Guwahati, Auditorium in presence of the Deputy Commissioner of Kamrup, Shri Kailash Karthik N.



## IIT Guwahati develops technology for the design of fast and secure integrated circuits (ICs) for next-generation computing

Researchers at the Automation, Verification and Security (AVS) Lab at the Indian Institute of Technology Guwahati, have worked towards developing secure and dependable integrated circuits (ICs) for faster and efficient computing.

The research looks at all aspects of the automated electronics design process like synthesis, verification and security, and contributes towards strengthening the electronics manufacturing ecosystem in our country.

The findings have been published in top tier journals and conferences of IEEE. The research team is funded by ECR, CRG and Interdisciplinary Cyber-Physical Systems (ICPS) grants from the Department of Science & Technology, Govt. of India and by a Research Fellowship from Intel (India).

The paper has been authored by Dr. Chandan Karfa, Associate Professor, Department of Computer Science & Engineering, IIT Guwahati and co-authored his research students Mr Mohammed Abderehman, Mr. Debedara Senapati, Mr Surajit Das, Ms Priyanka Panigrahi and Ms Nilotpola Sarma. Some alumni who contributed to these endeavours are Mr Ramanuj Chouksey, Mr Jay Oza, Mr Yom Nigam, Mr Abdul Khader and Mr Jayprakash Patidar. The team has collaborated with various international experts. Dr. Chandan Karfa is also the recipient of Qualcomm Faculty Award 2021.

With increasing computational demands, there is a need for application-specific processors that can outperform current CPUs. While multicore processors are being used in modern times, their computing power improvements continue to be insufficient. To cite an analogy for better understanding, running more cars on the road does not necessarily mean you can reach your destination faster; in fact, more cars can lead to congestion and delays.

Pointing out the importance and need of research in the area of increasing computational power, Dr. Chandan Karfa, said “A promising technology to improve computational efficiency is hardware accelerators. In hardware acceleration, specific tasks can be offloaded to dedicated hardware instead of being

performed by the CPU core of the system. For example, visualization processes may be offloaded onto a graphics card, thereby freeing the CPU to perform other tasks.”

IIT Guwahati team emphasize on hardware acceleration specifications that are often written in high-level languages like in C/C++ and are converted to hardware code (or register transfer level or Register-Transfer Level (RTL code), in a process called High-Level Synthesis (HLS). Due to the complex conversation process, HLS translation may introduce bugs in the design and therefore stringent validation steps are required. The RTL simulators are used to validate HLS, but these are slow and complex. The team has developed simple and fast tools for HLS validation.

Further, Dr. Chandan Karfa, said “We have developed two tools to validate the HLS process. One is FastSim, an RTL simulator that is 300 times faster than existing commercial simulators. The other is DEEQ, which is an automated C to RTL equivalence checking tool for HLS verification. There is no other tool in the market with similar features.”

In addition to these simulators, prototypes of which are available for testing, the IIT Guwahati team has also developed a technology called HOST, which protects Integrated Circuits from IP theft during the design cycle. has been shown to be resilient to any known attack till date.

The impact of the IIT Guwahati team’s work is enormous because of the increasing demand for hardware accelerators in disruptive areas such as Internet-of-Things (IoT), embedded and cyber-physical systems, machine learning and image processing applications. With the Government of India’s recent approval of the Rs 76,000-crore scheme to boost semiconductor manufacturing in the country, efficient EDA aids such as those designed by the IIT Guwahati team will support and promote self-sufficiency in chip design.



Dr. Chandan Karfa



## IIT Guwahati collaborates with Mehta Family Foundation to launch Jyoti and Bhupat Mehta School of Health Sciences and Technology

Indian Institute of Technology Guwahati has signed a Memorandum of Understanding (MoU) with Mehta Family Foundation (MFF), Houston, Texas, USA, to establish the 'Jyoti and Bhupat Mehta School of Health Sciences and Technology.' This New School at IIT Guwahati will commence academic activities during the current academic year.

The MoU was signed virtually on 14th May 2022 in the presence of Prof. Ajay K. Sood, Principal Scientific Adviser to the Government of India, Dr. Rajiv I. Modi, Chairman, Board of Governors, IIT Guwahati, and Chairman and Managing Director, Cadila Pharmaceuticals Ltd, Shri Rahul Mehta, CEO, Mehta Family Foundation, Prof Ananth Grama, Prof. Rajiv K. Gupta, Prof. Shankar Subramaniam, Prof. T. G. Sitharam, Director, IIT Guwahati, Prof. S. K. Kakoty, Deputy Director, IIT Guwahati, and other Deans as well as faculty members of IIT Guwahati.

Addressing the event, Prof. Ajay Kumar Sood, Principal Scientific Adviser, Government of India, said "I congratulate IIT Guwahati and the Mehta Family Foundation for this remarkable initiative. At this juncture, I can clearly foresee that the School of Health Sciences and Technology would host a number of modern academic curricula, centers of excellence, incubators, and research laboratories for the advancements in multi-disciplinary research and education, which is presently needed in the country."

Further Prof. Ajay Kumar Sood, "The School will also bring in the budding academic leaders in the closest proximity of world-class educationists, scientists, physicians, technologists, and entrepreneurs, which may catalyze high-impact research, diminish expensive biomedical imports, and engender an academic curriculum that substantiates the vision of a sustainable society."

The Jyoti and Bhupat Mehta School of Health Sciences and Technology has launched a new Master's and PhD programmes in Health Sciences and Technology from this academic year. The first batch of 20 M.Tech students in the stream of Biomedical Science and Engineering will be admitted to IIT Guwahati through GATE 2022.

Highlighting the initiatives to be taken up by the New Centre, Prof. T. G. Sitharam, Director, IIT Guwahati, said, "The institute profoundly thanks the Mehta Family Foundation for their generous support towards establishing this second new programme on Health Sciences and Technology at IIT Guwahati, which will inculcate cutting-edge education and research in the areas related to therapeutics, diagnostics, prosthesis, implantation, bioinformatics, molecular biology, regenerative medicine, stem cells, public health, and health data analytics, among many others. The impact of such translational education and research is rather far-reaching since they will not only fulfil the demands of having sufficiently qualified postgraduates in the service of the nation but also catalyze the research output matching the global standards."

Speaking about the vision of the USA-based Mehta Family Foundation, its Chief Executive Officer Shri Rahul Mehta said, "The Mehta Family Foundation has supported higher education in India and internationally for decades. It is an absolute privilege to partner with IITG to create this new school of Health Science and Technology. We believe that education is fundamental for economic development. This multi-disciplinary research and education school will foster innovation in new areas at the frontier of the healthcare revolution to deliver sustainable solutions to improve the healthcare of the people in India."

This new multi-disciplinary programme on Health Sciences and Technology at IIT Guwahati has been designed based on National Education Policy (NEP) 2020. The NEP advocates development of a holistic academic curriculum to nurture the best talents of the country through both pedagogic as well as hands-on training.

Dr. Rajiv I. Modi, Chairman, Board of Governors, IIT Guwahati, and Chairman and Managing Director of Cadila Pharmaceuticals Ltd, said "First of all, our sincere thanks to the Mehta Family Foundation for their generous support in establishing the School of Health Sciences and Technology. At this juncture, integration of the School in the IIT Guwahati ecosystem may entirely transform the research and academic ambience for sure. The initiative also commensurate with the mission of the nation to become an international powerhouse in post-graduate education and research."



The new programme will emphasize extending training in both theoretical as well as hands-on perspectives, which will enable the development of academic leaders with a strong scientific foundation alongside having the capability to translate the ideas into biomedical technologies.

The newly established school aims to train the students in topics related to Health Science and Technology, with the emphasis on courses from other disciplines of science and engineering such as Biosciences and Bioengineering, Electronics and Electrical Engineering, Chemical Engineering, Mathematics and Statistics, and Design.

The school will:

- (i) Foster cutting-edge research and innovation
- (ii) Establish new standards of pedagogy and hands-on training methods in the areas related to the health sciences
- (iii) Create a niche of startups and MSMEs who will provide evidence-based affordable healthcare technologies
- (iv) Promote state-of-art biomedical and public health education

This school will have highly-qualified full-time faculty alongside having the guidance of the associated faculty members from diverse disciplines within IIT Guwahati, who have experience in nurturing the existing Masters' and PhD programme in the Engineering, Science, and Design departments.

Further, Dr. Rajesh Gupta, MFF CARE Team Member, said, "The launch of The Jyoti and Bhupat Mehta School of Health Sciences and Technology is the culmination of a concerted effort to create an academic home for the emerging area at the intersection of health sciences and engineering to advance human health. Its establishment in a beautiful but under-served corner of the country is heartwarming. My sincerest congratulations and thanks to the Mehta Family Foundation for enabling IIT Guwahati to advance knowledge and train the future generation of talent in the area."

Dr. Ananth Grama, MFF CARE Team Member, said, "I am honored and excited to be a part of the Jyoti and Bhupat Mehta School of Health Sciences and Technology at IIT-Guwahati. The School offers

tremendous promise of fundamental scientific discoveries, world-class education, and deep societal impact. The School is built around a shared vision of collaborative multidisciplinary research, deeply committed world-class students and faculty, and resources from the Mehta Family Foundation, in an area of particular importance and growth in India. I look forward to being a part of this journey -- as the School matures into a premier institution of research and learning."

Dr. Shankar Subramaniam, MFF CARE Team Member, said, "Innovation in technologies at multiple scales have the potential to impact the health status of millions of people. Training next generation students and contributing to this translational impact is of paramount importance for premier academic institutions and IIT Guwahati can emerge as the pioneer in this area and serve as a harbinger for health science and technology future in India."

The Mehta Family Foundation has a track record of having supported several institutes in the fields of healthcare education. Previously, the same philanthropic organization supported the Mehta Family School of Data Sciences and Artificial Intelligence, IIT



Prof. T. G. Sitharam, Director, IIT Guwahati, addressing virtually the MoU Signing event between IIT Guwahati and Mehta Family Foundation, U.S



Shri Rahul Mehta, CEO, Mehta Family Foundation





Dr. Rajiv I. Modi, Chairman, Board of Governors, IIT Guwahati



Prof. Ajay K. Sood, Principal Scientific Adviser to Govt of India.



### IITG Woman Faculty Research & Innovation Award

Government of India has taken various steps to encourage women in the field of science and technology. In this line IITG had also initiated for recognising the contribution of women faculty members of IITG fraternity. This year during the second day of the NERC 2022 conclave, the Woman Faculty Research & Innovation has been bestowed to Prof. Latha Rangan, Department of BSBE and Associated faculty of School of Agro and Rural Technology.

## IETE ZONAL SEMINAR (EAST ZONE) ON NEXT GENERATION WIRELESS

IETE Guwahati Centre organised two days Zonal Seminar (East Zone) on the theme "Next Generation Wireless" in collaboration with Indian Institute of Technology, Guwahati and SAMEER, Guwahati on 27 and 28 May, 2022 at IIT Guwahati campus. The Inaugural session was graced by Prof. T. G. Sitharam, Director, IIT Guwahati, Prof. (Wg. Cdr.) P Prabhakar, President, IETE HQ, New Delhi, Dr T. Tiwari, Program Director, SAMEER, Guwahati. After the lighting of the lamp by Chief Guest Prof. T. G. Sitharam, Shri C Ojah, Chairman, IETE Guwahati Centre welcomed all the dignitaries. Prof. Ratnajit Bhattacharjee, Head CCC & Head MFS DS & AI, IITG delivered the keynote address. The keynote address touched upon various activities that has led to the present state of Wireless Communication and also mentioned about the upcoming technologies in the field of wireless communication. Presidential Address was delivered by Prof (Wg Cdr) P. Prabhakar. Chief Guest Prof. T. G. Sitharam, Director, IITG addressed the audience consisting of representatives from Industry, academia, research scholars and students from IITG, IIITG, GU, AEC, GITM, USTM etc and also from Law enforcing agencies viz NDRF, Assam Police, Nagaland Police and Tripura Police. In his address he stated that in 1894, Guglielmo Marconi began developing a wireless telegraph system using radio waves. That was the beginning of wireless communication, from then there were tremendous technological development in this field. With rapidly changing scenario of wireless communication technology, it becomes very easy to provide seamless connectivity and ubiquitous high-quality services.

Dr. M. H. Kori, Vice President & Chairman TPPC, IETE and Shri Ajay Kumar, IETE Zonal Mentor, East delivered lecture on the occasion. A Souvenir was released by Prof Dr T G Sitharam, Director, IITG and also IETE Kolkata news letter was Inaugurated by Prof. (Wg Cdr) P. Prabhakar. Vote of thanks was offered by Shri A Narzari, Hony Treasurer IETE.

Four technical sessions were held during the Zonal Seminar covering the areas Wireless Communication, Optical & Microwave Communication, IoT and Wireless Communication and Network Security in Wireless Communication. In the technical sessions, the experts from Academia and Industry presented their views on different developments on the respective areas. Each session was well attended by participants.



The two-day Zonal seminar concluded in the afternoon of 28 May through a valedictory session.



Prof. Ratnajit Bhattacharjee delivering the keynote address



## Glimpses of various Sessions of NERC 2022







BioNEST, IIT Guwahati Technology Innovation and Development Foundation was inaugurated by Shri K. Sanjay Murthy, Secretary, Dept. of Higher Education, Ministry of Education.



Shri K. Sanjay Murthy, Secretary, Dept. of Higher Education, Ministry of Education, visited the Exhibition at the BioNEST IIT Guwahati Technology Innovation and Development Foundation.





Lt. Gen D. S. Rana, GOC Gajraj Corps delivering lecture at NERC 2022: Dedicated Session on North-East Industry-Academia R & D Ecosystem and Related Policies.



Royal Society of Chemistry hands-on training to school children on Global Battery experiment, Inspirational science for NE Region school students during North East Research Conclave 2022 at IIT Guwahati.



Women in R&D: A program to bring in and recognize the efforts of women in Research & Development.





Panel Discussion: Brain Storming Session on Handholding Mechanism for Sustained Research and Innovations Among North-East Institutions.



Sh. K Sanjay Murthy, Secretary, Ministry of Education visited IIT Guwahati and interacted with the Directors, VCs of Academic/ Research Institutes on the occasion of North East Research Conclave 2022.





Panel discussion: Incubation and Entrepreneurship Advancement







Investors Pitch: Raise money for your Start-up



Assam Bio Innovation Research Fellowship





India at the cusp of Med-tech Revolution



Poster Presentation at Exhibition hall



Creating skilful educators: A teacher training program

Panel discussion: Open floor meeting of NE Grassroot Innovators, prospective entrepreneurs with Govt. Officials and Head of Institutions





Prof. T. G. Sitharam Director, IIT Guwahati, Prof. P. K. Iyer, Dean PRBR and Prof. Vimal Katiyar, Dean R&D interacting with school children.



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