

Shri Dharmendra Pradhan, Hon'ble Minister of Education, Witnessed Research & Innovation Exhibition on 21st Nov., 2021.

Shri Dharmendra Pradhan, Hon'ble Minister of Education, Skill Development and Entrepreneurship had visited the Research & Innovation Exhibition as part of the inaugural program of major infrastructure Projects in IIT Guwahati. Dr. Ranaj Pegu, Hon'ble Education Minister of Assam and Smt. Queen Oja Hon'ble MP had also witnessed the event. The Centre for Nanotechnology exhibited their nano-enabled healthcare, energy harvesting, and LED prototypes, devices and technologies, start-ups/ incubation ecosystem, high-end R&D outputs in the area of nanofabrication and nanoelectronics, etc. The Centre of Excellence for sustainable polymers (CSP) also exhibited their biodegradable plastics and associated technologies that encourage carbon footprint. The Hon'ble minister specifically reminded the role of CSP in Association with Numaligarh Refinery Limited in utilizing bamboo biomass towards sustainable Materials production, which is the main theme of NRL-COE-SUSMAT. The Mehta School of Data Science and Artificial Intelligence have also showcased their latest technological interventions in their domain. The other major departments of Engineering and Sciences had impressed the minister of education with their thought-provoking research and innovative commercializing capable technologies a lot. Overall with the support of The Industrial Initiative and special interactions cell the event got major attention on the occasion of the minister of education visit.



Speaking on the occasion, Hon'ble Minister of Education, congratulated IIT Guwahati for achieving excellent rankings in various International and National ranking systems and appreciated the efforts of IIT Guwahati for creating an ecosystem for research and education as well as focusing on the overall development of the north-eastern region. The rich biodiversity of the North East provides a lot of scope for research that can benefit the entire humanity. There are a number of policy directions in the National Education Policy 2020 which can modernize our education system. Dr. Ranaj Pegu, Hon'ble Education Minister of Assam, congratulated IIT Guwahati and said that the Institute should focus on entrepreneurship and produce job creators and not only job seekers. Smt. Queen Oja, Hon'ble MP expressed her happiness in getting such advanced research facilities in the North East and expected IIT Guwahati to contribute to the overall development of the North East. The Director, IIT Guwahati, applauded the efforts of R&D section for holding the Research exhibition in a short span of time. It is further added that through these R&D initiatives, pursuing high-end research and working towards the vision of "Aatmanirbhar Bharat", aligning with national policies, especially NEP 2020 so as to compete globally in Research and Technology development.

New Additions @R&D

Research Projects

- Cancer immunotherapy: Inhibition of Immunosuppressive Indoleamine 2,3-Dioxygenase 1 Enzyme Activity by targeting the Heme and Apo-form
Funding Agency: CSIR
Principal Investigator: Dr. Debasis Manna
- Unified platform for Social Media Content Analytics
Funding Agency: DEITY
Principal Investigator: Dr. Sanasam Ranbir Singh
- M. Des Programme / Executive Development Programme in Electronics Product Design
Funding Agency: **MIETY**
Principal Investigator: Dr. Udaya Kumar Dharmalingam
- Motor Imagery BCI for Neuroprostheses and Robotic Neurorehabilitation.
Funding Agency: IIT Delhi
Principal Investigator: Dr. Shyamanta Moni Hazarika
- A Pilot-scale comparative study on dumping of fresh and partially stabilized MSW followed by pretreatment of landfill leachates by conventional and electrocoagulation methods followed by upflow anaerobic filter
Funding Agency: DST
Principal Investigator: Dr. Ajay Kalamdhad
- Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptation in India
Funding Agency: UK
Principal Investigator: Dr. Subashisa Dutta
- Mechanistic investigations on the efficacy and mode of action of Ashwagandha Rasayana and Yogaraj Guggulu, using a hybrid Proteomics-Cheminformatics-Network medicine approach for the treatment of Osteoarthritis
Funding Agency: **OTHER**
Principal Investigator: Dr. Vibin Ramakrishnan
- Development of a novel bio-composite thermal energy storage material and its applications in isothermal drying of agricultural products and passive cooling of building
Funding Agency: ASTEC
Principal Investigator: Dr. Pankaj Kalita
- Unravelling the Regulatory Mechanism that Connects Ribosome Biogenesis and Stringent Response with Bacterial Cell Growth
Funding Agency: Ignite Life Science Foundation
Principal Investigator: Dr. Anand Baskaran
- Empowering women through Appropriate technology intervention in weaving sector for Productivity enhancement & drudgery reduction of artisans
Funding Agency: DSIR
Principal Investigator: Dr. Sashindra Kumar Kakoty
- Design and development of a solar-powered pottery Chaak.
Funding Agency: ASTEC
Principal Investigator: Dr. Sashindra Kumar Kakoty
- Shastri Covid-19 Pandemic Response Grant (SCPRG): Call for Innovative Solutions
Funding Agency: OTHER
Principal Investigator: Dr. Lalit Mohan Pandey

- Support for transboundary hydro diplomacy course
Funding Agency: **NGO**
Principal Investigator: Dr. Anamika Barua
- DBT PAN IIT Center for Bioenergy: Phase II
Funding Agency: **DBT**
Principal Investigator: Dr. Arun Goyal
- Ion Therapy: Synthesis and Optimization of Small molecule-based Selective Anionophores for Next-Generation Anticancer Agents
Funding Agency: **SERB**
Principal Investigator: Dr. Debasis Manna
- Synthesis, supramolecular polymerization and optoelectronics applications of peri-naphthoindigo derivatives
Funding Agency: **SERB**
Principal Investigator: Dr. Kingsuk Mahata

R&D based CoE/HUB/Program(Approved/Recommended, 2021)

- ❖ **CoE in Disruptive Innovations & Product Development for Affordable Rural Healthcare**
Funding Agency: ICMR, PI: Dr. Dipankar Bandyopadhyay, Financial Support: Rs. 15.06 Cr
- ❖ **Electronic Product Design Program to Develop Indigenous Electronics and Information**
Funding Agency: MEITY, PI: Dr. Udaya Kumar Dharmalingam, Financial Support : Rs.18.02 Cr
- ❖ **Multi-Country/Institutional Joint Centre for Depression Diagnosis and Medication- IITG Coordinating Institute**
Funding Agency: DBT, PI: Dr. Hanumant Sing Shekhawat, Total Financial Support : Rs.14.46 Cr
- ❖ **Multi-Institutional INUP– i2i Indian Nanoelectronics Users Program Idea to Innovation-IITG Coordinating Institute**
Funding Agency: MEITY, PI: Dr. Dipankar Bandyopadhyay, Financial Support : Rs. 9.98 Cr
- ❖ **School of Innovations in Biomedical Devices and Systems and Interinstitutional Biodesign Center (SIBDS-IIBC)**
Funding Agency: DBT, PI: Funding Agency: Dr. S kanagaraj, Financial Support : Rs. 3 Cr.
- ❖ **CoE on Sunder Toys Recommended for funding-**
Funding Agency: DCPC, PI: Dr. S. N. Joshi, Rs. 5 Cr.
- ❖ **Centre on Biodegradable Toys: To promote the lively hood to the farmers of Assam**
Funding Agency: DST, PI: Dr. Vimal Katiyar, Financial Support Rs. 4.7 Cr.
- ❖ **Common Research and Technology Development Hub(CRTDH) in New Materials/Chemical Process sector for MSMEs**
Funding Agency: DSIR, PI: Dr. Vimal Katiyar, Budget: 7.40 Cr.

MOU

- MOU between CENTRAL POWER RESEARCH INSTITUTE (CPRI), BANGALORE, and IIT GUWAHATI for the Project on “**AI and IoT based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters**” under RSOP Scheme of Ministry of Power, Govt. Of India
- MOA Between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi and IIT GUWAHATI for the Project on the roles and responsibilities of the participating agencies, monitoring and other matters related to the (**Repurposing endogenous CRISPR-Cas Type-I machinery for efficient markerless genome editing tool in *Leptospira interrogans***).
- NON-DISCLOSURE AGREEMENT Between Hindustan Petroleum Corporation Limited and IIT Guwahati and IIT Madras for the Project titled “**Catalytic Hydrodeoxygenation of pyrolytic oil produced from copyrolysis of agricultural residue and plastic waste**”.
- MOA Between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi and IIT GUWAHATI defining roles and responsibilities of the participating agencies monitoring and other matters related to the “**Technology development & Innovation Engineering for value Chain Development for Citrus Fruits of NE Region**”
- MOA Between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi and IIT GUWAHATI defining roles and responsibilities of the participating agencies monitoring and other matters related to the “**Creation of Bioinformatics Infrastructure Facility 9BIF) for the promotion of Biology Teaching Through Bioinformatics (BTBI) Scheme of BTISnet**”.

CBC Corporation India, A Global Japanese Company Visit R&D Section of IIT Guwahati for Possible R&D Collaboration with Centre for Sustainable Polymers and Other Departments

Mr. Koji Mizuno, Director of CBC Corporation India. CBC Corporation is a Global Japanese company having a capital amount of 5K Million Yen. The company main business is the domain of Synthetic resins, chemicals, pharmaceuticals, agrochemicals, foods, electronics components & devices, optical equipment, industrial machinery, medical devices & dental products, elder care, and textile products. The few of the faculty namely Dr. Reshmi Suresh, Dr. Debabrata Sikdar, Prof. Swaminathan, Dr. Pankaj Kalita, Prof. D. Pamu, Prof. Senthilmurugan S, Prof. P K. Iyer had exchanged their ideas and PoC with the CBC corporation. Now the CBC corporation is primary agreed to have collaboration, for that currently NDA is under preparation.



MEMORANDUM OF UNDERSTANDING (MoU) SIGNING CEREMONY between

OIL INDIA LIMITED

&

INDIAN INSTITUTE OF TECHNOLOGY, GUWAHATI



Memorandum of Understanding (MoU) signing ceremony was held on 11.11.21 (Thursday) between Oil India limited and IIT Guwahati. The Hon'ble Director of IIT Guwahati, Prof. T.G. Sitharam and Mr. Sasanka Pratim Dea, Executive Director of Oil India Limited, Duliajan, Assam, India were the signing dignitaries on both sides. In principle the MOU was basically for Research & Development, Technology and Innovation, Training and Skill development collaboration in the R&D sector of non-conventional fuels. Oil India Limited (OIL) is the second largest government owned hydrocarbon exploration and production corporation under the ownership of Ministry of Petroleum and Natural Gas, Government of India with its operational field headquarters (FHQ) in Duliajan, Assam, engaged in the business of exploration, development and production of crude oil and natural gas, transportation of crude oil and production of LPG. OIL is a state owned second largest exploration and production company of India and produces around 10% of domestic OIL and gas production with a view to become the fastest growing energy company with highest profitability. Indian Institute of Technology Guwahati, the sixth member of the IIT fraternity which is officially recognized as an Institute of National Importance will join hands together to co-operate and collaborate Technological development/Transfer in existing technology/process/ services, Introduction of new technology in the field of engineering services, Knowledge upgradation and innovation partnership, Design & Development, Joint New Technology Development in the area of non-conventional fuel, Training and Skill Development Support and any other area mutually agreed by OIL and IITG with the recommendation of APEX STEERING COMMITTEE. Oil sector is a prime focused sector for the growth of India and the outcome of this MOU will benefit the country's future growth and all its stakeholders. It is expected that the research findings of IITG in OIL sector with Oil India limited Interventions gets thoroughly dispersed across academic and research institutions in India and worldwide. Research activities should be inclined in such a way that it reaches the common people of India and paves the pathway for upliftment of society. IITG is now aggressively working with industries for challenging research and innovation problems aligning with "Atma Nirbhar Bharat" mission.

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