HIGHLIGHTS

MEETINGS & VISITS

SDU-IIT Delhi Joint Project Meeting

A review on the ongoing six (6) projects between University of Southern Denmark and IIT Delhi was conducted on 11th October 2023. A significant progress in terms of four (4) international journal publications, three (3) filed patent applications, presentation of one paper in conference and 2 posters in international conference as well as submission of a joint project proposal to external funding agency was the major outcome of this first joint research collaboration call. SDU & IIT Delhi plans to further enhance the research collaboration between the two institutions and industry partner in near future.

Collaboration Activitivies with NYCU, Taiwan

IIT Delhi renewed the Memorandum of Understanding for Academic Cooperation with National Yang Ming Chiao Tung University (NYCU), Taiwan. The MoU originally signed in 2018 was renewed on 30th October 2023 for another 5 years during the visit of NYCU delegates to IIT Delhi to further strengthen the joint collaborative research between the two institutions. A workshop was held on joint research activities including the ongoing joint interdisciplinary projects (MFIRP) and research progress of joint doctoral students.

Further, a team of IIT Delhi faculty members including Dean R&D visited NYCU from 11-12th December 2023 to discuss on multi-modal strategies to further enhance the research and Joint Doctoral Program Activities between the two institutions.
Visit of University College London (UCL) Delegation

Prof. Geraint Rees, Vice Provost - Research, Innovation & Global Engagement, University College London (UCL), along with the seven other high-level delegates from the university visited IIT Delhi on 20th November 2023 to discuss opportunities for future collaboration. This includes -

- Joint research collaboration for product realization
- Faculty Exchange program for big grant proposals
- Joint (Master) degree/Joint PhD degree
- Joint workshop on specific research areas of mutual interest
- Tripartite agreement between IIT, UCL and AIIMS (with particular emphasis on healthcare engineering).

IITD OPEN HOUSE 2023

IIT Delhi organised 16th Open House - its flagship event for school students, on its campus on 4th November 2023, wherein some of the cutting-edge research works were displayed for them by the Institute faculty and students.

Around 2000 school students from over 40 schools in the Delhi-NCR region visited IIT Delhi to witness and participate in various educational activities organised as part of the Open House.

The Open House 2023 exhibited an extensive collection of innovative research and product development projects. The researchers showcased around 50 functional demos and 100 research posters highlighting cutting-edge technologies.
**Sh. Srijan Pal Singh** (CEO, Dr. APJ Abdul Kalam Centre)

Sh. Srijan Pal Singh, a distinguished author and entrepreneur with deep personal experience alongside Dr. APJ Abdul Kalam, was invited as the Chief Guest and Speaker at the Open House 2023. He delivered a speech on Dr. Kalam's remarkable nature and profound thinking. In his address, he shared insights into the unparalleled experiences that illuminate the essence of Dr. Kalam's wisdom and the enduring impact of his teachings.

**Prof. Subir Kumar Saha** (Professor, Indian Institute of Technology Delhi)

Prof. Saha delivered an enlightening speech on the theme "Robotics to Rural Technologies." In his presentation, he discussed the dynamic landscape of robotic developments and the exciting opportunities they present. Additionally, he shed light on initiatives such as Robocon, DRL (Drone Racing League), and the integration of drones into rural technologies, showcasing how innovative technology can positively impact rural communities and bring about transformative change.

**Prof. Suprit Singh** (Assistant Professor, Indian Institute of Technology Delhi)

Prof. Singh delivered a speech on India's pioneering twin space missions, Chandrayaan and Aditya L1. His presentation delved into the intricacies of these missions, exploring the scientific significance and technological achievements that propelled India to the forefront of space exploration. The audience gained a comprehensive understanding of these ambitious projects that seek to unravel the mysteries of the Moon and the Sun, broadening our knowledge of the cosmos.

**OPEN HOUSE MEDIA COVERAGE**

- **Official IITD Open House Website**: http://iitdopenhouse.info/
- **Watch Event**: https://www.youtube.com/watch?v=XzuVo0UrQI

*OCTOBER - DECEMBER 2023*
THDC India Limited (THDCIL), a Central Public Sector Enterprise, and the Indian Institute of Technology Delhi signed a Memorandum of Understanding (MoU) forging a collaborative partnership to advance research and development activities in Science, Engineering, and Technology.

Dr. S. K. Chauhan, HoD (R&D) from THDCIL, and Prof. Naresh Bhatnagar, Dean (R&D), IIT Delhi, signed the MoU on 12th October, 2023. The agreement is set to span five years.

Read More: https://home.iitd.ac.in/show.php?id=196&in_sections=Press

IIT-Delhi signed an MoU with the World Intellectual Property Organization (WIPO). WIPO has sponsored a DBT Bio-design fellowship for two international Fellows at IIT Delhi who will be working on global health challenges.

Prof. Naresh Bhatnagar, Dean (R&D), signed the MoU on behalf of IIT Delhi on 12th October, 2023, at CSIR Anusandhan Bhavan, New Delhi, in the presence of Hon’ble Minister of State (IC), Ministry of Science & Technology, Dr Jitendra Singh; DG CSIR; Secretary DBT; and Secretary DST; Prof. Deepak Joshi (CBME, IIT Delhi); Prof. Sandeep Singh (Dept. of Cardiology, AIIMS) along with other dignitaries from IIT Bombay, DBT, DST and CSIR.

Read More: https://www.linkedin.com/posts/iitdelhi_iitdelhi-mou-activity-7121371235619385344-X5N9/
The 5th Call for joint collaborative research proposals between University College London (UCL) and the Indian Institute of Technology Delhi (IITD) was announced in October 2023. 20 joint project proposals were received out of which 6 have been selected.

1. A-ROW - Advancing Research on Walk
   - PI: Prof. Deepty Jain & Prof. Geetam Tiwari
   - Transportation Research and Injury Prevention Centre (TRIPC)

2. Design and manufacturing of fatigue-resistant lightweight architected metamaterials
   - PI: Prof. Saikat Sarkar
   - Dept. of Civil Engineering

3. Co-creating social inclusivity parameters for disaster governance at the local level: A collaborative exercise between academicians and policymakers
   - PI: Prof. Anshu Ogra & Prof. Rajarshi Dasgupta
   - School of Public Policy

4. Revolutionizing Muscle Fatigue Measurement for Medical Students in Physiology Education
   - PI: Prof. Deepak Joshi & Prof. Kishore Kumar Deepak
   - Centre for Biomedical Engineering

5. Starch-derived reusable membrane technology: a sustainable solution to global water crisis
   - PI: Prof. Arpan Gupta
   - Dept. of Mechanical Engineering

6. Design of EV charging network: Towards sustainable and affordable energy
   - PI: Prof. Amber Srivastava
   - Dept. of Mechanical Engineering
The call for IRD Discover & Learn (1-2-3-4) Scheme 2023 and Student Startup Action was announced in October 2023. 22 proposals from student teams in different research fields were received out of which 12 project proposals (11 + 1) have been selected.

1. Development of flexible magnetic field sensors based on the planar Hall effect for proximity detection and biosensing.
   - **Mentor**: Prof. Pintu Das, Physics
   - **Students**: Manas Choudhary (2020PH10709), Kirti Singh (2021PH10224), Lisha Goel (2022EE1685), K Janani, EE, (2023EE10239)

2. Power System for High-speed Network in Vacuum/Low Pressure
   - **Mentor**: Prof. Krishnaraj R Potti, CART, Prof. Sunil Jha, Mech Engg.
   - **Students**: Adarsh Soni (2020EE10457), Hrishikesh Deka (2021CH10377), Jairam G (2022ES11206), Archit Srivastava (2023EE10640)

3. Multimodal based Location and Context-Aware Reporting system using smart devices
   - **Mentor**: Prof. Lalan Kumar, Electrical Engg.
   - **Students**: Anjeet Kumar (2020EE30577), Disha Katia (2021EE10647), Aarnav Singh (2022EE11161), Yash Gupta (2023EE30587)

4. LIDAR based perception, object detection and path for an autonomous vehicle
   - **Mentor**: Prof. Arpan Gupta, Mech. Engg.
   - **Students**: Prateek Chandel (2020ME10952), Shubham Chetiwal (2022BB10055), Vedant Singh (2022CH11020), Ayush (2023ES10485)

5. Development of Suspension System for high-speed transportation in low pressure environment (Hyperloop)
   - **Students**: Yojana Bansal (2020ME10987), Shivam Shetty (2021ME10982), Shrestha Gupta (2022AM11222), Kushagra Singh (2023ME20544)
CALLS

IRD Discover & Learn Projects Call-2023
&
Student Startup Action

**Novel Fibre Optic Sensors for Monitoring and Sensing of Oil and gas infrastructure**

**Mentors:** Prof. Sumeet K. Sinha, Civil Engg., Prof. Deepak Jain, OPC

**Students:** Samyak Gothi (2020PH10725), Makan Jaiswal (2021CE10527), Dhruv Liya (2022PH11037), Aproova Bhawalkar (2023CE11039)

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**Investigating the potential of kinase/phosphatasees for microbial pathogens as targets for therapy**

**Mentor:** Prof. Manoj B. Menon, KSBS

**Students:** Yash Gupta (2020BB10064), Prathamdeep Donoa (2021BB10005), Aditya Murti (2022BB11006), Sarthak Garg (2023ES11065)

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**CFRP monocoque chassis for race cars**

**Mentor:** Prof. Naresh Datla, Mech. Engg.

**Students:** Yashdeep (2020BB10066), Akanksh Saxena (2021ME10986), Pratyash Bhuria (2022CH11027), Arjan Tiwari (2023ME11126)

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**Design of a novel physical unclonable function based on collodial Quantum dots**

**Mentor:** Prof. Nirat Ray, DMSE

**Students:** Satyapragyna Kar (2020MS10767), Diyansh Wadhwa (2020MS10767), Megha Mondal (2022MS11898), Asteek Narayan (2023MT10137)

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**Design and manufacturing of battery pack for Evs using cylindrical L-ion cell**

**Mentor:** Prof. Abhishek Das, Mech. Engg.

**Students:** Sushmita Patil (2020MS10772), Aashay Pojge (2021ME21093), Singana Srikrishna Sai (2022ME12003), Daksh Goel (2023ME10643)

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**Development of Aerodynamic devices for race cars**

**Mentor:** Prof. D. Dasgupta, Mech. Engg.

**Students:** Nikunj Gupta (2020ME21036), Laasya Sri Kolli (2021ME20295), Vivek Kumar Meena (2022ME11331), Naman Gupta (2023ME20182)

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**Camera based automated dimension measurement system**

**Mentor:** Prof. Arpan Gupta, Mech. Engg.

**Students:** Aashish Jangade (2020ME10899), Bheem (2020ME10923)
NEW SPONSORED PROJECTS & CONSULTANCY PROJECTS

Sponsored Research Projects

Total 70 Sponsored Research Projects worth ₹70.52 Crores

Consultancy Jobs

Total 82 Consultancy Projects worth ₹7.07 Crores
HIGH-VALUE SPONSORED RESEARCH PROJECTS
(Valued ₹1 Crore and above)

Prof. Debayan Bhattacharya
Dept. of Civil Engineering
Project: Performance based design of geosynthetic reinforced soil (GRS) walls and bridge abutments for high-speed railway (HSR) subjected to seismic loading
SA: National Technical Textiles Mission, Ministry of Textiles, GoI

₹14.89 Crores

Prof. Bipin Kumar
Dept. of Textile & Fibre Engineering
Project: Sustainable process optimization for high-performance fibrous waste management and valorization
SA: National Technical Textiles Mission, Ministry of Textiles, GoI

₹8.88 Crores

Prof. Bijay Prakash Tripathi
Dept. of Material Science & Engineering
Project: Development of thermoregulating smart textiles with encapsulated nano/micro sized phase change materials for sportswear application
SA: National Technical Textiles Mission, Ministry of Textiles, GoI

₹5.44 Crores

Prof. M R Ravi
Dept. of Mechanical Engineering
Project: Development of Performance Grade (PG) Specifications of Asphalt Binder Binders in Indian Context
SA: Ministry of Road Transport and Highways, GoI

₹3.62 Crores

Prof. Shashank Bishnoi
Dept. of Civil Engineering
Project: Research and upscaling of innovative low-carbon cement technology in India with a climate co-benefit approach
SA: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), GmbH, Germany

₹3.47 Crores

Prof. Aravind Krishna Swamy
Dept. of Civil Engineering
Project: Development of Performance Grade (PG) Specifications of Asphalt Binder Binders in Indian Context
SA: Ministry of Road Transport and Highways, GoI

₹3.07 Crores
## HIGH-VALUE SPONSORED RESEARCH PROJECTS
(Valued ₹1 Crore and above) Contd.

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Position</th>
<th>Project Description</th>
<th>Sponsorship Agency</th>
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<tbody>
<tr>
<td>Prof. P M V Subbarao</td>
<td>Dept. of Mechanical Engineering</td>
<td>Modeling and Simulation of COIL Source</td>
<td>Centre for High Energy Systems and Sciences (CHESS), DRDO, GoI</td>
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<td>Prof. Dibakar Rakshit</td>
<td>Dept. of Energy Science and Engineering</td>
<td>Comprehensive Research on Sustainable Infrastructure for CPLs working in HAA</td>
<td>Border Roads Organization, Ladakh, India</td>
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<td>Prof. Vamsi Krishna Komarala</td>
<td>Dept. of Energy Science and Engineering</td>
<td>Development of hydrogenated thin nano-crystalline silicon as a carrier-selective layer for silicon hetero-junction solar cells</td>
<td>Department of Science &amp; Technology, GoI</td>
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<td>Prof. Rajiv K Srivastava</td>
<td>Dept. of Textile &amp; Fibre Engineering</td>
<td>Valorization of textile waste to value-added, reverse-processable porous scaffolds for selective sorption and separation</td>
<td>National Technical Textiles Mission, Ministry of Textiles, GoI</td>
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<td>Prof. Vipin Kumar</td>
<td>Dept. of Energy Science and Engineering</td>
<td>Support for establishing a Centre of Excellence on Climate Adaptation at IIT Delhi</td>
<td>Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), GmbH, Germany</td>
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<td>Prof. Upasna Sharma</td>
<td>School of Public Policy</td>
<td>Support for establishing a Centre of Excellence on Climate Adaptation at IIT Delhi</td>
<td>Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), GmbH, Germany</td>
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<tr>
<td>Prof. Sahil Bansal</td>
<td>Dept. of Civil Engineering</td>
<td>Development of High-Performance Fiber-Reinforced Concrete for building applications</td>
<td>National Technical Textiles Mission, Ministry of Textiles, GoI</td>
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- ₹2.87 Crores
- ₹2.55 Crores
- ₹1.37 Crores
- ₹1.10 Crores
- ₹1 Crore
- ₹1 Crore
HIGH-VALUE CONSULTANCY PROJECTS
(Valued ₹25 Lakhs and above)

Prof. Dipti Ranjan Sahoo
Dept. of Civil Engineering

Project: Structural Assessment and Evaluation of the Structural Analysis, Design and Drawings for the Proposed Project of Redevelopment of General Pool Residential Colony at Sriniwaspur, New Delhi (Phase-IIA)
SA: Central Public Works Department - New Delhi, GoI

₹50 Lakhs

Prof. Sanjay Dhir
Dept. of Management Studies

Project: Impact Assessment Study of Government E-Marketplace
SA: Ministry of Commerce and Industry, GoI

₹39.12 Lakhs

Prof. Kumar Neeraj Jha
Dept. of Civil Engineering

SA: Khilari Infrastructure Private Limited, India

₹33.32 Lakhs

Prof. Bhagu Ram Chahar
Dept. of Civil Engineering

Project: Structural and Hydraulic Design Work of Trunk Drain at Siddharth Vihar Yojna Ghaziabad
SA: Uttar Pradesh Avas Avam Vikas Parishad, Ghaziabad, India

₹25 Lakhs

Prof. Anoopkrishnan Naduvath Mana
Dept. of Civil Engineering

Project: Condition Assessment and Technical Advice on Construction of Administrative Office Noida Authority Sector 96 Noida
SA: New Okhla Industrial Development Authority, India

₹25 Lakhs

Prof. Bhopinder Godara
Dept. of Mechanical Engineering

Project: Technical Advice, Review & Proof Checking of MEP Services Works for project- Chandigarh Railway Station
SA: Ahluwalia Contracts (India) Limited

₹30 Lakhs
IIT Delhi and Kaspersky signed an MoU for cybersecurity talent development in India. Prof. Naresh Bhatnagar (Dean, R&D) and Prof. Preeti Ranjan Panda (Dean, Corporate Relations) jointly signed the MoU on behalf of IIT Delhi on 6th December 2023. Under the agreement, Kaspersky and IIT Delhi will work together to promote cybersecurity education and research to build a more robust cybersecurity workforce in India. The agreement demonstrates both parties’ efforts to foster closer cooperation to enhance the security of the computing environment in the nation and beyond.

Unnat Bharat Abhiyan (UBA) – IIT Delhi and the Centre for Research in Schemes & Policies (CRISP) signed an MoU on 7th December 2023. Prof. Naresh Bhatnagar (Dean, R&D) signed the MoU on behalf of IIT Delhi. CRISP will assist UBA in guiding the UBA institutions to localize Sustainable Development Goals (SDGs), utilizing Self-Help Groups (SHGs) for their achievement, encouraging active Gram Panchayat Development Plan (GPDP) participation, preparing Village Poverty Reduction Plans, and determining modalities for integrating the work of Women Self-Help Groups.

IIT Delhi is the National Coordinating Institute (NCI) for the UBA programme by the Ministry of Education, Govt. of India.

A second meeting was organized on 15th December 2023 to evaluate seven (7) MSME proposals through presentation in consultation of the Chairman of the Expert Committee on MSME. Each MSME presented their proposals and interacted with Experts for facilitating the process of recommendations of proposal.
Arise! Awake! and Stop Not Until the Goal is ACHIEVED.