Dear Friends and Well-wishers of IIT Delhi,

I am happy to present the November 2022 issue of the Institute newsletter to you. This issue will give you glimpses of the 53rd convocation ceremony, research, alumni contributions, corporate and international relations, etc.

Your comments and suggestions are welcome to make the next issue of the newsletter more interactive.

Warm regards,

Rangan Banerjee
Director, IIT Delhi
News & Events

IIT Delhi Holds 53rd Annual Convocation Ceremony

The 53rd annual convocation ceremony of IIT Delhi was held on November 05, 2022. Prof. Abhijeet Banerjee, Nobel Laureate (Economic Sciences, 2019) and Ford Foundation International Professor of Economics at the Massachusetts Institute of Technology (MIT) was the Chief Guest on the occasion.

2100 graduating students were awarded degrees and diplomas at the convocation ceremony.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Academic Programmes</th>
<th>No. of Graduating Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ph.D.</td>
<td>307</td>
</tr>
<tr>
<td>2</td>
<td>M. Tech</td>
<td>459</td>
</tr>
<tr>
<td>3</td>
<td>MBA</td>
<td>146</td>
</tr>
<tr>
<td>4</td>
<td>Master of Science</td>
<td>134</td>
</tr>
<tr>
<td>5</td>
<td>Master of Science (Research) - MSR</td>
<td>36</td>
</tr>
<tr>
<td>6</td>
<td>Master of Design</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>PG Diploma of IIT Delhi (Naval Construction)</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>Joint P.G. Diploma in Visionary Leadership for Manufacturing (VLEM) (Joint with NITIE Mumbai)</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>Diploma of IIT Delhi (DIT)</td>
<td>06</td>
</tr>
<tr>
<td>10</td>
<td>M. Tech</td>
<td>773</td>
</tr>
<tr>
<td>11</td>
<td>Dual Degree (B. Tech &amp; M. Tech)</td>
<td>130</td>
</tr>
<tr>
<td>12</td>
<td>M. Tech &amp; M. Tech under Advanced Standing</td>
<td>03</td>
</tr>
<tr>
<td>13</td>
<td>Undergraduate Diploma</td>
<td>08</td>
</tr>
</tbody>
</table>

Degrees and diplomas were awarded for the first time to the students graduating in the following new programs: Joint PhD (IIT Delhi and NYCU, Taiwan), Joint PG Diploma in Visionary Leadership for Manufacturing (Jointly with NITIE Mumbai), MS (R) in Sensors, Instrumentation, and Cyber-Physical Systems Engineering, M.Sc. in Cognitive Science, and M.Sc. in Economics.

At the convocation ceremony, meritorious students were honoured with the President’s Gold Medal, Director’s Gold Medal, Dr. Shikhar Dayal Sharma (Former President of India) Gold Medal, Perfect Ten Gold Medal, and the Institute Silver Medal.

List of Medal Winners: https://convocation.iitd.ac.in/2022/medals-awards.php
News & Events

President of India, Smt. Droupadi Murmu, Orates IIT Delhi Diamond Jubilee Celebrations
Closing Ceremony

On the occasion, the Honorable President, Smt. Droupadi Murmu, virtually inaugurated the Research and Innovation Park on the IIT Delhi campus and an exhibition of technologies developed by the Institute researchers. The Union Education Minister, Shri Dharmendra Pradhan, Union Ministers of State for Education, Dr. Subhas Saran, and Dr. Rajkumar Ranjan Singh, and the Principal Scientific Adviser to the Government of India, Prof. Ajay Kumar Sood, were also present on the occasion as the Guests of Honor. Shri Dharmendra Pradhan released the IIT Delhi Diamond Jubilee Unmet Blunder Aahiyar Booklets at the Diamond Jubilee closing ceremony and presented the first copies to the President.

All IITs R&D Fair ‘Inventiv’ Organised at IIT Delhi

At Inventiv, under the theme Technologies with Socioeconomic Impact, IIT Delhi showcased biogas digester and decocker, textile books for the visually challenged, smart cane, veterinary animals, machine for making tussle balls, bamboo-based construction components, AI/ML, DIY kit technology for accurate TB detection, smart vending cart, etc. The IIT Delhi researchers also showcased technologies related to Clean Energy and Renewables (Replacement of Diesel Generators with Vanadium Redox Flow Battery for Clean and Sustainable Environment; Methanol Production from Indian Coal; Pilot Plant Demonstration, Catalysis and Scale-up Technologies), Healthcare (3D Bioprinted Skin Disease Models; Continuous Processing for Production of Biotech Therapeutics), Manufacturing (Advanced CNC Micromachining System with Integrated Tool Head; Continuous Electropinning Machine) and Smart Cities & Infrastructure (Smart Public Transport Toolkit).

RuTAG Transfers Technologies to African Nations

The Rural Technology Action Group (RuTAG) at IIT Delhi has transferred two technologies to four African countries, viz. Ghana, Namibia, Sudan, and Zambia. The technologies include Sound Water Level Measuring Device and Ergonomically Designed Treadle Pump, which are the improved versions over the practices followed by the rural people in Rajasthan and Uttar Pradesh, respectively. RuTAG at IIT Delhi was set-up in 2009 and has been working on several demand-driven technologies to reduce the drudgeries of the villagers and improve the performances.

IIT Delhi Hosts 36th Inter-IIT Aquatics Meet

The Aquatics Meet was inaugurated by the Ajuna Awarded and ace swimmer, Mr. Bhava Sachiwana. Around 200 students from 14 IITs viz. Bhilai, Bhubaneswar, Delhi, Gangavbar, Guwahati, Hyderabad, Jabalpur, Kanpur, Madurai, Ranchi, Varanasi, and Vellore participated in the aquatics meet. The five-day aquatics meet, which started on October 5th, concluded on October 9th, 2022.

C-DOT, IIT Delhi Sign MoU

C-DOT, the Department of Telecommunications’ R&D centre, and IIT Delhi have signed an MoU for cooperation in various areas of telecom spanning IoT/IMT-2020, AI/ML, Cyber Security, and 5G & Beyond technologies. It aims to evolve a mutually productive framework for collaboration between R&D and academia to spur the design & development of wholly indigenous telecom solutions. This will be an effective platform for exchange of knowledge and skill amongst students, faculty and researchers right from the stage of ideation and conceptualization.
Research & Innovation

VLP-based Vaccine Candidate Against COVID-19 Developed
Researchers at IIT Delhi working in collaboration with the Translational Health Science and Technology Institute (THSTI), Faridabad, Haryana have developed SARS-CoV-2 Virus-like Particles (VLPs), which are a possible vaccine candidate. The VLPs tricked the immune system into launching a counterattack in mice, just as it does against SARS-CoV-2. "The majority of the VLPs deployed worldwide have targeted only the Spike protein of SARS-CoV-2 as the primary antigen. However, our VLPs are so "native virus-like" as possible, which means they contain all 4 structural proteins from SARS-CoV-2 (S-Spike, N-Nucleocapsid, M-Membrane, E-Envelope). This could be an advantage in case there are several mutations in Spike in any variant, which preclude the binding of neutralizing antibodies. Animal experiments carried out at THSTI indicate that our VLPs trigger a strong adaptive immune response against multiple antigens. Vaccines based on inactivated virus naturally have this advantage, however, VLPs are safer as they are non-infectious due to lack of genome," said Dr. Manjula Banerjee, lead researcher and Professor in IIT Delhi’s Kusuma School of Biological Sciences. The study titled 'Virus-like Particles of SARS-CoV-2 as Virus Surrogates: Morphology, Immunogenicity, and Immortalization in Neuronal Cells' was recently published in ACS Infectious Diseases.

Read more - https://home.iitd.ac.in/show.php?id=143&in_sections=Press

Diagnostic Tool for Epileptogenic Zone Detection
A team of researchers at IIT Delhi led by Prof. Lalan Kumar, Department of Electrical Engineering, IIT Delhi, has come up with a non-invasive EEG-based Brain Source Localization (BSL) framework for epilepsy. The new tool can point the co-ordinates within minutes. In particular, the researchers have proposed novel head harmonics based algorithms for seizure localization. Their study titled 'Anatomical harmonics based brain source localization with application to epilepsy' was published in Nature’s Scientific Reports. "We have proposed utilization of spherical harmonics and head harmonics basis functions for seizure localization. To the best of our knowledge, this is the first attempt in non-invasive and time efficient seizure localization," Prof. Lalan Kumar, Department of Electrical Engineering, IIT Delhi, said. The researchers have validated the proposed source localization algorithms on clinical EEG data for epileptogenic zone localization. The proposed framework offers an effective solution to clinicians in automated and time efficient seizure localization.

Read more - https://home.iitd.ac.in/show.php?id=132&in_sections=Press

ITD Delhi Launches Mobile Application 'ITD Aab Prahari (आब प्रहारी)' to Address Waterlogging issues in Urban Areas
A Water Security Hub project was started at the Department of Civil Engineering, IIT Delhi, to develop new approaches to tackle the challenges and barriers to water security and sustainable development in the National Capital Territory (NCT) of Delhi. The hub has launched a mobile application named 'ITD Aab Prahari (आब प्रहारी)' to address waterlogging issues in urban areas during the monsoon. In 'ITD Aab Prahari,' mobile application system, communities and individuals are facilitated to report the real-time incidence of flooding, inundation, and around their surroundings, by capturing the waterlogging information and uploading it to a central server. The information fed by the citizens will help the researchers at the Water Security Hub in the effective development and deployment of an early warning system to predict the urban floods through validation of their model. The aim is to help the local administration so that it can take any quick action to mitigate the flooding situation.

Read more - https://home.iitd.ac.in/show.php?id=139&in_sections=Press
Industrial Research and Development (IRD)

Sponsored Projects & Consultancy Jobs Undertaken Through IRD Unit During July-September 2022

- 25 Sponsored Projects with total sanctioned value of Rs. 13.63 Crores.
- 81 Consultancy Jobs with a total sanctioned value of Rs. 5.77 Crores.

High Value Sponsored Projects (with sanctioned value Rs. 0.50 Cr and above) Undertaken During July-September 2022

- Room-temperature Sodium-Sulfur Batteries for Stationary Storage (Sponsoring Agency- ReNew Power Ventures Pvt. Ltd.; Sanctioned Fund- Rs 2.95 cr)

- Biomechanical Study on the Efficacy of Rehabilitation for Subjects with Trauma-Induced Gait Impairment (Sponsoring Agency - DRDO; Sanctioned Fund- Rs 2.60 cr)

- Design and Development of a Device for Efficient Removal and Recovery of Heavy Metals from the Fumes of Rasaushadhis During Their Preparation (Sponsoring Agency- Central Council for Research in Ayurvedic Sciences, Ministry of Ayush; Sanctioned Fund- Rs 1.86 cr)

- Engineered Microbiome (E.Biome): Simple, Scientific, and Self-Sustainable Engine to Improve Rural Environment (SERB Ramanujan Fellowship awarded to Dr. Pankaj Kumar Gupta) (Sponsoring Agency- SERB; Sanctioned Fund- Rs 1.19 cr)

- Synthesis of Porphyrin Arrays and Their Roles in Singlet Fission (SF) (DST INSPIRE Faculty Fellowship awarded to Dr. Nitika Grover) (Sponsoring Agency- DST; Sanctioned Fund- Rs 1.12 cr)

- Mobile Earthquake Exhibition: Educating Masses on Earthquake-Resistant Design of Structures (Sponsoring Agency- Rasiloq Dynamics Private Ltd.; Sanctioned Fund- Rs 1 cr)

- Next-generation Energy Storage in Thermal (NEST) Form to Decarbonize India's Industrial Sector (Sponsoring Agency- Thermax Ltd., Sanctioned Fund- Rs 0.52 cr)
Industrial Research and Development (IRD)

Other Significant Research Activities

- Multi Faculty Interdisciplinary Research Projects (MFIRP)
  
a) Third Call for AIIMS - IIT Delhi Joint Projects
  Considering the success of the first and second joint calls, IIT Delhi and AIIMS announced a third joint call for project proposals where a synergistic benefit (either basic, applied, or translational) can be demonstrated by inter-institutional collaboration. A total of 56 joint project proposals were received. Based on the evaluation by the expert committee, 18 joint project proposals were approved for support over a 2-year period.

b) University of Waterloo - IITD Joint Projects
  The University of Waterloo and IIT Delhi supported joint projects in the research areas of Advanced Electronic Device Fabrication, Designing Artificial Quantum Heterostructures, Novel Heat Exchangers for EV, Enhancing the Resilience and Durability of Structures using Shape Memory Alloys, and Novel Thermochromic Material for Carbon dioxide Separation and Enhanced Hydrogen Production.

c) New Call Announced for Inviting Research Proposals Under MFIRP with Following Institutions:

  i) National Yang Ming Chiao Tung University (NYCU), Taiwan
  The second call for the joint research projects between NYCU and IIT Delhi was invited primarily in the areas of Semiconductors and secondarily in the areas of Medical Sciences & Technology, Civil Engineering, Nanomaterials for Biosensors and other research areas.

  ii) University College of London, UK
  The 4th call for joint collaborative research proposals between the University College Of London, UK and IIT Delhi was invited in all fields and thematic areas including but not limited to the following areas: Artificial Intelligence and Machine Learning, Mechanics of Solids and Fluids, Alternative Energy Systems including clean energy, Quantum Technologies, Cyber Security, Semiconductor Technologies, Climate, Sustainable Technologies, Electronics & Signal Processing, Water, Global Health, including Healthcare Engineering, Waste Management, Humanities & Social Sciences, and Urban Regeneration & Development.

- IRD Student Startup Action
  Sixth call of the IRD Student Startup Action invited proposals from students in all fields including the thrust areas from the Arun Duggal CoE for Research in Climate Change and Air Pollution (CERCA), ReNew Power CoE on Energy and Environment, Nokia-Industry Consortium on Artificial Intelligence, CoE on Smart Technology Enabled Manufacturing, and DESMI CoE on Waste to Wealth.

- Research Publications, Patents and Technology Transfers
  During the July-September 2022 period, nearly 600 research papers were published, seventeen patents filed, and three technologies were transferred.
Awards & Excellence

**Prof. Anushree Malik**
CRCT, has been granted prestigious Fulbright-Kalam Climate Fellowship for Academic and Professional Excellence (Research and Teaching) to undertake a project entitled “Algal community interactions for carbon mitigation and resource recovery” at Princeton University, Princeton, NJ, for a duration of 9 months starting from February 2023.

**Prof. Smruti R. Sarangi**
Department of Computer Science & Engineering, has received the ACM India Outstanding Contribution to Computing Education Award for 2022.

**Prof. Vivek V. Buwa**
Department of Chemical Engineering, has been appointed as the TUM Global Visiting Professor at the Technical University (TU) of Munich, Germany. Also, the Alexander von Humboldt Foundation has offered him renewed research fellowship to visit TU Munich as a Research Fellow.

**Prof. Abhijit Majumdar**
Department of Textile & Fibre Engineering has been invited to join Operations Management Research (OMR) journal as an area editor. The journal is published by Springer (Impact factor: 7.032).

**Prof. Rajendra Singh**
Department of Physics, has been nominated by the Chairman, UGC as a Member of the Governing Council of the Inter-University Accelerator Centre (IUAC) for a period of two years.

**Prof. Ranjan K. Mallik**
Department of Electrical Engineering, has been elected a Fellow of the Asia-Pacific Artificial Intelligence Association (AAIA).
Awards & Excellence

Prof. Sudhhasatwa Basu
Department of Chemical Engineering, has received the MRSI Medal for 2022 by the Materials Research Society of India.

Prof. Naresh Bhatnagar
Department of Mechanical Engineering, has been nominated as a member of the International Personal Armour Committee (IPAC), a very niche and coveted body of distinguished members from NATO countries only.

Dr. Nabi Hasan
Librarian & Head, Central Library, has been admitted to 2022 Class of SLA Fellows, conferred on August 1, 2022, at Charlotte, USA. He will now be known as Fellow of the SLA (FSLA).

Prof. N. M. Anoop Krishnan
Department of Civil Engineering, has been elected as an Associate of the Indian Academy of Sciences, Bengaluru.

Prof. D. Sundar
Department of Biochemical Engineering & Biotechnology, has been recently inducted for the roles in the following national bodies:

(a) Re-appointed as a member of the Task Force on "Theoretical and Computational Biology [Bioinformatics, AI and Big Data]" for another 3 years by the Department of Biotechnology, Govt.

(b) Appointed as a member of the Task Force to review the progress of 'Indian Biological Data Centre (IBDC)' being established by the Department of Biotechnology (DBT), Govt. of India.

(c) Appointed as a member of the CII National Task Force on Science and Data (Genomics).
Alumni Awards 2022

At the 53rd annual convocation ceremony, IIT Delhi honored its esteemed alumni with the prestigious Alumni Awards.

DISTINGUISHED ALUMNI AWARD (DAA)

TEACHING & RESEARCH

Prof. Arvind Kumar Agarwal
SBI Endowed Chair Professor of Mechanical Engineering,
IIT-Kanpur

Prof. Rama Govindarajan
B.Tech. (Chemical Engg., 1984) - Dean Academics,
International Center for Theoretical Sciences
(Tata Institute of Fundamental Research)

TEACHING & RESEARCH

Prof. Satyandra K. Gupta
M.Tech. (Production Engineering, 1969) - Director, Center
for Advanced Manufacturing at the University of Southern
California

Dr. Pushkar Tandon
B.Tech. (Chemical Engg., 1980) - Executive Corporate
Fellow Coming Research and Development Corporation,
Corning, NY (USA)

ENTREPRENEURSHIP

Mr. Jaswinder Chadha
B.Tech. (Mechanical Engineering, 1990)
Founder, President and CEO, Axtile

Mr. Arvind Jain
B.Tech. (Computer Science, 1996)
Co-Founder and CEO, Glean

CORPORATE LEADERSHIP

Dr. Arunud Devgan
B.Tech. (Electrical Engineering, 1990)
President and CEO, Cadence Design Systems

Dr. Amit Sinha
B.Tech. (Electrical Engineering, 1999)
CEO, DigiCert

DESIGN AND TECHNOLOGY LEADERSHIP

Rear Admiral (Retd.) GK Harsh
PG Diploma of IIT Delhi (Naval Construction), 1999 - Indian Navy

GRADUATES OF LAST DECADE (GOLD) AWARD

TEACHING & RESEARCH

Dr. Anikur Gupta
B.Tech. (Chemical Engg., 2012)
Assistant Professor, Department of Chemical and
Biological Engineering, University of Colorado, Boulder

Dr. Dakshita Khurana
B.Tech. (Electrical Engineering, 2012) -
Assistant Professor, University of Illinois at
Urbana-Champaign

ENTREPRENEURSHIP

Mr. Abhishek Bansal
B.Tech. (Production and Industrial Engg., 2012) - Co-Founder and CEO, Shadowfax

DISTINGUISHED ALUMNI SERVICE AWARD (DASA)

Dr. Sashi P Reddi
B.Tech. (Computer Science and Engineering, 1987) - Founder and Managing Partner, SRI Capital
Alumni Relations

New Scholarships/Fellowships Instituted by Alumni (July-September 2022)

<table>
<thead>
<tr>
<th>Scholarship Title</th>
<th>Donor Name</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNN-Stepping Women Scholarship</td>
<td>Shivi Mohan Rastogi</td>
<td>To a female undergraduate student of BTech/Dual degree program in Electrical Engineering</td>
</tr>
<tr>
<td>Kathuria Family Scholarship for Girls in STEM</td>
<td>Vinish Kathuria</td>
<td>To a first-year female undergraduate student of BTech/Dual degree program</td>
</tr>
<tr>
<td>STACET Scholarship</td>
<td>Punest Gironi</td>
<td>To a first-year undergraduate student of BTech/Dual degree program</td>
</tr>
<tr>
<td>Prof. Manoj Kaulbostha Memorial Scholarship</td>
<td>Dr. Rashmi Kulshrestha</td>
<td>To a male and a female undergraduate student of BTech/Dual degree program</td>
</tr>
<tr>
<td>Smt. Umrit Singh Scholarship</td>
<td>Mr. Anil Beeson</td>
<td>To a first-year undergraduate (top IIT Advanced rank) with lowest income student (preference from the state of Bihar and Maharastra) of BTech/Dual degree program</td>
</tr>
</tbody>
</table>

New Chair Instituted by Alumni (July-September 2022)

<table>
<thead>
<tr>
<th>Chair Title</th>
<th>Donor Name</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramakanta Chair</td>
<td>Mr. Alok Aggarwal</td>
<td>To promote excellence and leadership in teaching, research, and development in the fields of environmental, social and governance.</td>
</tr>
</tbody>
</table>

Other Contributions by Alumni (July-September 2022)

<table>
<thead>
<tr>
<th>Title</th>
<th>Donor Name</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding to Robotic Club</td>
<td>Mr. Samar Singh</td>
<td>Fund will support the activities of this technology-intensive club viz., to upgrade the club facilities etc.</td>
</tr>
</tbody>
</table>

Sprint - An Interaction Platform for Alumni and Students

The Office of Alumni Relations, IIT Delhi, introduced "SPRINT," a one-of-a-kind, 8-week-long offline Product Management Cohort where the Institute alumni shared their experience and insights about the field. It is an emerging field and still remains unexplored by the students at IIT Delhi. The sessions were designed to introduce students to product management and to guide them in developing the skills necessary to become effective product managers.

The first session of SPRINT was conducted by Mr. Nischal Gupta, Senior Product Manager at Mastercard, to share insights about the product domain. She introduced the concept of product management and what it entails and tackled myths related to the product management career before explaining how to prepare for on-campus interviews.

The second session was conducted by Mr. Sunil Kumar Singh, Principal Product Manager at Microsoft and an alumnus of Harvard Business School. He focused on how to solve product case studies in a clear and structured manner and identify areas in products with a scope for improvement.

The third session was conducted by Mr. Abhishek Gangwal, Product VP at PolicySavvy. He explained his understanding of the product management role and gave details about the core competencies of a product manager.
Corporate Relations

- On September 20, 2022, three biotech companies, Biox, Diversea, and KeyBiological, visited IIT Delhi, courtesy of Aoxoria Ventures. During the meeting, Prof. S.K. Khare, Dean, Corporate Relations, mentioned the great potential of the Institute in health technology. Problem statements of the companies were discussed at length with the following faculty members: Prof. Bishnu Bhusan Sahu, Energy Science and Engineering (OCSE); Prof. Prasanta Mishra, Biochemical Engineering and Biotechnology; Prof. Neetu Singh, CBIME, and Prof. Souvik Bera, Electrical Engineering Department.

- Team Sweden (the Embassy of Sweden and the Swedish Trade and Invest Council - Business, Sweden) and IIT Delhi held discussions about the air quality situation in the National Capital Territory (NCT) of Delhi. During the meeting, participating Indian startups and Swedish companies showcased best practices in air quality management. The conference also explored the matchmaking of startups under the IIT Delhi umbrella with Swedish technology companies for accelerated commercialisation and market deployment.

- OLX Autos has signed a Memorandum of Understanding (MoU) with IIT Delhi to develop a RoverBot, which can capture 360-degree images of a car and feed it to OLX Autos application. Inked by the Corporate Relations, IIT Delhi and FTTIIT Delhi, this collaboration will provide the academia involved in the partnership an opportunity to work closely with OLX on research projects aimed at solving relevant technical challenges.

- Krishna Narut Ltd. has inked a Memorandum of Understanding (MOU) with IIT Delhi for Light Weight RM and Weld process study.

- Athena PowerTech LLP, a company in the field of pipeline geometry inspection having tolls and tools based out of Ramela, has signed a memorandum of understanding (MoU) for a sponsored research project on design of a magnetic tomography method-based instrument for inspection of pipelines. Prof. Bhimol Lall from the Electrical Engineering Department is spearheading the project.

- Mercedes-Benz Research and Development India (MBRDI), the largest research and development center of the Mercedes-Benz Group AG outside of Germany, visited IIT Delhi on 2nd September 2022 to discuss multiple projects with Prof. Anil Gupta, Prof. Shubhendu Bhattacharyya, and Prof. Supratim Datta from the Department of Mechanical Engineering. They also visited the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward. The visit also led to the Centre for Automotive Research and Testing (CARAT) to conclude and discuss the way forward.

- UFI Filters, a global leader in filtration technology and thermal management, has signed a consultancy agreement with Prof. Bidhi Roy, Department of Mechanical Engineering, on multiphase simulation of plate type heat exchanger with turbulators and impellers. The project will be administered by FTTIIT Delhi.

- Researchers from TATA Consultancy Services (TCS) led by their CTO Mr. Amith Krishnan visited Research and Innovation Park on IIT Delhi campus followed by discussion on various ongoing and future collaboration opportunities between the two entities. Meeting was addressed by Prof. Rangan Banerjee, Director IIT Delhi along with faculty members from various departments.

- MediaTek Incorporated, the world’s 4th largest global fabless semiconductor company, signed a research agreement with FTTIIT Delhi. Prof. Swades De from the Department of Electrical Engineering is project investigator for this collaboration.

- Researchers from the TATA Consultancy Services (TCS) led by their CTO Mr. Amith Krishnan, visited the Research and Innovation Park built on IIT Delhi campus followed by a discussion on various ongoing and future collaboration opportunities between the two entities. The meeting was addressed by Prof. Rangan Banerjee, Director IIT Delhi along with faculty members from various departments.

- MediaTek Incorporated, the world’s 4th largest global fabless semiconductor company, has signed a research agreement with FTTIIT Delhi. Prof. Swades De from the Department of Electrical Engineering is Project investigator for this collaboration.

- A memorandum of understanding (MOU) has been inked with Jubilant FoodWorks Limited (JFL) for a consultancy project on Algorithmic aspects of flavor profiling for Domino. The work is being spearheaded for JFL by Prof. Sayan Ray and Prof. Antinath Bagchi (Department of Computer Science and Engineering, IIT Delhi).
INTERNATIONAL PROGRAMMES

International Meetings with:

- A group of 18 members from the University of Melbourne - 5th September 2022

- A 06-member delegation from the Department of Education and Knowledge (ADEK), UAE - September 7-8, 2022

- A 20-member delegation from the Vietnam embassy - 12th Sep 2022

- A 05-member delegation from Deutsche Forschungsgemeinschaft (DFG), German Research Foundation - 16th September 2022

- A group of 40 students under the Know India Programme (KIP) from various countries - 29th August 2022

- A 04-member delegation from the University of Alberta - 28th August 2022

- Iranian Ambassador - 17th August 2022

- Ms Livia LEU, State Secretary, Federal Department of Foreign Affairs - 02nd August 2022.

Events: The World is One Family- An Interactive Talk by USAID Administrator, Ms. Samantha Power, at IIT Delhi.

IIT Delhi co-hosted an interactive talk session with the USAID Administrator, Ms. Samantha Power, on July 27, 2022. During the session, Ms. Power spoke about the history, strength, and future of the India-US development partnership.

Memorandum of Understanding (MoU) Signed with:

- Edith Cowan University, Australia (Renewal) - 13th July 2022

- Bangladesh Hi-Tech Park Authority (BHTPA), Bangladesh - 01st September 2022

- Drexel University College of Engineering Philadelphia, USA (Renewal) - 13th September 2022

- The Politecnico di Milano, Italy - 22nd September 2022
CONTINUING EDUCATION PROGRAMME (CEP)

- Online CEP Certificate Programmes Launched/Concluded (July-September 2022)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Programme Title (Department/School/Centre)</th>
<th>Sponsored/Open Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Certification in Quantum Computing and Machine Learning (Programme II) (SoM)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>2</td>
<td>Data Science and Machine Learning (Programme III) (CSE)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>3</td>
<td>Data Science and Machine Learning (Programme V) (SoM)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>4</td>
<td>Digital Marketing (Programme IV) (DMS)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>5</td>
<td>Executive Management Programme in Strategic Innovation, Digital Transformation, and Business Analytics (Programme II) (DMS)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>6</td>
<td>Faculty Training Programme on Data Science and Machine Learning (Faculty Development - BTIM)</td>
<td>Open Participation (On Campus)</td>
</tr>
<tr>
<td>7</td>
<td>Finance for Non-Finance Executives (Programme V) (DMS)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>8</td>
<td>FinTech (DMS)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>9</td>
<td>Machine Learning and Deep Learning (Programme II) (SoM)</td>
<td>Open Participation (Online)</td>
</tr>
<tr>
<td>10</td>
<td>Project Management (Programme V) (DMS)</td>
<td>Sponsored (On Campus)</td>
</tr>
<tr>
<td>11</td>
<td>Training on Advanced Battery Chemistry (CHE)</td>
<td>Sponsored (On Campus)</td>
</tr>
<tr>
<td>12</td>
<td>Training on Manufacturing and algorithms of Metal Graphics India Pvt. Ltd. (CSE)</td>
<td>Sponsored (On Site)</td>
</tr>
</tbody>
</table>

- Summer Faculty Research Programme (SFRF) 2022: IIT Delhi invited 119 faculty fellows from various engineering and science institutes and colleges in the year 2021-2022. During June-July 2022, 88 faculty fellows joined the programme and among them 3,080 man-days were utilized to impart training on mentees by 55 faculty members of IIT Delhi.

Zone Wise Applicants for the Summer Faculty Research Fellow Programme 2022

(Figure shows pan-India participation)

- IITEG (Indian Technical and Economic Cooperation) Programmes funded by the Ministry of External Affairs (MEA), Government of India, concluded under the CEP.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Programme Title (Department/School/Centre)</th>
<th>Sponsored/Open Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emerging Contaminants and Water Reuse (Civil)</td>
<td>Sponsored by MEA (Online)</td>
</tr>
<tr>
<td>2</td>
<td>Environmental Risk Assessment (Civil)</td>
<td>Sponsored by MEA (Online)</td>
</tr>
</tbody>
</table>

- Quality Improvement Programme (QIP) is a sponsored PhD programme by the AICTE. Five faculty were selected (September 2022) for the advance admission 2022-23 under the QIP scheme with IIT Delhi. Five faculty were registered in the first semester (August 2022) of the final admission 2022-23 under the QIP scheme with IIT Delhi.