

**BRIEF NOTE ON OVERALL PROGRESS MADE UNDER THE IoE SCHEME
UNDER DIFFERENT VERTICALS DURING 2022-23**



**Institute of Eminence Cell
Indian Institute of Bombay**

31st March, 2023

Programmes with Social impact:

- The students of an interdisciplinary programme in climate studies at IIT Bombay started to generate real-time flood maps for Mumbai using Twitter.
- Researchers have developed an affordable bandage which blends natural healing with polymers in a dual-layer structure for improved wound healing.
- Institute signed MOU with IMD for developing user-friendly weather forecasting apps.
- Prof. Prakriti Tayalia and her team have developed an affordable bi-layered bandage with antibacterial, antioxidant and anti-inflammatory properties.
- The Department of Bioscience and Bioengineering (BSBE) has established a Good Manufacturing Practices (GMP) Facility which is a production facility or a clinical trial materials pilot plant for the manufacture of products. This facility will hasten the progression of several technologies, with the result of affordable and effective translation of technologies into clinics.
- Established “Trust Lab” to make India Digitally Secure.
- Conducted Science Communication Workshop by Interdisciplinary Programme in Climate Studies. The workshop was mainly meant to teach Ph.D. students to communicate science to an interested but non-scientific audience. Organizing essays highlighting important points, interviewing other scientists was also included.
- A research team led by Prof. Samir Maji (Department of Biosciences and Bioengineering) has developed a patented technology that can be used to detect Parkinson’s disease for early diagnosis or as a confirmatory test. The team has observed a 95% accuracy in detecting the disease in a small patient cohort in collaboration with KEM [King Edward (VII) Memorial] Hospital.
- The Ministry of Mines, Government of India organized the first Mining Start-up Summit in collaboration with the institute to explore new innovations and technologies in the mining and metallurgy sector. This first Mining Start-Up Summit had 82 Start-Ups and 140 participants.
- Institute hold Awareness Workshop on National Credit Framework (NcrF).

- Institute has organized a first-of-its-kind two-day Procurement Conclave for officers handling procurement of all IITs at the Institute campus.
- Institute had signed MoU With Maharashtra Government For Udaan Project. The collaboration aims to facilitate efficient and effective translation of all books and publications concerning conventional as well as professional courses into Marathi language as outlined in the National Education Policy 2020 using the UDAAN project.
- The Volunteers from the institute have cleared 267 Kg Garbage From Powai Lake

Research and development:

- As on 31st March, 2023, 320 Purchase Orders (PO) worth Rs. 326.92 Cr for various WCRL and other Central Research Facilities are placed. Purchase Requisitions (PRs) worth Rs. 201.44 Cr are under various stages of progress. Equipment worth Rs. 94.73 Cr is already received. Details are as under:

Project	Budget allocated (Cr.)	Value of PO placed (Cr.)	Value of PR in Progress (Cr.)	Equipment received (Cr.)
Central Research Facilities (CRF)	230	147.04	57.05	103.45
Data and Information Science	50	20.03	22.17	19.24
Health Sciences and Engineering	35	36.17	2.52	25.74
Advanced Manufacturing and Materials	30	27.47	1.89	23.19
Sustainable Chemical Sciences	50	39.84	7.73	20.72
Nano Science Nano Fabrication &	60	56.37	3.37	9.10

Characterization				
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- Institute has signed a MOU with UK-based Causis E-Mobility Pvt. Ltd. (Causis) on June 14, 2022 for collaboration in R&D, training and education in related areas of e-mobility.
- On January 9, 2023, institute has signed a Memorandum of Understanding (MoU) with Headquarters Maintenance Command, Indian Air Force (IAF), Nagpur to promote research and development for critical technologies required by the Indian Air Force for aircraft maintenance.
- Extended financial support to Industrial Research and Consultancy Centre (IRCC) under IoE scheme towards Seed funding for Collaboration and Partnerships projects(SCPP) worth Rs. 10 Cr.
- 200 PDFs (including IPDFs) joined during the year 2022-23 and the total number of PDFs available is 279.
- 45 students were provided financial support to attend various International conferences worldwide and an amount of Rs. 0.76 Cr. was funded for the same.
- Total 129 patents filed during 2022-23.

Courses and interdisciplinary centers:

- The DST-sponsored National Centre of Excellence in Carbon Capture and Utilization (NCoE-CCU) was formally inaugurated by Dr. Vijay Kumar Saraswat, Hon'ble Member, NITI Aayog, Govt. of India on February 11, 2023 at IIT Bombay, in the presence of the Director, Prof. Subhasis Chaudhuri, among other dignitaries from the academia, government and industry.
- Launched Department of Economics
- Launched A Foundational Initiative To Combat Neurodegenerative Diseases: the Sunita Sanghi Centre of Ageing and Neurodegenerative Diseases (SCAN)
- Established the Parimal Chaudhari Alumni Continuing Education Centre (PCACEC). Through this programme, alumni can keep pace with technological advancements in

engineering and science while understanding its implications to the world and specifically for their businesses. This programme serves as a channel to connect the alumni community to the Institute.

- Establishment of Centre for Semiconductor Technologies (SEMIX). SemiX enables semiconductor industry focused R&D, workforce development and entrepreneurship by serving as a common interdisciplinary platform to integrate the energies of (a) Multiple involved academic disciplines, (b) Indian semiconductor consumers and creators, (c) Academicians, entrepreneurs, investors, and government policy makers.
- Commissioned TCA2I to promote research in AI. TCA2I aims to help academia and industry leverage the immense power of AI/ ML, Data Sciences and Optimization at the institute to solve pressing challenges across various sectors, including healthcare, education, automation and cybersecurity.
- Establishment of the Photovoltaic Technology and Innovation Center (PoTIC).

National Education Policy (NEP 2020)

a. Multiple Entry to Academic Programmes

- B.S.+ M.Sc. Programme in the Department of Mathematics approved.

b. Multiple Exit

- BSc. (Engineering) Exit Degree approved

c. Interdisciplinary Programs Introduced

- PhD program in Centre for Machine Intelligence and Data Science (CMInDS)
- MS by Research in Data Science and Artificial Intelligence (CMInDS)
- PhD program at the Koita Centre for Digital Healthcare (KCDH)
- Interdisciplinary Dual Degree Programme (IDDDP) in Climate Studies
- BS (Liberal Arts, Science & Engineering)

d. Multi-Institute Academic Programmes

- Joint Masters Program between IITB and Lehigh University, USA in Chemical Engineering

e. Curriculum revision for B.Tech & B.Tech + M.Tech Dual Degree Programme.

f. The Academic Bank of Credit (ABC) was approved in the Senate.

g. Introduction of UG Minor in Quantitative Finance

New Academic Programmes:

- B.S. + M.Sc. Programme in Department of Mathematics
- BSc. (Engineering) Exit Degree for UG Programmes
- Ph.D program in Centre for Machine and Data Science (CMInDS)
- Master of Science by Research in Data Science and artificial Intelligence (CMInDS)
- Dual Degree (B.Tech. + M.Tech.) Joint Masters Program in between IITB and Lehigh University, USA, in Chemical Engg.
- Ph.D program in Koita Centre for Digital Healthcare (KCDH)
- Master of Arts by Research in the following 3 disciplines in HSS:
 - Human Sciences (HS)
 - Linguistic, Literature and Performance (LLP)
 - Sociology (Soc.)
- Introduction of Master of Development Practice (MDP) programme (CTARA)
- Closure of M.Phil Admission programme in HSS from the Academic Year 2022-23.

Academics:

- Recruited 33 numbers of faculties during 2022-23. Total number of faculty is 717.
Current student faculty ratio is 1:18.11

Hostels:

- Number of hostels available at the close of quarter January-March, 2023 is 17.

Ranking:

- **QS World ranking** : IIT Bombay has been ranked 1st in India and 47th globally in Engineering and Technology in the QS World University Rankings by Subject for 2023.
- **QS Asia Ranking** : 40th rank

- **NIRF Ranking :**

Overall	3 rd
Engineering	3 rd
Research	4 th
Management	11 th

Outreach activity:

- 7 functionaries from the institute visited the Monash University, Australia as a part of the promotional activity through IoE scheme.
- IoE Staff Training Programme (IoE STP) at International Partner Universities is initiated under Outreach & Visibility Academic Vertical to adapt best global practices on educational administration.
- IoE support to the tune of Rs. 5 Cr was provided to various departments for organizing conferences.
- An allocation of Rs. 10 Cr has been made to the office of the Alumni & Corporate Relations(ACR) for conducting activities related to FAN meeting/Distinguished Alumni meeting, both at international and departmental levels.

Infrastructure

- Academic Science Block: MoE's consent has been obtained to construct Academic Science Block as a part of IoE Scheme. The approximate budget for the project is Rs. 200 Cr. The users (Chemical Engineering and Chemistry department) requirement has been received . RFP document for Comprehensive Architectural Consultancy is under process.
- Student Activity Centre(SAC): As a part of IoE Scheme, Institute is coming up with a world class level Student Activity Centre at approximate cost of Rs. 27 Cr. This facility will house various students associated offices in a single location besides providing latest facilities for different extra curricular activities. The design for the SAC building has been finalized. Few approvals from MCGM is awaited. Tendering for the project is expected to commence at the end of April, 2023.

Institute-wide Audio Visual(AV) Upgrade

- An allocation of Rs. 20 Cr. is considered funding for AV upgradation.

Achievements:

- The Rahul Bajaj Technology Innovation Centre (RBTIC) at the institute was inaugurated on June 10, 2022 by the Chief Guest Dr. R. A. Mashelkar, former Director General, Council of Scientific and Industrial Research (CSIR), in the presence of Mr. Niraj Bajaj, Chairman, Bajaj Auto Limited, Director of Bajaj Group of companies and CMD of Mukand Limited and Director of IIT Bombay Prof. Subhasis Chaudhuri. Several members of the Bajaj family also attended the function.
- Institute sets up Chair Professorship in Climate Studies. The students of the institute have successfully launched EvoLV, their 12th electric race car on April 10, 2022.
- IIT Bombay is India's best in QS' sustainable education indicator. This metric focuses on the extent to which institutions are educating students to both understand and make a difference to the environment.

Appointment of Professors of Practice:

Dr. V. V. Rao has been appointed as Professor of Practice [PoP] in the Department of Aerospace Engineering.

MoUs with other Universities:

1. Total number of MoUs with international universities: **173**

MoU with SINE IITB:

- IIT Bombay and SINE,IITB entered into a MoU worth Rs. 10 Cr to provide Seed Funding Support for Incubation and Startup Activities channelized through Society for Innovation and Entrepreneurship (SINE) .

IoE-funded DSSE Pre-Incubation Program:

- IoE has earmarked an amount of Rs. 3 Cr. to support Desai Sethi School of Entrepreneurship Pre-incubation Activities.

Library Related:

1. Total number of papers published during 2022-23: **3196**
2. Total number of citations during 2022-23: **26890**
3. Total number of books available: **250982**
4. Total number of journals: **20917**

Funds Status:

Funds received (till date) : Rs. 352.74 Cr.
Balance Funds to be received : Rs. 647.26 Cr.