BRIEF NOTE ON OVERALL PROGRESS MADE UNDER THE IoE SCHEME UNDER DIFFERENT VERTICALS

Institute of Eminence Cell
Indian Institute of Bombay
18th February 2022
Social impact:

- IIT Bombay developed a simple and the fastest solution to convert Nitrogen generator to Oxygen generator to solve the Oxygen shortage during pandemic stage during May 2021.

- Team under Prof Santhosh Noronha designed a prototype of a breathing device called 'The Rebreather' which will facilitate recirculation of exhaled breath by scrubbing out Carbon dioxide and blending in fresh oxygen. This will go a long way in minimizing wastage of oxygen in the current system when hospitals are facing acute shortage during May 2021.

Research and development:

- Developed the first indigenous semiconductor memory technology to help manufacturing 180nm node in India.

- Developed a real time surveillance analysis system using AI.

- Following World Class Research Labs are being set up and these under different stages of progress.

<table>
<thead>
<tr>
<th>#</th>
<th>WCRL Name</th>
<th>Budget allocated(Cr)</th>
<th>No of PR created</th>
<th>Value of PR created(Cr)</th>
<th>No. of PO created</th>
<th>Total Amount in PO(Cr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nano Science - Nano Fabrication &amp; Characterization</td>
<td>260</td>
<td>13</td>
<td>55.18</td>
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<td>Manufacturing and Materials</td>
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<td>22</td>
<td>30.05</td>
<td>14</td>
<td>17.65</td>
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<td>Health Sciences and Engineering</td>
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<td>29</td>
<td>34.20</td>
<td>14</td>
<td>10.53</td>
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<td>Data and Information Science</td>
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<td>13</td>
<td>31.56</td>
<td>1</td>
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<tr>
<td>5</td>
<td>Sustainable Chemical Sciences</td>
<td>50</td>
<td>19</td>
<td>40.45</td>
<td>5</td>
<td>4.36</td>
</tr>
</tbody>
</table>

- Central Research Facilities: Towards augmenting central research facilities, an amount of ₹122.42 Cr have been earmarked for infrastructure funding. High end
research equipment are being procured under this scheme. As on date 45 projects are under various stages of completion. In this direction 103 Purchase Requisitions worth ₹105.22 have been created and 79 Purchase Orders issued. Action under progress related to 24 PRs.

- 153 PDFs (including IPDFs) joined during the year 2021-22 and the total number of PDF reached 407.
- Total 59 patents filed during 2021-22 (upto Sep 2021).

Courses and interdisciplinary centers:

- An Interdisciplinary Centre for Digital Health is planned with a donation from alumni who will have strong connections with hospitals example Tata Memorial Hospital and will undertake research to make an impact in data-driven healthcare.
- IIT Bombay is launching an IDDDP and minor program in Healthcare Informatics, starting from the academic year 2021-22. Digital Health and Informatics needs cross-functional expertise – computer science, bioinformatics, statistics, AI/machine learning, and medical science. The program offered will be covering all this and more.
- The Senate has approved 2 academic programs, a minor and an interdisciplinary dual degree program in Healthcare Informatics, to be hosted by the centre.
- Senate is approved to setting up of a Centre for Quantum Information, Science and Technology (CQuIST) at the meeting held on 17th November 2021.

Academics:

- Recruited 14 numbers of faculty during 2021-22 (Up to Sept). Total number of faculty is 688. Current student faculty ratio improved to 1:16.2

Hostels:

- Education Minister Shri Dharmendra Pradhan inaugurates New Hostel 17 at IIT Bombay with 1115 rooms.

Ranking:

- QS World ranking 177 - top university from India
- NIRF: 3rd rank.
Achievements:

- IIT Bombay Professor, Prof. Roop Malik from BSBE has been elected as an associate member of the European Molecular Biology Organization.
- Established new partnership with HDFC ERGO General Insurance in the insurance sector and is aimed at operationalising high-impact projects across the insurance value chain and developing solutions to relevant business challenges with strategic business solutions.
- Shri Parag Agrawal, an alumni of IIT Bombay appointed as the CEO of Twitter.
- IIT has secured second position in the Atal Rankings of Institutions on Innovation (ARIIA) 2021 under the CFTI’s category ‘Institute of National Importance (Technical).
- Shri Raj Subramaniam, an alumni of IIT Bombay appointed as the CEO of FedEx.

Appointment of Professors of Practice:

Following renowned industry professionals are appointed as Professor of Practice (PoPs) on full time basis for a period of 3 years.

1. Mr. Mayank Pareek, Former President of Tata Motors Passenger Vehicle division, is appointed as Professor of Practice in Shailesh J. Mehta School of Management (SJMSOM) for a period of up to 3 years.
2. Dr. Sanjay Chandra, Former Chief of R&D, Tata Steel, is appointed as Professor of Practice in the Department of Metallurgical Engineering & Materials Science (MEMS) for a period of up to 3 years.
3. Mr. Devdip Purkayastha, President of Enactus India, is appointed as Professor of Practice in Desai Sethi School of Entrepreneurship (DSSE) for a period of up to 3 years.
4. Ms. Anuradha Narasimhan, Former VP of Britannia Industries, is appointed as Professor of Practice in Desai Sethi School of Entrepreneurship (DSSE) for a period of up to 3 years.
Awards/recognition for IITB faculty members:

The following faculty members have been conferred with awards/recognition as under during the year 2021-22.

2022 (till now)

Fellow of the Indian National Academy of Engineering (FNAE)
1. Prof. Arnab Dutta, Chemistry Department

Fellow of Indian Academy of Sciences (FASc)
1. Prof. Ruchi Anand, Chemistry Department
2. Samir K. Maji, Department of Biosciences and Bioengineering
3. Sunita Sarawagi, Computer Science and Engineering Department
4. Sudarshan S, Computer Science and Engineering Department

Other Fellowships
1. Prof. Subhananda Chakrabarty, Electrical Engineering Department, Fellow of the Institution of Engineering and Technology (IET), UK.
2. Prof. Narayan Rangaraj, IEOR, Fellow of the Operational Research Society of India (ORSI).
3. Prof. Sunita Sarawagi, Computer Science and Engineering Department, Fellow of the Association for Computing Machinery 2021.
4. Prof. Rajkumar Pant, Aerospace Engineering Department, Fellow of The Aeronautical Society of India.

Awards
1. Prof. Debabrata Maity, Chemistry Department, has been selected for the Sun Pharma Science Foundation Research Awards 2021- Pharmaceutical Sciences.

Editorial Boards
1. Prof. Rashmi Gupta, HSS Department, has been appointed as an Associate Editor for Humanities and Social Sciences Communication (Nature Portfolio journals).
2. Prof. Manoj Keshari, Mathematics Department, has been invited to join the Editorial Board of "Proceedings - Mathematical Sciences", published by the Indian Academy of Sciences.
3. Prof. Asmita Mukherjee, Physics Department, has been elected as the non-US/non-European member of the EIC user group steering committee member.
4. Prof. Bhaskaran Muralidharan, Electrical Engineering Department, has been selected on the Editorial board of Materials for Quantum Technology (from the prestigious IOP Publishing).
5. Prof. Niranjan Balachandran, Mathematics Department, has been invited to join the Editorial Board of "Proceedings - Mathematical Sciences", published by the Indian Academy of Sciences.

6. Prof. Abhijeet Chatterjee, Chemical Engineering Department, is invited to join the editorial board of Modeling and Simulation in Material Science and Engineering (MSMSE) as a member from Dec-2021 to 2023.