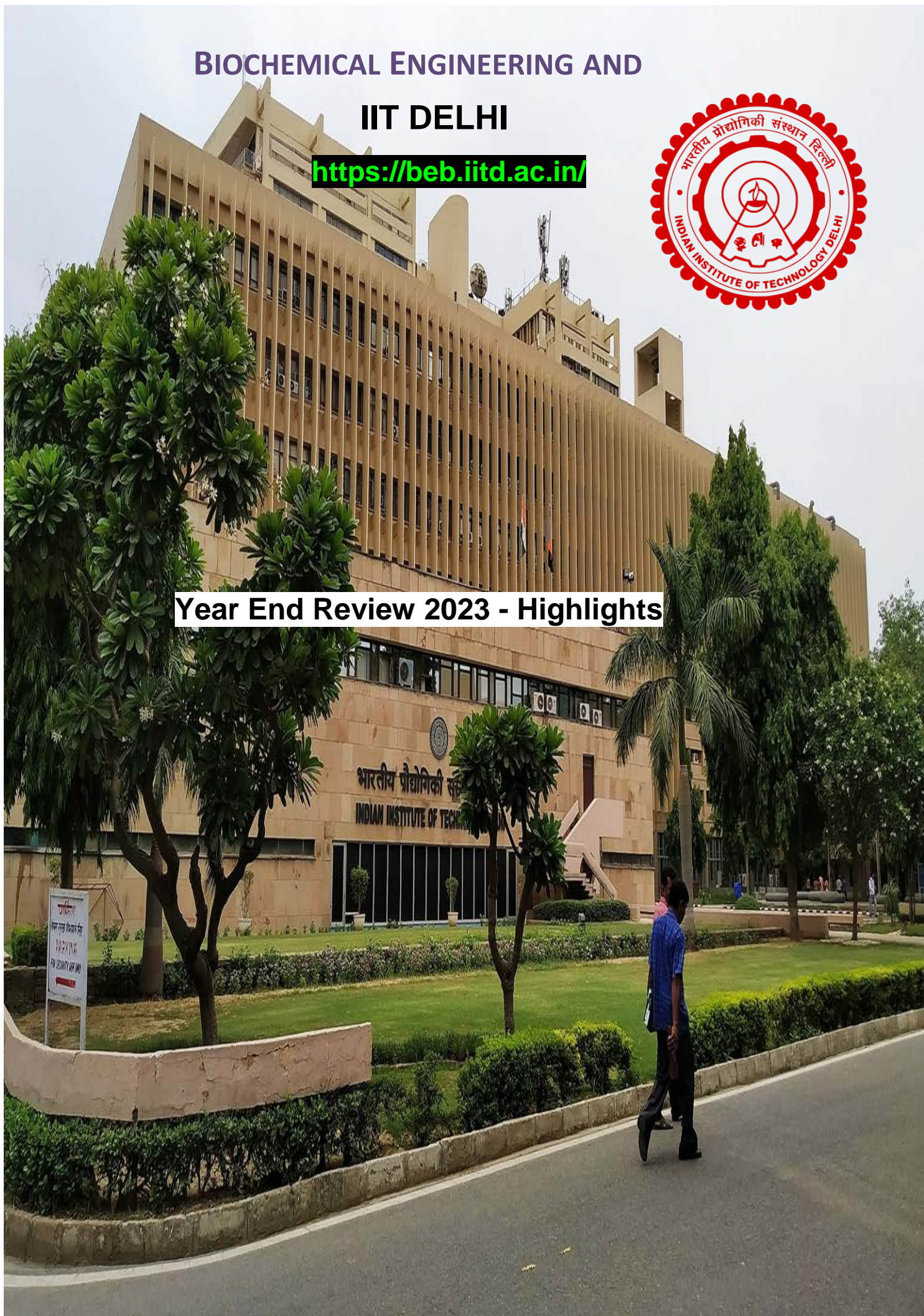


BIOCHEMICAL ENGINEERING AND IIT DELHI

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Year End Review 2023 - Highlights



Department of Biochemical Engineering and Biotechnology
Annual Report CY 2023

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1. Faculty Awards and Recognition

Prof. D. Sundar elected as Fellow (FNASc) of National Academy of Sciences, India (NASI)

Prof. D. Sundar is among the distinguished scholars elected to the newest class of **Fellows** of The **National Academy of Sciences of India (NASI)** in the year 2023. Fellows are elected annually for their contributions to their respective fields and the body of science as a whole.

- Prof. Sundar is an Institute Chair Professor in the Department of Biochemical Engineering and Biotechnology (DBEB) at IIT Delhi. Known for his work in Bioinformatics, Computational Genomics, Genome Engineering and Synthetic Biology, Prof. Sundar is a former Head of our department DBEB and is an Associate Faculty member of the Yardi School of Artificial Intelligence (ScAI) and the Coordinator of the High Performance Computing (HPC) facility at IIT Delhi. He is recognized for outstanding contributions to (a) natural product drug discovery, (b) development of genetic analysis tools for genome editing workflows and (c) using AI in drug discovery and biological big data analysis.

Prof. Shilpi Sharma

- She is the inaugural winner of the **TATA Transformation Prize in Food Security, awarded by the TATA Sons and New York Academy of Sciences**. Professor Shilpi Sharma was selected by the jury for her work in the engineering of the soil microbiome using synthetic microbial communities, called microBIOME-based soil TRANSFORMAtion (BIOTRANSFORM). Plant diseases threaten crop productivity and, consequently, the global economy. Unlike conventional farming that uses agrochemicals and synthetic fertilizers, soil amended organically has the natural ability to suppress a wide range of plant pathogens. Starting from naturally suppressive soil, Shilpi will catalog the active microbial players and their mechanism of suppression of a range of phytopathogens. Her work will be the first to map the natural suppressive potential of soil across six states of India and to harness this potential by microbiome engineering to facilitate sustainable agriculture in the country and beyond.
- She has been selected as the member of PRISM Advisory and Screening committee (PASC), Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India (FY 2023-2025).

2. Student Awards and Recognition

- ❖ **International Genetically Engineered Machine (iGEM) IITD Team Silver Medal**
 - The **iGEM** student team of the department won the **Silver medal** at the Grand Jamboree held in Paris during November 2-5, 2023. They took on the challenge to tackle the problem of combating heavy metal pollution by applying Biotechnology principles learnt as part of their undergraduate program in the Department. The team of 18 undergraduate students were mentored by Prof. Preeti Srivastava and Prof. D. Sundar. (<https://2023.igem.wiki/iit-delhi/>)
- ❖ **Electromicrobiology 2023 Student Travel Award** (by Center for Electromicrobiology, Aarhus University, Denmark):
 - **Debasa Mukherjee 2019BEZ8667** (*supervisor Prof. Lucinda E. Doyle*)
 - **Nitesh Kanojia 2020QIZ8589** (*supervisor Prof. Lucinda E. Doyle*)
- ❖ **Ravi Raj Singh (2020QIZ8859)**- He is the recipient of International Brain Research Organization (IBRO) World Congress Travel Grant Award (1800 Euro) for participation in 11th IBRO World Congress of Neuroscience, Granada, Spain (Sep 9-13, 2023) - (*supervisor Prof. Ritu Kulshreshtha and Dr. Amirali Popat*)
- ❖ **Rashi Tyagi (2020BEZ8525)** is the recipient of the Jeff Schell Fellowship for Agricultural Sciences 2023, awarded by Bayer Foundation (*supervisor Prof. Shilpi Sharma*)
- ❖ **Rashi Tyagi (2020BEZ8525)** was appointed as the Co-Chair for the technical session “Microbial Ecology Offered Talks Session: Microorganisms In Sustainable Agriculture” at FEMS 2023, Hamburg, Germany (*supervisor Prof. Shilpi Sharma*)
- ❖ **Asheemita Bagchi (2020BEZ8513)** was awarded the “Best Paper award” in ChemCon 2023 organised by the Indian Institute of Chemical Engineers (IICChE), Kolkata for her poster titled “Subcellular localization of the 4S biodesulfurization pathway enzymes of *Gordonia* sp. IITR100”. (*supervisor Prof. Preeti Srivastava*)
- ❖ **Students accepted for Exchange Program under MoUs signed with International University/Institutes-**
 - **Anoushka Jain** - Technical University of Denmark
 - **Rahul Gupta (2019BEZ8186)** - Sorbonne University, France (*supervisor Prof. Ritu Kulshreshtha*)
- ❖ **Students shortlisted for SURA Award: Khushi Singh, Anoushka Jain**
- ❖ **Preetha Ganguly-Best Oral Presentation Award** at Tumour metabolism: current understanding and opportunities for novel drug delivery Conference, March 2023; Organised by EMBO, India, Amity University. (*Supervisor- Prof. Prashant Mishra*)
- ❖ **Preetha Ganguly-Best Oral Presentation Award** at International Conference on Chemical Engineering Innovation and Sustainability, February 2023; Organised by Jadavpur University, India. (*Supervisor- Prof. Prashant Mishra*)

3. Significant Research Activities

The Department faculty has published several publications (>100) of which ~50 publications are in journals with impact factor 5 and above. Several publications are in reputed International Journals such as *Nature Microbiology (IF-23)*, *Bioactive Materials (IF-18.9)*, *Chemical Engineering Journal (IF 15.1)*, *Autophagy (IF 13.3)*, *Biosensors and Bioelectronics (IF 12.6)*, *Bioresource Technology (IF 11.4)*, *Environmental Science and Technology (11.4) etc.*

A detailed list of the publications is given in **Section 4** below.

Workshop organized by the Department

- **Genomics workshop at IIT Delhi Abu Dhabi campus, July 18-20, 2023**

4. Scientific articles published in the CY 2023

1. Afreen, S., & Mishra, S. (2023). Production of high-value oxidative enzymes by *Cyathus bulleri* on agricultural and agri-food wastes for application in the textile sector [Article]. *World Journal of Microbiology and Biotechnology*, 39(12), Article 329. <https://doi.org/10.1007/s11274-023-03769-z>
2. Agrawal, M., Yadav, A., Takkar, S., Kulshreshtha, R., Nandan, B., & Srivastava, R. K. (2023). Dual-functionalized Pickering HIPE templated poly(ϵ -caprolactone) scaffold for maxillofacial implants [Article]. *International Journal of Pharmaceutics*, 633, Article 122611. <https://doi.org/10.1016/j.ijpharm.2023.122611>
3. Ahlawat, A., & Mishra, S. (2023). Complex Laccase-Oxidoreductase Mixture: Effective for Oxidative Decolorization and Detoxification of Dyes and Complex Effluent from Textile Mill [Article]. *Water, Air, and Soil Pollution*, 234(2), Article 135. <https://doi.org/10.1007/s11270-023-06163-5>
4. Ahtesham, A., Shahadat, M., Hussain, E., Adnan, R., Ahammad, S. Z., Jain, R., & Raees, K. (2023). Treatment of antibiotic-resistant genes via photocatalytic-assisted Microbial Fuel Cells: A review [Review]. *Journal of Water Process Engineering*, 55, Article 104126. <https://doi.org/10.1016/j.jwpe.2023.104126>
5. Aiyer, K., & Doyle, L. E. (2023). Extracellular Electron Transfer of Weak Electricigens in the Presence of a Competing Electron Acceptor [Article]. *Journal of the Electrochemical Society*, 170(5), Article 055501. <https://doi.org/10.1149/1945-7111/acf3e>
6. Aiyer, K., Mukherjee, D., & Doyle, L. E. (2023). A Weak Electricigen-Based Bioelectrochemical Sensor for Real-Time Monitoring of Chemical Pollutants in Water [Article]. *ACS Applied Bio Materials*. <https://doi.org/10.1021/acsabm.3c00601>
7. Anand, G., Shrivastava, V. L., Dubey, S., Bhattacharjee, A., & Sharma, S. (2023). Stress-buster *Enterobacter* sp. alleviates salinity stress in *Cajanus cajan* together with impacting its rhizospheric microbiome [Article]. *South African Journal of Botany*, 156, 202-212. <https://doi.org/10.1016/j.sajb.2023.02.040>
8. Ashraf, M., Ahammad, S. Z., & Chakma, S. (2023). Advancements in the dominion of fate and transport of pharmaceuticals and personal care products in the environment—a bibliometric study [Article]. *Environmental Science and Pollution Research*, 30(23), 64313-64341. <https://doi.org/10.1007/s11356-023-26796-7>
9. Bagchi, A., Karmakar, S., Bisaria, V. S., & Srivastava, P. (2023). Recombineering. In *Methods in*

10. Bhattacharjee, A., Dubey, S., & Sharma, S. (2023). "Next-Generation Bioformulations" for Plant Growth Promotion and Stress Mitigation: A Promising Approach for Sustainable Agriculture [Review]. *Journal of Plant Growth Regulation*, 42(10), 6741-6759. <https://doi.org/10.1007/s00344-023-10996-z>
11. Biswas, B., Gangwar, G., Nain, V., Gupta, I., Thakur, A., & Puria, R. (2023). Rapamycin and Torin2 inhibit *Candida auris* TOR: Insights through growth profiling, docking, and MD simulations [Article]. *Journal of Biomolecular Structure and Dynamics*, 41(17), 8445-8461. <https://doi.org/10.1080/07391102.2022.2134927>
12. Biswas, B., Rana, A., Gupta, N., Gupta, I., Puria, R., & Thakur, A. (2023). A Novel Robust Method Mimicking Human Substratum To Dissect the Heterogeneity of *Candida auris* Biofilm Formation [Article]. *Microbiology Spectrum*, 11(4). <https://doi.org/10.1128/spectrum.00892-23>
13. Chakraborty, P. (2023). Introduction: Occurrences, sources, and methods of pharmaceutical wastewater treatment. In *The Treatment of Pharmaceutical Wastewater: Innovative Technologies and the Adaptation of Treatment Systems* (pp. 1-17). <https://doi.org/10.1016/B978-0-323-99160-5.00004-7>
14. Das, C., Nath Ghosh, N., Bhardwaj, R., Narula, K., Mishra, P., & Biswas, G. (2023). Enhanced photocatalytic degradation of a hydrocortisone by biomodified and biocompatible magnetite nanoparticles and its mechanistic assessment [Article]. *Journal of Industrial and Engineering Chemistry*. <https://doi.org/10.1016/j.jiec.2023.08.001>
15. Dash, T., Tripathi, P., & Sinha, S. (2023). Synthesis of industrially relevant organic acids by use of microbial whole-cells and cross-linked enzyme aggregates. In *Advances in Biology* (Vol. 3, pp. 181-195). <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85161142653&partnerID=40&md5=2ca241dd4672c70b15f386f029ceff97>
16. Dixit, R., Khambhati, K., Supraja, K. V., Singh, V., Lederer, F., Show, P. L., Awasthi, M. K., Sharma, A., & Jain, R. (2023). Application of machine learning on understanding biomolecule interactions in cellular machinery [Review]. *Bioresource Technology*, 370, Article 128522. <https://doi.org/10.1016/j.biortech.2022.128522>
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18. Galodha, A., Kayithi, N. S., Sharma, D., & Jain, P. (2023). Monitoring groundwater storage basins and hydrological changes using the grace satellite and sentinel-1 for the ganga river basin. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, 48(2), 101-106. <https://doi.org/10.1016/j.isprs.2023.03.010>
19. Ghosh, A., Dhiman, S., Gupta, A., & Jain, R. (2023). Process Evaluation of Scandium Production and Its Environmental Impact [Review]. *Environments - MDPI*, 10(1), Article 8. <https://doi.org/10.3390/environments10010008>
20. Ghosh, S., Yadav, A., Rani, S., Takkar, S., Kulshreshtha, R., Nandan, B., & Srivastava, R. K. (2023). 3D Printed Hierarchical Porous Poly(ϵ -caprolactone) Scaffolds from Pickering High Internal Phase Emulsion Templating [Article]. *Langmuir*, 39(5), 1927-1946. <https://doi.org/10.1021/acs.langmuir.2c02936>
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5. IPR applications filed and technology licenses executed in the CY 2023

Singh JD, **Mishra P**, Yadav S, Senthilguru K. Synthesis and cytotoxicity of monofunctional Pt(II) compound bearing (NOSe)- heterodonor Scaffold. Indian Patent Application No: 202311019897, Date of filing 22/03/2023

6. Research Grants and Support

6.1 Intramural project awarded in CY2023

S.No	Project Title	Sponsoring Agency	Amount of support (in INR lacs)	Period	Name
1	Regulation of miRNA expression and maturation via targeting G-quadruplex conformations using small molecules for glioma therapy (Under IRD MFIRP Scheme in collaboration with RCB)	IRD, IIT Delhi India	5	27-03-2023 26-03-2024	Ritu Kulshrestha
2	Interaction of Nanoparticles with Microbial Cells: toxicity evaluation, removal, and valorization of heavy metals (Under IRD MFIRP Scheme in Collaboration with U.B., N.Y)	IRD, IIT Delhi India	5	01-03-2023 29-02-2024	Prashant Mishra
3	CANCER NANOTHERAPETICS USING NON-CODING RNA BASED THERAPY (Under IRD MFIRP Scheme in collaboration with Univ. of Buffalo, N.Y)	IRD, IIT Delhi India	5	01-03-2023 29-02-2024	Ritu Kulshrestha
4	Biotech Club (iGEM) (Sub Project No. 04 under CAIC Main Project No. MI00995)	IRD, IIT Delhi India	6	01-01-2023 31-07-2024	Preeti Srivastava

6.2 Other Intramural project currently under progress CY2023

S. No	Project Title	Sponsoring Agency	Amount of support (in INR lacs)	Period	Name
1.	Microbiome-based strategy for mitigation of drought stress: a physical answer to a biological observation (Under MFIRP Scheme of IRD in collaboration with HUJI)	IRD, IIT Delhi India	10	01-08-2022 31-07-2024	Shilpi Sharma
2.	MI for the operation of DBEB Instrumentation Facility	IIT Delhi - DBEB Instrumentation Facility users India	1.00	08-02-2022 07-02-2025	Ritu Kulshrestha
3.	Development of a low-cost, wide-range, and on-line sensor of biomass concentrations in bioreactors. (Under FIRP Scheme of IRD)	IRD, IIT Delhi India	6	19-04-2021 18-04-2024	Atul Narang
4.	Clean Drain-IITD	IRD, IIT Delhi India	27	14-03-2019 31-12-2023	Shaikh Ziauddin Ahammad
5	MI for the operation of DDF at DBEB	Indian Institute of Technology Delhi India	20	15-06-2009 30-06-2030	Ritu Kulshrestha

6.3 Extramural project awarded this CY2023

S. No	Project Title	Sponsoring Agency	Amount of support (in INR lacs)	Period	Name
1.	Development of Genome engineering tools for <i>Gordonia</i> based on recombination machinery from phages	Department of Biotechnology India	6018880.00	06-09-2023 05-09-2026	Preeti Srivastava
2.	Development of colorimetric immunoassay for detection of cholangiocarcinoma using peroxidase-mimetic activity of Pd@SiO ₂ core/shell nanoparticles (Under SERB TARE Scheme awarded to Dr. Ravi Mani Tripathi, Under the mentorship of Prof. Prashant Mishra, DBEB)	Science and Engineering Research Board (SERB) India	1005000.00	19-06-2023 18-06-2026	Prashant Mishra
3.	Inflammation-on-a-Chip: Molecular dissection of inflammatory bowel disease on a nanoliter droplet-based microarray platform (Under DST Inspire Faculty Fellowship Scheme awarded to Dr. Shraddha Chakraborty under the mentorship/supervision of Prof. Ritu Kulshrestha, DBEB)	Department of Science and Technology (DST) India	11240000.00	22-05-2023 21-05-2028	Ritu Kulshrestha
4.	DOSA Urinary Tract Infection Diagnostic for Low- and Middle-Income Countries	University of Edinburgh United Kingdom	2569500.00	01-05-2023 31-10-2024	Ravi Krishnan Elangovan
5.	Design and Development of Treatment Plants for Explosives Manufacturing Industry Wastewater	DRDO, Ministry of Defence, New Delhi -10 India	20000000.00	06-03-2023 05-09-2025	T R Sreekrishnan
6.	Protecting Human Health Through a One Health Approach	IWMI Sri Lanka	7621248.00	06-02-2023 05-02-2025	Shaikh Ziauddin Ahammad

6.4 Other extramural project currently under progress CY2023

S. No	Project Title	Sponsoring Agency	Amount of support	Period	Name
1.	Design of self-assembled electrodes for enhanced microbial electron transfer in bioelectrochemical systems	Department of Biotechnology , Ministry of Sc.& Tech India	3395000.00	22-09-2022 21-09-2025	Lucinda Elizabeth Doyle
2.	Engineering rhizosphere microbiota for enhanced resistance to plant disease and human pathogens through compost amendments (IFCPAR)	IFCPAR (CEFIPRA), India Habitat Centre India	8220716.00	15-04-2022 14-04-2025	Shilpi Sharma
3.	Elucidation of mechanism of bacterial adherence on fabrics to limit the spread of nosocomial infections (SERB NPDFship to Dr. Shweta Dixit Under the Supervision of Prof. Shilpi Sharma, DBEB)	Science and Engineering Research Board (SERB) India	2236800.00	02-03-2022 01-03-2024	Shilpi Sharma
4.	Development of systematic methods for overcoming catabolite repression in Escherichia coli	Science and Engineering Research Board (SERB) India	3131400.00	23-02-2022 22-02-2025	Atul Narang
5.	Elucidating the role of circular RNA circLIFR in the pathogenesis of small cell lung cancer	Science and Engineering Research Board (SERB) India	165000.00	21-01-2022 20-01-2025	Ishaan Gupta
6.	APP-DIP: Development of AI based prognostic platform for an early detection of infections in immunocompromised patients	Department of Biotechnology , Ministry of Sc.& Tech India	5858176.00	03-01-2022 02-01-2025	Ishaan Gupta
7.	Enhanced production of Piperine using elicitation by endophytes (Under TARE Scheme of SERB awarded to Dr. Sushma Mishra under the Mentorship of Prof. Shilpi Sharma, DBEB)	Science and Engineering Research Board (SERB) India	1005000.00	13-12-2021 12-12-2024	Shilpi Sharma
8.	Deciphering the role of microRNA-191 in regulation of chemoresistance and stemness in breast cancer	Department of Biotechnology , Ministry of Sc.& Tech India	3933520.00	22-09-2021 21-09-2024	Ritu Kulshrestha

9.	Torrefaction based technology for the recovery of bio-coal, furfural and acetic acid from agriculture wastes	Department of Science and Technology (DST) India	19365358.00	28-06-2021 27-06-2024	Shaikh Ziauddin Ahammad
10.	microRNA nanotherapeutics for glioblastoma	Science and Engineering Research Board (SERB) India	4814758.00	25-03-2021 24-03-2024	Ritu Kulshrestha
11.	ResPharm: Resolving the fate and studying the impact of pharmaceutical wastes on the environment and local community of a pharmaceutical manufacturing hub.	Department of Biotechnology , Ministry of Sc.& Tech India	5061760.00	30-12-2020 29-12-2023	Shaikh Ziauddin Ahammad
12.	SELECTAR: Selection for antimicrobial resistance by antimicrobial production waste	Department of Biotechnology , Ministry of Sc.& Tech India	8985200.00	16-12-2020 15-12-2023	Shaikh Ziauddin Ahammad
13.	Dissecting the mechanism and role of polyploidy associated alternative splicing in liver aging and disease	Department of Biotechnology ,GOI India	4250000.00	16-02-2020 15-02-2025	Ishaan Gupta
14.	GenomeIndia: Cataloguing the Genetic Variation in Indians	Department of Biotechnology , Ministry of Sc.& Tech India	12184712.04	16-01-2020 15-01-2024	D Sundar
15.	M. Tech Biochemical Engineering and Biotechnology Teaching programme at D.B.E.B. of the I.I.T. Delhi (Phase - 2 of MI00647)	Department of Biotechnology , Ministry of Sc.& Tech India	2956047.00	01-01-2019 31-12-2028	Shilpi Sharma
16.	Local Treatment of Urban Sewage Streams for Healthy Reuse (LOTUS)(INDO-DUTCH Joint project)	Department of Biotechnology , Ministry of Sc.& Tech India	164867000.00	01-04-2017 31-12-2024	T.R.SREEKRISH NAN

7. Students who graduated in the CY 2023

7.1. Doctor of Philosophy (Ph.D.)

a) PhD Thesis details

Sl.	Name of the Student	PhD Thesis Title	Supervisor(s)
1	Vipul Kumar	Mechanistic insights and therapeutic potential of natural compounds	D. Sundar
2	Yogesh Kalakoti	Leveraging representation learning for drug discovery	D. Sundar
3	Dhvani Sandip Vora	Mechanistic insights into RNA-guided genome editing nucleases	D. Sundar
4	Navaneethan Radhakrishnan	Mechanistic insights into bioactivity and permeability of natural compounds for selective targeting of cancer	D. Sundar
5	Jyoti Sharma	Molecular characterization of a biosurfactant from <i>Franconibacter</i> sp. and its application in oil recovery	Preeti Srivastava D. Sundar
6	Shubham Dubey	Domestication of microbiome to mitigate stress in arable land	Shilpi Sharma
7	Indranil Mondal	miRNA therapy for Glioblastoma treatment	Ritu Kulshreshtha
8	Aakansha Ahlawat	Laccase and Manganese eroxidase diversity in <i>Cyathus bulleri</i> and their role in delignification and degradation of dyes	Ravi Krishnan Elangovan
9	Anika Goyal	Strategies for production of biopolymers from gaseous substrates (methane and air)	
10	Arti Tyagi	Total internal reflection fluorescence and scattering imaging for biological applications	Ravi Krishnan Elangovan
11	Deepak Sharma	Mathematical modeling of the modified trickling filter	Shaikh Ziauddin Ahammad
12	Shefali Singh	Development of liquid biopsy methods for lung cancer detection	Ravi Krishnan Elangovan
13	Arun Thapa	Metabolic Engineering of <i>Zymomonas mobilis</i> for lactic acid production and xylose utilisation	Ashish Misra
14	Lovely	Mass production of biodegradable copolymers from renewable resources	Shaikh Ziauddin Ahammad
15	Priyanka	Enhancement of growth attributes of <i>Cajanus cajan</i> by the synergistic action of bioinoculants	Shilpi Sharma

(b) Current position of graduated PhD students

Sl.	Name of the Student	Current Position	Current Affiliation
1	Vipul Kumar	Postdoctoral Fellow	Univ of California San Francisco, USA
2	Yogesh Kalakoti	Postdoctoral Fellow	Linkoping University, Sweden
3	Dhvani Sandip Vora	Postdoctoral Fellow	Univ of Copenhagen, Denmark
4	Navaneethan Radhakrishnan	Scientist	Praexisio Taiwan Inc., New Taipei, Taiwan
5	Jyoti Sharma	Looking for Post doc positions	
6	Shubham Dubey	Postdoctoral Fellow	Univ of Copenhagen, Denmark
7	Indranil Mondal	Postdoctoral Fellow	National Cancer Institute, USA
8	Aakansha Ahlawat	TGT Science teacher	Delhi Government
9	Anika Goyal	Looking for jobs	
10	Arti Tyagi	Postdoctoral Fellow	TU Delft, Netherlands
11	Deepak Sharma	Looking for jobs	
12	Shefali Singh		
13	Arun Thapa	Looking for Post doc positions	
14	Lovely	Looking for jobs	
15	Priyanka	Joined as Early Doc	IIT

7.2 Master of Science (Research) in Biochemical Engineering and Biotechnology (MSR)

(a) MSR thesis details

Sl.	Name of the Student	PhD Thesis Title	Supervisor(s)
1	Anuja Sharma	Investigating the role of CKS2 in meningioma pathogenesis	Ritu Kulshreshtha
2	Nabamita Nandi	Oxygen demand and PAOX1 induction in Komagataella phaffii using formate instead of methanol	Atul Narang
3	Shreyoshi Karmakar	Development of genome engineering tools for Gordonina" on 11th July at 11.00 am in the committee room of the Department	Preeti Srivastava
4	Sharad JS	Identification and characterization of a bacteripene synthase	Ashish Misra
5	Nandita Fuloria	The potential of DFOB, protochelin, and azotochelin siderophores as chelating agents for lanthanum and yttrium recovery	Shaikh Ziauddin Ahammad

(b) Current position of graduated MSR students

Sl.	Name of the Student	Current Position	Current Affiliation
1	Anuja Sharma	PhD	Max Planck Institute for Multidisciplinary Sciences, Gottingem, Germany
2	Nabamita Nandi	Seeking Jobs	
3	Shreyoshi Karmakar	Seeking Jobs	
4	Sharad JS	PhD	IIT Madras
5	Nandita Fuloria	Seeking Jobs	

7.3 Five-year dual program

Master of Technology in Biochemical Engineering and Biotechnology and Bachelor of Technology in Biochemical Engineering and Biotechnology

Sl.	Name of the Student	Current Position	Current Affiliation
1	Yaman Garg	Founding Team ICircle	Founder
2	Shrajay Dixit	Corporate Job	Product Management
3	Lakshay Singh	IQVIA	Consultant
4	Ambekar Hrishikesh Sanjay		
5	Rahul Verma	Axis Bank Mumbai	Business Analyst
6	Ishika Verma	Boston Consulting Group	Associate Consultant
7	Apurva Singh		
8	Yashasvee Chandra		
9	Omkar Shivaji Doifode		

7.4. Bachelor of Technology in Biochemical Engineering and Biotechnology

List of students who graduated this year:

Sl.	Name of the Student
1.	SANIDHYA JAIN
2.	HARSHIT KUMAR SINGH
3.	MANIK RAZDAN
4.	AVI AGRAWAL
5.	SHUBHAM MITTAL
6.	RATNESH KUMAR SHARMA
7.	HIMANSHU ANURAGI
8.	MAYANK DHAKA
9.	NAMAN SINGH NIRVAN
10.	VISHANTAN KUMAR
11.	DHWANI TECKCHANDANI
12.	PULKIT KEJRIWAL
13.	ASHI CHAKRESH JAIN
14.	UDITA WADHWA
15.	RITIKA JAIN
16.	YUKTI MAKHIJA
17.	PRATHAM BANSAL
18.	DEV PRIYA

19.	BHAVYA AGARWAL
20.	PUSHPIT SRIVASTAVA
21.	AYUSH VERMA
22.	SHRESTH SAXENA
23.	JASKEEN SINGH
24.	PRAKSHI GUPTA
25.	HARSH
26.	MADHUKAR RANKA
27.	KAUSHIK
28.	ABHINAV KUMAR SINGH
29.	PARAS CHAUDHARY
30.	AGRIM SHARMA
31.	TARUN C
32.	HARIT KUMAR KOHLI
33.	KONDAPALLI AASRITHA
34.	GOPIKA ARORA
35.	CHAUDHARI JAYESH SATISH
36.	RAJAT
37.	NARENDRA KUMAR
38.	ABHISHEK BADARIA
39.	DEEPAK KUMAR JANGIR

8. Miscellaneous

Major New Equipment Installed (costing Rs. 10 Lakh and above)

Real-Time PCR machine (Instrumentation Lab)

GPU Computing Cluster + Storage Server (Rs. 70 lacs) - GenomeIndia Project

New Courses Developed by the Department

BBL757 Electromicrobiology and Bioelectrochemical Systems

New International Collaborations

1. National Institute of Advanced Industrial Science and Technology (AIST), Japan
2. University of Queensland
3. Hebrew University of Jerusalem Israel
4. INRAE France
5. TUD
6. Leibniz Institute of Vegetable and Ornamental Crops, Großbeeren, Germany

Ritu Kulshreshtha
HoD, DBEB