

NEWSLETTER



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Delhi Technological University

Shahbad Daultpur, Bawana Road, Delhi-110042



Department of
BIOTECHNOLOGY

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Message from Hon'ble Vice-Chancellor

Prof. Prateek Sharma
Vice Chancellor
Delhi Technological University



The Department of Biotechnology at Delhi Technological University continues to exemplify the spirit of academic excellence, innovation, and societal commitment that defines our institution. This biannual newsletter captures the vibrancy, depth, and reach of the department's recent endeavors from cutting-edge research and impactful publications to global collaborations and student-led innovations.

In the past six months, the Department of Biotechnology has made remarkable progress in advancing interdisciplinary education, translational research, and global academic engagement. A defining milestone during this period was the successful organization of the GIAN course on "Medical Translational Research: From Benchtop to Bedside," which brought together an eminent panel of international and national experts.

This two-week program exemplified the department's leadership in facilitating high-level scientific exchange, promoting cross-border collaboration, and delivering impactful learning experiences rooted in real-world clinical relevance. Participants explored cutting-edge themes in translational science, research commercialization, and healthcare innovation—gaining critical insights that bridge academic discovery with practical application. The course's resounding success not only amplified the department's global academic footprint but also reaffirmed its commitment to nurturing the next generation of biomedical innovators, capable of driving meaningful change at the intersection of science, technology, and society.

Alongside its academic and research accomplishments, the department has actively fostered a vibrant ecosystem of knowledge exchange and outreach. The Alumni Interaction Series featured insightful sessions by accomplished graduates who shared global perspectives and real-world experiences, inspiring current students toward impactful careers. The Lecture Series in Biotechnology and several international expert talks brought leading voices from academia and industry to the department, enriching the academic environment with cutting-edge discussions on cancer research, spatial biology, and healthcare innovation.

The celebration of the International Day of Women and Girls in Science reaffirmed the department's dedication to promoting gender equity in STEM, while the DBT-Sponsored Popular Lecture Series engaged young learners and the general public in emerging biotechnological themes. Furthermore, experiential learning was prioritized through initiatives such as the educational visit of school students to departmental laboratories and an industrial tour to Mother Dairy, which offered participants a real-world glimpse into the applications of biotechnology in food processing and quality assurance. These activities reflect the department's holistic approach—merging academic excellence with community engagement and early scientific sensitization.

Equally impressive are the numerous faculty and student achievements featured in this issue—ranging from high-impact journal publications and conference recognitions to entrepreneurial success stories and outreach initiatives. These accomplishments reinforce the department's alignment with national development priorities and the United Nations Sustainable Development Goals (SDGs), particularly in the domains of healthcare, sustainability, and inclusive education.

Prof. Prateek Sharma
Vice Chancellor, Delhi Technological University



Message from Head of Department

Prof. Yasha Hasija

Head, Department of Biotechnology
Delhi Technological University

Dear Readers,

The previous semester (January-June, 2025) has been a testament to the dynamism and resilience of our department. Despite the fast-evolving academic and research landscape, our faculty, students, and alumni have continued to rise to new challenges and deliver exemplary performance across diverse domains.

Our faculty members have actively contributed to academia through the publication of books, high-impact journal articles, and book chapters. Their participation in prestigious FDPs, GIAN course, and conferences has significantly enhanced the department's academic footprint.

On the student front, we witnessed a remarkable range of accomplishments. From qualifying competitive exams to securing placements in reputed industries and pursuing higher education at premier institutions, our students have truly made us proud. Their entrepreneurial initiatives and involvement in start-ups further underscore the spirit of innovation that we foster at DTU.

The department organized a wide array of events, each contributing in unique ways to our academic and cultural ecosystem. Some events fostered creativity, problem-solving, and collaborative spirit among students; others reinforced our commitment to interdisciplinary and applied learning. Several initiatives served to bridge academic knowledge with real-world applications, while others placed a strong emphasis on community outreach and social responsibility.

As we look ahead, I am confident that our collective pursuit of excellence will continue to drive innovation, foster collaboration, and promote inclusive growth within the biotechnology ecosystem. I extend my sincere gratitude to all faculty members, administrative staff, students, and alumni for their unwavering support and dedication. I also commend the editor for curating and compiling this rich record of our progress.

Let us continue to push the boundaries of knowledge and contribute meaningfully to science, technology, and society.

Dated: June 30, 2025

Prof. Yasha Hasija
Head, Department of Biotechnology, DTU

From the Editor's Desk

Dr. Smita Rastogi Verma

Assistant Professor, Department of Biotechnology
Delhi Technological University



Dear Readers,

On behalf of the Department of Biotechnology, it gives me immense pleasure to present the third issue of our Biannual Newsletter (January to June 2025). This issue continues our commitment to capturing and celebrating the dynamic work being carried out across our department by faculty members, students and alumni. This publication remains a reflection of our collective efforts, achievements, and aspirations, all of which underscore our department's vision and impact.

Through this issue, we share notable academic and research milestones, and glimpses into the many vibrant scientific and outreach activities that make our department unique. From publishing impactful research in reputed journals to representing the department in workshops, conferences, FDPs, and GIAN program, the commitment to excellence has been unwavering. Our students have made us proud with their outstanding academic accomplishments, success in competitive exams, placements in leading organizations, and innovative entrepreneurial ventures.

Further, the departmental activities and achievements are aligned with the United Nations Sustainable Development Goals (SDGs), which reflects our ongoing commitment to making a positive societal and environmental impact.

We hope this issue not only informs but also inspires readers to contribute actively to the department's growth and to the broader goals of sustainable development.

Dated: June 30, 2025

A handwritten signature in blue ink that reads "Smita".

Dr. Smita Rastogi Verma
Editor, Biannual Newsletter
Department of Biotechnology, DTU



ACHIEVEMENTS

(Faculty Members, Alumni & Students)
January-June 2025

PARTICIPATION OF FACULTY MEMBERS IN FDPS / WORKSHOPS / GIAN COURSE

- Dr. Navneeta Bharadvaja, Dr. Asmita Das participated in two-day workshop on 'Applications of Artificial Intelligence and Deep Learning in Various Domains' organized by the Department of Computer Science and Engineering, DTU on April 28-29, 2025
- Dr. Smita Rastogi Verma, Dr. Kriti Bhandari, Dr. Prakash Chandra participated in one-day workshop on 'Prevention of Sexual Harassment at Workplace and Gender Equality' organized by Internal Complaint Committee (ICC) jointly with Department of Electrical Engineering, and Equal Opportunity Cell (EOC), DTU on April 25, 2025. The workshop was presided over by Prof. Prateek Sharma, Hon'ble Vice Chancellor, DTU. Distinguished speaker was Ms. Kavita Jha, Senior Advocate, Supreme Court of India
- Dr. Navneeta Bharadvaja, Dr. Asmita Das, Dr. Smita Rastogi Verma, Dr. Kriti Bhandari, Dr. Prakash Chandra participated in GIAN course on 'Medical Translational Research from Benchtop to Bedside' organized by the Department of Biotechnology, DTU from February 24, 2025 to March 7, 2025
- Dr. Navneeta Bharadvaja, Dr. Asmita Das, Dr. Smita Rastogi Verma, Dr. Kriti Bhandari, Dr. Prakash Chandra participated in awareness workshop on 'SDG Integration in University Activities (SIUA) for Faculty' organized by Nodal Office, SIUA, DTU on February 28, 2025
- Prof. Yasha Hasija, Prof. Pravir Kumar, Dr. Prakash Chandra participated in the inauguration ceremony of 'Paytm-DTU Wisdom on Wheels' organized by Center for Extension & Field Outreach, DTU jointly with Paytm Foundation at Convention Center, NDMC, Sansad Marg, New Delhi on February 21, 2025. Shri Dharmendra Pradhan, Hon'ble Union Minister, Ministry of Education, Govt. of India was the Chief Guest. The Ceremony was presided over by Prof. Prateek Sharma, Hon'ble Vice Chancellor, DTU and Sh. Vijay Shekhar Sharma, Founder & CEO, Paytm
- Dr. Prakash Chandra attended Smart Delhi Ideathon 2025 Youth for Change organized by Guru Gobind Singh Indraprastha University, Delhi on February 4, 2025

INVITED LECTURES DELIVERED BY FACULTY MEMBERS

- Prof. Jai Gopal Sharma delivered a talk on 'Solid and liquid waste management by segregation of waste' at Software Technology Park of India (STPI), Noida on February 7, 2025
- Dr. Asmita Das delivered a talk in one-day National webinar organized by the School of Life Sciences and Biotechnology, Chhatrapati Shahu Ji Maharaj University, Kanpur on the occasion of 'World Immunology Day' - April 29, 2025. The title of her talk was 'Innate immune system: Trusted sentinels against tumors and viruses'



Books Edited

Lakhan Kumar (2K17/PHDBT/03), Navneeta Bharadvaja, Sunil Khare, Raksha Anand (2K20/ MSCBIO/24) (2025) *Phyconanotechnology: Current Research, Challenges and Prospects*. Publisher: Springer; ISBN: 978-3031821851

Lakhan Kumar (2K17/PHDBT/03), Navneeta Bharadvaja, D. Kumar, Raksha Anand (2K20/ MSCBIO/24)(2025) *Algae-Derived Biochemicals of Industrial Importance*. Publisher: Springer; ISBN: 978-3-031-85549-8

Prajakta Tiwari (2K21/BT/24), Shreesh Kumar Shukla (2K21/BT/37), Smita Rastogi Verma (2025) *Unraveling senescence in cancer: Mechanistic complexities and therapeutic opportunities*. *Molecular Biology Reports* 52: 521 <https://doi.org/10.1007/s11033-025-10630-z>

Prakash Chandra, Ravi Butola (2025) *Tribological behavior of friction-stir-processed nanocomposite prepared through self-assembled monolayer technique*. *ECS Journal of Solid State Science and Technology* 14(1). DOI: 10.1149/2162-8777/adaa9e

Ritu Dhankas (2K19/PHDBT/13), Prakash Chandra, Asmita Das (2025) *Sustained release of epigallocatechin gallate from calcium carbonate nanoparticles: promising therapy for colorectal cancer*. *Applied Nanoscience* 15(3). DOI: 10.1007/s13204-025-03094-x

Bharmjeet (2K21/MSCBIO/09), Nishant Kumar (2K22/MSCBIO/34), Aman Yadav (2K21/BT/02), Rohan (2K21/MSCBIO/35), Kriti Bhandari (2025) *Harnessing the power of bacteriocins: A comprehensive review on sources, mechanisms, and applications in food preservation and safety*. *Current Microbiology* 82: 174. <https://doi.org/10.1007/s00284-025-04155-8>

Lakshay Virmani (24/MSCBIO/11), Aman Juyal (24/MSCBIO/06) (2025) *Progression in multi-omics and immunological research on host-parasite interactions: Transcriptomics, proteomics, genomics, metabolomics, and immune responses*. *Recent Trends in Infectious Diseases* 2(1). <https://journals.stmjournals.com/rtid/article=2025/view=200701>

Publications in Journals of Repute

Khushi Yadav (2K22/PHD/BT/504), Yasha Hasija (2025) *Integrated analysis of gene expressions and targeted miRNAs for explaining crosstalk between oral and esophageal squamous cell carcinomas through an interpretable machine learning approach*. *Medical & Biological Engineering & Computing* 63, 483–495. <https://doi.org/10.1007/s11517-024-03210-z>

Yagyesh Kapoor (2K22/BIO/07), Yasha Hasija (2025) *Continuous glucose monitoring using machine learning models and IoT device data: A meta-analysis*. *Technology and Health Care* 33(1): 577-591. DOI: 10.3233/THC-241403

Bhargavi Sharma (24/PHDBT/05), Sonam Rewari, Yasha Hasija (2025) *Nanogap sequestered dielectric modulated gate engineered carbon nanotube Bio-FET based bio-Sensor*. *ECS Journal of Solid State Science and Technology* 14(4): 047014. DOI: 10.1149/2162-8777/adc2dd

Megha Bansal (2K21/PHDBT/01), Deenan Santhiya, Jai Gopal Sharma (May 2025) *Simulated dump yard microbes drive significant biodegradation of polypropylene and polyvinyl chloride microplastics*. *Journal of Hazardous Materials* 494(2): 138545. DOI: 10.1016/j.jhazmat.2025.138545

Parul Puri, Neha Tiwari (2K18/PHDBT/502), Vaibhav Puri, Ram Singh, Jai Gopal Sharma, Rina Chakrabarti (2025) *Incurred changes in water and fat-soluble vitamin profile of alternative ingredient Spirodela polyrhiza based partial fishmeal substituted aquafeed: Effect of long-Duration variable temperature storage*. *Metallurgical and Materials Engineering* 31(4): 56-71. DOI: <https://doi.org/10.63278/1397>

Priya Singh (2K19/PHDBT/05), Bijender Singh, Ravi Kumar Goswami, Jai Gopal Sharma, Bhoopander Giri (April 2025) *Production of phytase by Penicillium oxalicum in solid state fermentation exhibiting hydrolysis of phytates and haloperoxidase activity*. *Indian Journal of Microbiology*. DOI: 10.1007/s12088-025-01477-w

Suman Yadav (2K22/MSCBIO/49), Arif Khan (2K22/MSCBIO/13), Jai Gopal Sharma (2025) Phytochemistry of Aloe vera: A catalyst for environment-friendly diverse nanoparticles with sustained biomedical benefits. *Nature Environment and Pollution Technology* 24(1): B4182. DOI: 10.46488/NEPT.2025.v24i01.B4182

Rahul Tripathi (2K18/PHDBT/503), Pravir Kumar (2025) Identification of CXCR4 inhibitory activity in natural compounds using cheminformatics-guided machine learning algorithms. *Integrative Biology* 17: zyaf004. <https://doi.org/10.1093/intbio/zyaf004>

Somya Parashar (23/BIO/01), Aastha Kaushik (2K22/BIO/01), Rashmi K. Ambasta, Pravir Kumar (April 2025) E2 conjugating enzymes: A silent but crucial player in ubiquitin biology. *Ageing Research Reviews* 108: 102740. DOI: 10.1016/j.arr.2025.102740

Ahmed Shanay Rehman, Pravir Kumar, Suhel Parvez (2025) Dopamine-D2-agonist targets mitochondrial dysfunction via diminishing Drp1 mediated fission and normalizing PGC1- /SIRT3 pathways in a rodent model of subarachnoid haemorrhage. *Neuroscience*, 564: 60-78. <https://doi.org/10.1016/j.neuroscience.2024.11.028>

Harshita Singh (2K19/PHD/BT/03), Navneeta Bharadvaja (2025) Network pharmacology and computational approach to explore the potential underlying mechanism of *Centella asiatica* in treatment of diabetes mellitus. *Current Proteomics*. DOI: 10.2174/0115701646364860250102115855

Himanshi Singh (2K19/PHDBT/09), Jianfeng Xiao, Sazzad Khan, Asmita Das, Tayebah Pourmotabbed, Mohammad Moshahid Khan (2025) Persistent DNA damage response drives cGAS-STING mediated neuroinflammation in a mouse model of tauopathy. *Alzheimer's & Dementia*. <https://doi.org/10.1002/alz.093509>

Book Chapters

Neha Tiwari (2K18/PHDBT/502), Megha Bansal (2K21/PHDBT/01), Deenan Santhiya, Jai Gopal Sharma (2025) Microplastics contamination in agricultural ecosystems: Challenges and sustainable approaches for green environment. In: *Development in Waste Water Treatment Research and Processes*, pp. 71–94. Elsevier. <https://doi.org/10.1016/B978-0-443-13615-3.00003-0>

Shweta Gulia (2K20/PHDBT/02), Simran Singh (2K23PHDBT/03), Nida E Falak (2K21/MSCBIO/61), Bhupendra Pratap Singh, Ravi Butola, Asmita Das, Prakash Chandra (2025) Sensors for monitoring global deposition of pollutants in aquatic ecosystems (Chapter 2). In: *Sensors for Marine Biosciences*, pp 2-1 to 2-32. IOP Publishing Ltd. 10.1088/978-0-7503-5999-3

Ritu, Prachi Pannu (2K22/MSCBIO/38), Pooja (2K22/MSCBIO/37), Asmita Das, Prakash Chandra (2025) Safety and biocompatibility of nanogels: Addressing current concerns. In: *Nanogels: Fundamentals to Pharmaceutical and Biomedical Applications*, pp 401-437. Woodhead Publishing. <https://doi.org/10.1016/B978-0-443-30016-5.00008-2>

CONFERENCE PRESENTATIONS



Students	Supervisor	Presentation Title	Conference Details
Khushi Bhatia (23/BIO/02)	Prof. Yasha Hasija	Revolutionizing patient care: AI-driven wearable technology for continuous remote health monitoring.	IEEE International Conference on Cognitive Computing in Engineering, Communications, Sciences and Biomedical Health Informatics (IC3ECSBHI) organized by Gautam Buddha University, Greater Noida (January 16-18, 2025)
Kanchan Kumari (2K22/MSCBIO/62) Anjali Sharma (2K22/MSCBIO/66)	Prof. Yasha Hasija	Neurobiological basis of autism spectrum disorder: Focus on <i>SHANK2</i> gene and molecular docking studies	International Conference on Intelligent Computing and Communication Techniques (ICICCT 2024), New Delhi (June 28-29, 2024); Published in the Proceedings, Volume 3, pp. 404-410, CRC Press, https://doi.org/10.1201/9781003635680

Students	Supervisor	Presentation Title	Conference Details
Aman Yadav (2K21/BT/02)	Prof. Yasha Hasija	Boosting diagnostic precision for tuberculosis and sarcoidosis using gene expression data	IEEE International Conference on Computational Robotics, Testing and Engineering Evaluation (ICCRTEE 2025) organized by Kalasalingam Academy of Research and Education, Chennai (May 28-30, 2025)
Mohita Chugh (2K21/PHDBT/02)	Prof. Jai Gopal Sharma	The study of microbial profile in the aquaponic system	14 th Asian Fisheries and Aquaculture Forum organized by the Asian Fisheries Society, Indian Council of Agricultural Research, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, and Asian Fisheries Society Indian Branch (February 12-15, 2025). Won Best Paper Presentation Award
Shubhika (24/IBT/010)	Prof. Jai Gopal Sharma	Production of paper: An alternate towards sugarcane Parali burning	International Conference on 'Role of Biotechnology in Biological Sciences: Striving for Sustainable Future (RBBS 2025) organized by Department of Zoology, Miranda House, Delhi University (February 6-8, 2025)
Harsh Vardhan (23/MSCBIO/21)	Prof. Pravir Kumar	<i>In silico</i> analysis of deleterious p53 snaps in Parkinson's disease	3 rd International Conference on Ambient Intelligence in Health Care (ICAIHC-2025) (January 10-11, 2025)
Anuradha (2K20/PHDBT/01)	Dr. Navneeta Bharadvaja	Flaxseed medicinals: Evaluating their role as a therapeutic and industrial oilseed	United Nations Environment Program Registered 5 th International Conference on Environmental, Agricultural, Chemical and Biological Sciences (ICEACBS 2025) organized by Voice of Indian Concern for the Environment, Society for Microbiology, Biochemistry and Biotechnology, Somnogen Canada Inc., Toronto, Canada, All India Institute of Training and Education (AIITE), New Delhi, India (June 7-8, 2025); Received Young Scientist Award in recognition and sincere appreciation of outstanding dedication, commitment, and valuable contributions in her research field
Katyayani Agarwal (2K21/BT/16)	Dr. Navneeta Bharadvaja	<i>In silico</i> identification of desoxyrhaponticin as a thioredoxin-1 inhibitor for potential multiple myeloma therapy	2 nd International Conference on Recent Innovations in Biological, Chemical & Clinical Sciences organized by Manipal University College Malaysia (May 6-7, 2025)
Devanshi Sharma (23/BIO/05)	Dr. Asmita Das	A scalable nextflow workflow for RNA-Seq analysis with integrated large language models for comprehensive result interpretation	3 rd International Conference on Communication, Security, and Artificial Intelligence organized by Galgotias University (April 4-6, 2025)

Students	Supervisor	Presentation Title	Conference Details
Harshita Thakur (23/BIO/06)	Dr. Asmita Das	Comparative analysis of <i>in silico</i> tools for drug side effect prediction	International Conference on Intelligent Control, Computing and Communications (IC3) organized by GL Bajaj Group of Institutions, Mathura (February 13-14, 2025)
Aashi Barwal (23/MSCBIO/01)	Dr. Asmita Das	Cross-disease computational mapping of miRNA networks for RNA therapeutic targeting in autoimmunity	2 nd International Conference on Emerging Technologies in Science and Engineering (ICETSE-2025) organized in hybrid mode by Akshaya Institute of Technology and technically co-sponsored by Hinweis Research in association with Visveswaraya Technological University, Karnataka (June 19-20, 2025)
Kaushiki (23/MSCBIO/25)	Dr. Asmita Das	Using gene-miRNA networks analysis to identify possibilities in currently available medication for chronic hepatitis-induced HCC	2 nd International Conference on Advanced in Engineering and Medical Sciences 2025 (ICAEM-2025) organized by International School of Technology & Sciences, India in collaboration with Samarkand State University, Uzbekistan and University of Technology and Applied Sciences, Ibri, Sultanate of Oman (April 14-15, 2025)
Shristi Satija (23/MSCBIO/48)	Dr. Asmita Das	<i>In silico</i> discovery of drugs for breast cancer therapy: Investigating kinase inhibitor and phytochemicals interactions targeting EGFR protein	ICETSE-2025 (June 19-20, 2025)
Vaishnavi Juneja (23/MSCBIO/55)	Dr. Asmita Das	<i>In silico</i> analysis of phytochemical compound for targeting GPC3 for ovarian cancer treatment	ICAEM-2025 (April 14-15, 2025)
Divya Sharma (23/MSCBIO/78)	Dr. Asmita Das	Phytochemicals as potential inhibitors of KRAS: Insights from docking and <i>in silico</i> drug profiling	ICAEM-2025 (April 14-15, 2025)
Prajakta Tiwari (2K21/BT/24) Shreesh Kumar Shukla (2K21/BT/37)	Dr. Smita Rastogi Verma	Unraveling senescence in cancer: Mechanistic complexities and therapeutic opportunities	3 rd International Conference on Advances in Science, Engineering & Technology (ICASET-2025) virtually organized by SSM College of Arts & Science; Atal Community Innovation Centre Rise (ACIC RISE) Association; Chandigarh Group of Colleges and IFERP Academy - Tamil Nadu Society held in Chennai (March 22-23, 2025)
Sneha (23/MSCBIO/80) Esha (23/MSCBIO/20)	Dr. Smita Rastogi Verma	<i>In silico</i> analysis of protein-excipient interactions: A molecular docking study on therapeutic IL-11	ICETSE-2025 (June 19-20, 2025)

Students	Supervisor	Presentation Title	Conference Details
Harshit Bhardwaj (2K21/BT/11) Siddarth Malik (2K21/BT/38)	Dr. Smita Rastogi Verma	Application of artificial intelligence in neurodegenerative diseases: Advancement in diagnosis, management, and treatment for Huntington's disease and Parkinson's disease	ICETSE-2025 (June 19-20, 2025)
Shivam Raju (2K21/BT/36) Raman Aind (2K21/BT/28)	Dr. Smita Rastogi Verma	Microbiome disharmony: A catalyst in breast cancer progression and influencing surgical outcomes	International Conference on Medical, Biological, and Pharmaceutical Sciences (ICMBPS-25) organized by National Institute for Engineering and Research (May 31, 2025). Full-length paper accepted for publication in African Journal of Biological Sciences

MORE STUDENT SUCCESS STORIES



Academic Awards & Recognitions

- Prajakta Tiwari (2K21/BT/24) received a medal in meritorious student category and student achievement certificate for achieving excellence in academics by securing 1st position



in Biotechnology as per the VI semester result declared by the University during the Alumni Meet'25 organized on April 12, 2025

- Sushankita Srivastava (24/MSCBIO/08) was awarded the Delhi University Medal 2024 for being the best candidate in B.Sc. (Hons.) Examination in Botany (February 22, 2025)
- Tanu Paliwal (24/MSCBIO/13) received Certificates of Merit and Proficiency Prize for securing highest marks in 3rd year and all the three years combined of B.Sc. (Hons.) Examination 2023-2024 in Zoology (March 27, 2025)

Success in Examinations

Students	Achievement in Examinations
Prajakta Tiwari (2K21/BT/24), Shivam Raju (2K21/BT/36), Katyayani Agarwal (2K21/BT/16)	Qualified GATE 2025 Examination
Rashmi Singh (24/PHDBT/06)	Cleared Ayurveda Biology UGC-NET Ph.D. Entrance Exam 2024
Muskaan Jasraj (2K21/BT/20)	Cleared DBT-BET Examination 2025
Rahul Tripathi (2K18/PHDBT/503)	Successfully delivered his pre-Ph.D. seminar (March 3, 2025)
Rashmi Singh (24/PHDBT/06)	Scored highest SGPA (9.33) in the Ph.D. coursework
Rashmi Singh (24/PHDBT/06)	Scored highest in written exam in GIAN course organized by the department securing A grade

Participation in GIAN Course / Symposium

- Research Scholars, UG and PG students participated in GIAN course on 'Medical Translational Research from Benchtop to Bedside' organized by the Department of Biotechnology, DTU from February 24, 2025 to March 7, 2025 –

Neha Kumari (2K19/PHDBT/06)
Harshita Singh (2K19/PHDBT/03)
Sidharth Sharma (2K19/PHDBT/501)
Priya Rai (2K19/PHDBT/05)
Anuradha (2K20/PHDBT/01)
Akansha Bisht (2K23/PHDBT/01)
Meenakshi Dubey (2K18/PHDBT/505)
Khushi Yadav (2K22/PHDBT/504)
Nakul Tanwar (2K22/PHDBT/507)
Pragati Srivastava (2K23/PHDBT/02)
Rashmi Singh (24/PHDBT/06)

Yuvraj Sharma (24/PHDBT/02)
Monika Yadav (24/PHDBT/07)
Bhargavi Sharma (24/PHDBT/05)
Shubham Kumar Shrivastav (24/PHDBT/501)
Diksha Tripathi (24/IBT/05)
Paridhi (24/IBT/06)
Milsi Pal (24/IBT/04)
Jitika Gupta (24/IBT/02)
Shyam Sunder (2K22/BT/52)
Sagnik Mitra (2K22/BT/42)
Ketan Rajora (2K23/BT/505)
Rajni Kumari (24/MSCBIO/40)

- Nidhi Sharma (24/MSCBIO/09) attended one-day Symposium on 'Genome Surveillance of Human Pathogenic Viruses' organized by BRIC, THSTI, IGIB at M.K. Bhan Auditorium, BRIC-THSTI, Faridabad (June 13, 2025)

Placements & Higher Studies

Student	Company / University / College
Aman Yadav (2K21/BT/02)	Indigo Aspiring Leader, InterGlobe Aviation (Indigo)
Anjali (2K21/BT/04)	Growbywire Innovations Pvt. Ltd., Bengaluru
Harshit Bhardwaj (2K21/BT/11)	Axxela Research and Analytics Pvt. Ltd., Gurugram
Kanishka Sapra (2K21/BT/14)	FNZ, Gurugram
Kartik Kushwaha (2K21/BT/15)	Synapse Bio Pharma Pvt. Ltd., Noida
Katyayani Agarwal (2K21/BT/16)	Imperial College London (Program: MSc in Genomic Medicine)
Lalit Singh (2K21/BT/18)	Fractal Analytics, Gurugram
Mihit Shree (2K21/BT/19)	The Catalysts Group, Delhi
Prajakta Tiwari (2K21/BT/24)	IIT Roorkee (M.Tech. Biomanufacturing, Department of Biosciences and Bioengineering)
Shivam Raju (2K21/BT/36)	Syneos Health India Pvt. Ltd. (Formerly known as InVentiv International Pharma Services Pvt. Ltd.), Gurugram
Shreesh Kumar Shukla (2K21/BT/37)	IIT Roorkee (M.Tech. Biomanufacturing, Department of Biosciences and Bioengineering)
Siddarth Malik (2K21/BT/38)	Bain Capability Centre India Pvt. Ltd., Gurugram
Sneha Shah (23/MSCBIO/80)	Patent Analyst (Biotechnology), AnovIP

Entrepreneurship and Start-up Activities

- Pradeep Patel (24/IBT/012) successfully completed the Advanced Entrepreneurship-Cum-Skill Development Program (E-SDP) sponsored by O/o Development Commissioner, Ministry of MSME, Govt. of India on the topic 'Capacity Building Program on Plant Tissue Culture' organized by CSIR-Institute of Himalayan Bioresource Technology, Palampur at CSIR-IHBT, Palampur (January 20-24, 2025)
- A team comprising of Shubhika (24/IBT/010), Pradeep Patel (24/IBT/012) won the First Prize in Product Development (PD) Category under the program and cash reward of Rs 8,000 in 'Innovation Showcase Linking with

Innovation Ambassadors' organized by DTU IIF in collaboration with IIC-DTU held at DTU, Delhi (February 21, 2025)

- Shubhika (24/IBT/010) secured Second position in Case Study Presentation and Cash Prize of Rs 1,000 in a workshop on 'Industry 5.0: Green Energy & Human-Centric Innovation Shaping a Sustainable Future' organized by IMechE-DTU Chapter of Mechanical Engineering Department, DTU and was declared as Overall Winner of the workshop (April 2-4, 2025)
- Shubhika (24/IBT/010), Pradeep Patel (24/IBT/012) submitted a proposal on 'ECOMADE, Turning Waste into Sustainable Products Like Different Strength Papers and Fabric' in Round 1 of a Startup Program 'Conquest' organized by BITS Pilani (May 28, 2025) and Anveshan Startup Challenge 1.0 organized by IIM Indore (May 29, 2025)
- Shubhika (24/IBT/010), Pradeep Patel (24/IBT/012) along with Dinesh Kumar (Dronacharya Group of Institutions) submitted a proposal on 'LUMINOUS SPARK - A Luminous Solar Panel Educational Kit' in the first round of prototype building competition 'Sustainovation 2025' organized by Amity University (June 11, 2025)
- Shubhika (24/IBT/010), Pradeep Patel (24/IBT/012) along with Dinesh Kumar (Dronacharya Group of Institutions) and Vishal Chaudhary (NIT Allahabad) submitted a proposal on

'REHAB TECH SOLUTIONS – Revolutionizing Rehabilitation through Artificial Intelligence – An AI Generated CPM Machine for Orthopedic Patients' in National Bio Entrepreneurship Competition (NBEC) organized by BIRAC (May 20, 2025)



- Pradeep Patel (24/IBT/012) participated in a workshop on 'Industry 5.0: Green Energy & Human-Centric Innovation Shaping a Sustainable Future' organized by IMechE-DTU Chapter of Mechanical Engineering Department, DTU (April 2-4, 2025)
- A team comprising of Shubhika (24/IBT/010), Pradeep Patel (24/IBT/012), Apurvapriya (24/IMS BIO/07) qualified Round 1 at DTU IIF Incubation Program presenting a Biotech Startup - PULP AHAR - an organic nutritional cattle feed from fruit waste (May 12, 2025)

Extension and Outreach Activities & Sports

- Katyayani Agarwal (2K21/BT/16) served as the Director of Extension and Outreach for the 2024-2025 session at NSS DTU
- Katyayani Agarwal (2K21/BT/16) received the Distinguished Achiever Award for Meritorious Performance in Academics and Social Service in April 2025, by Prachi Educational Society, nominated by DTU
- Katyayani Agarwal (2K21/BT/16) participated in Shikshodya: An Awareness Talk on National

Education Policy 2020 organized by NSS-DTU (January 29, 2025)

- Lalit Singh (2K21/BT/18) won Gold Medal in the 4x400 m relay race and Bronze Medal in the 4x100 m relay race organized in DTU Sports Fest (Aahvaan 2025)
- Lalit Singh (2K21/BT/18) won Bronze Medal in the 4x100 m relay race organized in IIT Delhi Sports Fest (Sportech 2025)





National & International Events Organized by the Department

(January-June 2025)



Interaction with Departmental Alumnus

Under Alumni Interaction Series, second presentation by departmental alumnus was organized by the department on January 9, 2025 (Convener: Dr. Asmita Das).

Distinguished Alumnus -

- **Dr. Isha Sharma**, Product Development Project Specialist, Medtronic

Dr. Isha shared the latest advancements in the treatment of diabetes, including new insulin

formulations, continuous glucose monitoring, and cutting-edge drug therapies that are transforming patient care. Her insights into the future of personalized medicine and potential breakthroughs in diabetes management were truly thought-provoking. The presentation by Dr. Isha was both informative and inspiring. It was a valuable session that deepened the understanding of the evolving landscape of diabetes care and offered hope for the future.



E-Seminar on 'Industrial Applications of Biotechnology'



An online seminar on 'Industrial Applications of Biotechnology' was organized by BioSoc-DTU on January 9, 2025.

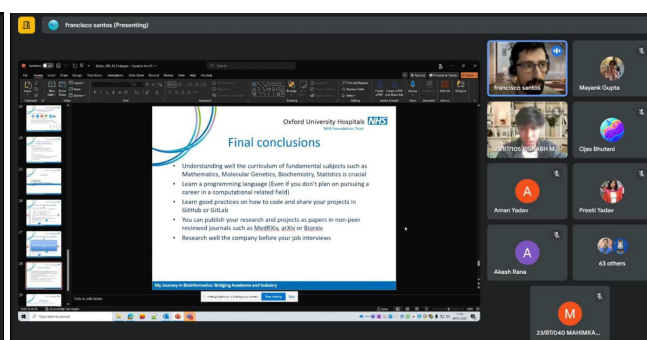
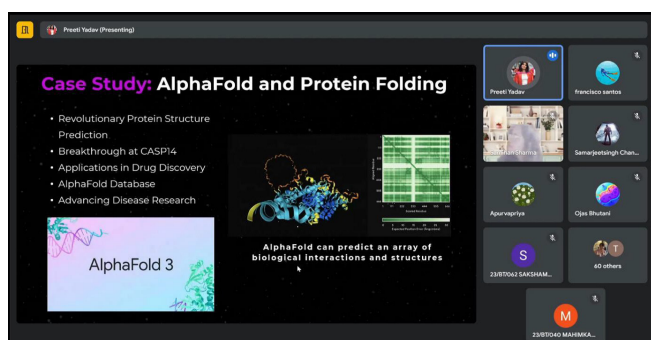
Eminent Speakers –

- **Mr. Francisco Coroado Santos**, Bioinformatician, Oxford University Hospitals Trust, UK
 - Title of talk: The Role of Bioinformatics in Clinical Genetics
- **Ms. Preeti Yadav**, Bioinformatics Instructor (India and USA), OmicsLogic
 - Title of talk: Role of Artificial Intelligence and Data Science in Medical Imaging

Mr. Santos delivered an insightful presentation on the application of bioinformatics in clinical genetics, emphasizing its role in analyzing large-scale genetic data to understand disease mechanisms and improve patient care. He

discussed how bioinformatics tools can predict genetic predispositions and assist in designing personalized treatments. He highlighted his work on population genomics and computational modeling, showcasing how bioinformatics can help track disease patterns and accelerate medical research.

Ms. Yadav's presentation focused on the relationship between the immune system and disease pathways. She presented her research on how bioinformatics techniques can be used to map interactions within the immune system, understand allergic responses, and uncover novel therapeutic targets. Ms. Yadav also discussed the potential for interdisciplinary approaches to tackle complex health issues such as autoimmune diseases, allergies, and neurological conditions. Her talk also included case study on AlphaFold and protein folding.



Expert Talk on 'Integration of Molecular and Genomic Approaches in Cancer Research'



An expert talk on 'Integration of Molecular and Genomic Approaches in Cancer Research' was organized by the department in coordination with the Office of International Affairs, DTU on January 16, 2025 (Convener: Dr. Navneeta Bharadvaja).

Distinguished Speaker –

- **Prof. Upender Manne**, Professor, University of Alabama, Birmingham

Integrating molecular and genomic approaches has revolutionized cancer research by providing a comprehensive understanding of tumor biology. Prof. Manne gave valuable insights into various molecular techniques, such as DNA sequencing and gene expression profiling for the identification of genetic mutations and complex genetic/molecular alterations driving cancer progression, and the discovery of novel biomarkers for risk assessment, early detection, prognosis, and therapeutic targets of various cancers. His talk

provided a greater understanding of how multi-omics data integration, encompassing genomics, transcriptomics, proteomics, and metabolomics, allows for a holistic view of cancer, revealing intricate molecular interactions and pathways involved in tumorigenesis and tumor progression. This comprehensive perspective enhanced the understanding of the audience about personalized medicine strategies. Furthermore, Prof. Manne emphasized on the integration of bioinformatics tools and computational models in managing and interpreting the vast datasets generated, leading to more accurate predictions of cancer progression, treatment responses, and outcomes. Overall, the session was highly informative, incredibly motivating, and inspiring for students and faculty alike. Prof. Manne's expertise and passion for advancing cancer research through cutting-edge methodologies left a lasting impact on all attendees.



DTU-Sponsored Lecture Series in Biotechnology: Lecture-1

The initiative of 'DTU-Sponsored Lecture Series in Biotechnology' aims at bringing prominent experts to the department, providing the students with valuable learning opportunities, enhancing their understanding of cutting-edge research and its practical applications. These interactions will greatly contribute to their academic and professional growth.

First lecture under the 'Lecture Series in Biotechnology' was organized on January 27, 2025 (Convener: Dr. Navneeta Bharadvaja). The inaugural session of the lecture series was presided over by Hon'ble Vice Chancellor, Prof. Prateek Sharma. Prof. Yasha Hasija, Head, Department of Biotechnology, delivered the welcome address. In a ceremonial highlight, the dignitaries on the dais released the second edition of the department's biannual newsletter and simultaneously unveiled the stellar roster of speakers scheduled to share their expertise throughout the year.

Distinguished Speaker -

- **Dr. Meenakshi Munshi**, Former Advisor/ Scientist G, Department of Biotechnology, Government of India

Dr. Munshi presented a very informative and engaging talk on 'Grant Writing', in which she shared her expertise and insights on crafting successful grant proposals. She emphasized the importance of clearly articulating research goals, objectives, and outcomes, as well as demonstrating a thorough understanding of the funding agency's priorities and review criteria. Dr. Munshi also provided practical tips on writing style, budgeting, and timelines, and highlighted common pitfalls to avoid. Additionally, she elaborated on various schemes of the Department of Biotechnology, GOI, which provide funding opportunities for researchers and innovators in India. The audience gained a comprehensive understanding of the grant writing process, including how to identify funding opportunities, develop a strong proposal narrative, and navigate the review process. Furthermore, Dr. Munshi's talk inspired and empowered the audience to pursue funding opportunities and turn their research ideas into reality.



Celebration of 'International Day of Women and Girls in Science'



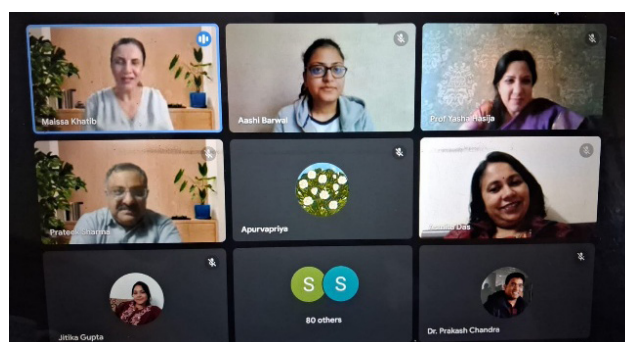
A webinar was organized by the department on February 11, 2025 to mark the occasion of 'International Day of Women and Girls in Science' (Convener: Dr. Smita Rastogi Verma). The event was graced by the esteemed presence of Hon'ble Vice Chancellor, Prof. Prateek Sharma. Welcome address was delivered by the Head of Department, Prof. Yasha Hasija.

Keynote Speaker –

- **Dr. Maissa Khatib**, Arizona State University's College of Health Solutions; Adjunct Research Associate, Valleywise Health
- **Title of Webinar:** Breaking Barriers: Addressing Gender Gaps in STEM Education, Careers, and Research

In her talk, Dr. Maissa asserted that closing the gender gap in STEM is fundamental to driving innovation, promoting equity, and harnessing the full potential of diverse talent. She lamented despite significant progress, women's contributions to STEM have often been overshadowed by their male counterparts, with systemic gender bias limiting their visibility and recognition. Women, particularly those from underrepresented racial,

ethnic, and socio-economic backgrounds, continue to face barriers that hinder their full participation and advancement in these fields. Putting forth the issues, Dr. Maissa simultaneously presented strategies to address these challenges, emphasizing the importance of early STEM engagement, mentorship, and supportive environments for women throughout their education and professional development. Critical need to incorporate a gender lens into STEM research and innovation was also highlighted. She advocated the creation of comprehensive research spaces and career pathways that foster gender equity and empower women to drive scientific discovery and innovation.



Biotech Synergy, A Panel Discussion on 'Computational and Systems Biology'



Biotech Synergy, an exciting panel discussion on 'Computational and Systems Biology' was organized during Invictus Techfest 2025 by BioSoc-DTU on February 15, 2025.

The event brought together experts who shared their insights on how computers and data-driven approaches are transforming biological research. The event's hybrid format included both in-person talks and a live online session, making it accessible to a wider audience.

Eminent Speakers –

- **Dr. Amitansu Pattanaik**, Senior Scientist, DRDO, New Delhi
- **Dr. Dinesh Sharma**, Senior Research Fellow, Computational Genomics, IIT-D
- **Dr. Dinesh Gupta**, Translational Bioinformatics, ICGEB, New Delhi

- **Dr. Debolina Sarkar**, Bioinformatics Scientist, IIF, USA (Online)
- **Dr. Ashutosh Shandilya**, Researcher, Computational Chemistry and Structural Biology, IIT-D

The success of this event reflected BioSoc-DTU's dedication to bridging the gap between academia and industry, offering students a valuable platform to connect with leading professionals. The event concluded with a networking session, allowing students to further engage with the speakers and fellow participants, sparking discussions on future collaborations and career opportunities.



Lab Rats Quiz 3.0



BioSoc-DTU organized 'Lab Rats Quiz 3.0' on February 16, 2025. It was an exhilarating quiz competition designed to test the participants' knowledge of biotechnology. The quiz featured a multi-round format, designed to challenge the participants and showcase their expertise in biotechnology and allied fields. The event started with an online round that saw an overwhelming response, with 200 participants competing for a spot in the offline round. Based on their performance in the initial round, 15 top teams were selected to compete in the subsequent offline round of the quiz. The offline round was a fast-paced quiz, with teams demonstrating their knowledge in a wide range of topics on biotechnology. After intense questioning, the

competition was narrowed down to 7 teams, who advanced to the final stage of the event: Disease Dilemma. In this round, teams faced a high-pressure challenge where they had to guess the correct disease based on given symptoms and hints. The diversity of the teams added a unique dimension to the event, as students from different academic backgrounds from different institutions came together to compete in the exciting world of biotechnology.



BioThon, A Biotechnology and AI-Driven Event



BioThon, an exciting Biotechnology and AI-driven event, was organized on February 18, 2025 by BioSoc-DTU during Invictus Techfest 2025.

BioThon successfully combined machine learning (ML), artificial intelligence (AI), bioinformatics, and computational drug discovery into an engaging competition. The event brought together aspiring researchers, data scientists, and bioinformatics enthusiasts to tackle complex biological problems

using ML and molecular docking. With a total of 13 teams competing, BioThon provided a dynamic platform for participants to innovate and showcase their problem-solving abilities. The teams were from prestigious institutions including Delhi University, VIT Bhopal, etc. Participants gained hands-on experience in data-driven biological research. The event fostered collaboration and interdisciplinary learning, bridging gaps between computer science and life sciences.



DTU-Sponsored Lecture Series in Biotechnology: Lectures-2, 3



Second lecture under the 'Lecture Series in Biotechnology' was organized on February 19, 2025 (Convener: Dr. Navneeta Bharadvaja). The event commenced with a heartfelt welcome address by Prof. Yasha Hasija, setting a positive tone for the occasion. Hon'ble Vice Chancellor, Prof. Prateek Sharma delivered the presidential address, gracing the occasion with his esteemed presence.

Esteemed Speakers -

- **Prof. Jyotsna Batra**, Faculty of Health, School of Biomedical Science, Queensland University of Technology, Brisbane, Australia
 - **Title of talk:** Molecular Genetics of Prostate Cancer
- **Dr. Rupert Ecker**, CEO, TissueGnostics GmbH, Vienna, Austria; Adjunct Professor, School of Biomedical Science, Queensland University of Technology, Brisbane, Australia
 - **Title of talk:** Multiplexing and Artificial Empowered Spatial Biology

Prof. Jyotsna delved into the genetic alterations, molecular subtypes, and genetic predisposition

associated with prostate cancer. She explained the role of epigenetic modifications in prostate cancer development and progression. Additionally, she also discussed the therapeutic implications of molecular genetics in prostate cancer, including targeted therapies and precision medicine approaches, providing valuable insights into the latest advancements in the field.

Dr. Rupert introduced the concept of spatial biology, highlighting its importance in understanding the complex interactions between cells, tissues, and organs. He then delved into the techniques of multiplexing, which enable the simultaneous analysis of multiple biomolecules, within a single tissue sample. He also discussed how AI and ML can be applied to analyze the vast amounts of data generated by multiplexing techniques, revealing new insights into tissue architecture, cell-cell interactions, and disease mechanisms.

The presentations by both the speakers were insightful and covered the latest advancements, research trends, and future directions in the domain.



Participation in 12th Transforming Healthcare with IT (THIT) Conference 2025



BioSoc-DTU participated in the 12th Transforming Healthcare with IT (THIT) Conference 2025, Asia's largest health tech summit, organized on February 21-22, 2025 at Bharat Mandapam, New Delhi. Organized by the Apollo Telemedicine Networking Foundation and Apollo Hospitals Group, in collaboration with the IHW Council as the knowledge partner, the event brought together global leaders, industry pioneers, and young minds to explore the transformative role of information technology in healthcare.

Key highlights of the conference were inspirational talks; interactive sessions on AI, telemedicine, wearable health tech, and digital therapeutics; trade show featuring the latest innovations in health tech, including robotic surgery, remote monitoring devices, and AI-powered diagnostics, and networking opportunities for students with industry leaders, fostering collaborations and career prospects.

The conference was honored by the presence of distinguished dignitaries and speakers, who offered insightful perspectives on important topics -

- **Shri J.P. Nadda** – Hon'ble Minister of Health, Government of India (TBC)
 - Government initiatives to integrate IT into healthcare systems for better accessibility and efficiency
- **Shri Ashwini Vaishnav** – Hon'ble Minister of Union (Railways, Electronics and IT), Government of India (TBC)
 - Importance of digital infrastructure in scaling healthcare solutions
- **Dr. Prathap C. Reddy** – Chairman, Apollo Hospitals Enterprise Limited
 - Future of telemedicine and AI-driven healthcare
- **Dr. Sangita Reddy** – Joint Managing Director, Apollo Hospitals
 - Impact of data analytics and AI in personalized medicine
- **Peter H. Diamandis** – Founder & Curator, Abundance360
 - Insights on exponential technologies shaping the future of healthcare
- **Dr. S. Jaishankar** – Hon'ble Minister of External Affairs, Government of India (TBC)
 - Role of international collaboration in advancing healthcare technology
- Other notable speakers shared their expertise on topics ranging from clinical data science to health tech entrepreneurship –

- **Dr. Nandakumar Jairam** (Chairman, Medica Group of Hospitals)
- **Ms. Ipsita Dasgupta** (Senior Vice President & Managing Director, HP's India)
- **Dr. Ashutosh Raghuvanshi** (Managing Director & CEO, Fortis Healthcare)
- **Mr. Viren Shetty** (COO, Narayana Health, Bengaluru)
- **Dr. Leonard Wee** (Faculty of Health, Medicine and Life Sciences, Maastricht University)

The 12th THIT Conference 2025 was a landmark event, successfully bridging the gap between

technology and healthcare. Students gained insights into the latest advancements in healthcare technology and their potential to revolutionize patient care, diagnostics, and treatment methodologies.



Global Initiative of Academic Networks (GIAN) Programme on 'Medical Translational Research from Benchtop to Bedside'



The department organized two-weeks GIAN course (ID: 2454006) on 'Medical Translational Research

from Benchtop to Bedside' from February 24, 2025 to March 7, 2025 (Coordinator: Prof. Yasha Hasija).

The inaugural session was presided over by Hon'ble Vice Chancellor, Prof. Prateek Sharma. Prof. Yasha Hasija greeted the attendees with enthusiasm, delivering a brief yet engaging introduction of the course. Prof. Pravir Kumar delivered a thoughtful and engaging address and introduced the external expert Dr. Hitesh Handa, who delivered the inaugural lecture.

The course was conducted by both international and national experts.

Foreign Expert -

- **Dr. Hitesh Handa**, Associate Professor, College of Engineering, University of Georgia

National Experts –

- **Prof. Daman Saluja**, Professor, Dr. BR Ambedkar Center for Biomedical Research, University of Delhi

- **Dr. Neel Sarovar Bhavesh**, Group Leader, International Centre for Genetic Engineering and Biotechnology

- **Prof. Kashyap Kumar Dubey**, Dean and Professor, School of Biotechnology, Jawaharlal Nehru University

A total of six faculty members, thirty-nine students, and eleven delegates from industries/research organizations attended the course. The fascinating journey of translation research, bridging the gap from lab-based discoveries to real-world applications during the course including 20 lectures by external expert, and sessions by national experts was remarkable.

The course was comprehensive and introduced key concepts in biomedical engineering, material science, and chemical engineering, aiming to address the growing demand in the medical device industry. It delved into the fundamentals and applications of biomaterials, equipping researchers and professionals with essential skills for the field. One could learn about the properties of metals, ceramics, and polymers for medical applications, surface modifications and

characterization, biocompatibility, and biomimetic surfaces. The course also helped in exploring the applications of biomaterials, including medical devices, tissue engineering, and drug delivery, as well as in vitro and in vivo testing. Additionally, attendees gained insights into the differences between academia and industry, commercialization and start-ups, and developed essential skills for writing grant proposals, presenting scientific research, and understanding research ethics and scientific conduct.

The interaction with Dr. Hitesh Handa was exceptionally enriching and intellectually stimulating, offering a unique blend of cutting-edge scientific expertise and real-world clinical applications. His profound insights into biomedical engineering, biomaterials for infection control, and translational research led to highly engaging discussions on breakthrough technologies, novel therapeutic approaches, and the challenges of bench-to-bedside implementation. The exchange of ideas went beyond theoretical discussions, delving into practical applications of biomaterials in infection prevention, tissue engineering strategies, and innovative drug delivery systems. These dialogues not only enhanced conceptual understanding but also inspired critical thinking

and problem-solving approaches among faculty and participants. Additionally, Dr. Handa's perspective on industry-academia partnerships, regulatory challenges, and commercialization of biomedical innovations provided invaluable direction for future research and translational efforts. The discussions also opened avenues for potential collaboration, focusing on synergistic research areas such as advanced biomaterials, bioengineering solutions, and translational healthcare technologies. This interaction served as a catalyst for fostering international knowledge exchange, interdisciplinary collaborations, and academic partnerships, reinforcing the importance of global engagement in tackling pressing biomedical challenges. Attendees also had highly engaging and insightful interactions with national experts, Prof. Daman Saluja, Dr. Neel Sarovar Bhavesh, and Prof. Kashyap Kumar Dubey.

Overall, the course aimed to bridge the gap between the clinicians and basic scientists, equipping the next generations of scientists with essential skills in biomaterials, testing, commercialization, and startup development, providing practical insights for taking medical innovations from the lab to clinical application.



Expert Talk on ‘Preclinical Models for Biomedical Research’

As an additional session in GIAN course, an expert talk on ‘Preclinical Models for Biomedical Research’ was conducted by the department on February 24, 2025 (Coordinator: Prof. Yasha Hasija).

Distinguished Speaker –

- **Dr. Ingo Schiessl**, Faculty, Biology Medicine and Health, University of Manchester

Dr. Ingo shared valuable insights on preclinical models for biomedical research. His presentation provided a deeper understanding of how preclinical models are essential in advancing biomedical studies and testing new treatment strategies. He meticulously explained the

importance of selecting the right model for a specific research question or disease, validating the model to ensure it accurately reflects human disease biology, and designing studies to generate reliable and translatable data. Additionally, he provided valuable insights into interpretation of preclinical data in the context of human disease and clinical relevance. By attending this talk, the audience gained a deeper understanding of the role of preclinical models in biomedical research, their strengths and limitations, and how to effectively use them to advance their understanding of human disease and develop new treatments.



Webinar on ‘Healthcare and Immunology’

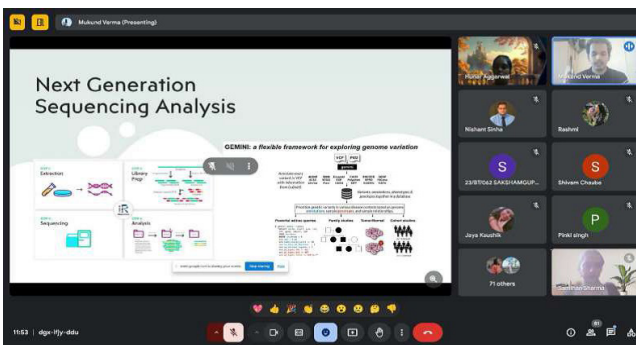
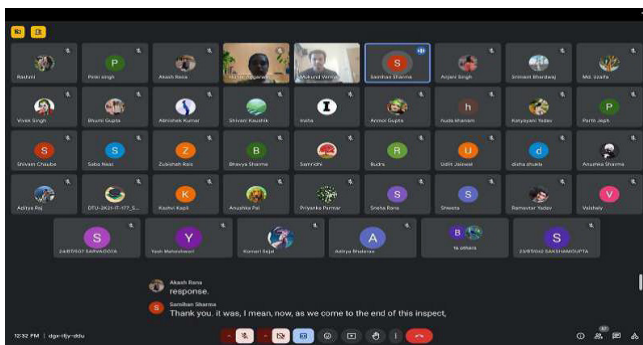
BioSoc-DTU successfully hosted an insightful webinar on ‘Healthcare and Immunology’ on March 18, 2025, bringing together over 200+ participants including students, researchers, and professionals from across the globe.

The webinar featured engaging presentations by distinguished international experts -

- **Dr. Nishant Sinha**, University of Missouri-Columbia, USA
 - Immune checkpoint modulation and its therapeutic potential in autoimmune diseases and cancer immunotherapy

- **Mr. Mukund Verma**, Oxford University Hospitals Trust, UK
 - Machine learning approaches for revolutionizing vaccine design and pathogen surveillance systems

The session provided a dynamic platform to explore cutting-edge advancements and emerging trends in immunology and biotechnology. The experts also discussed the future of mRNA vaccine technology, ethical considerations in immunogenomics, and career opportunities in computational immunology.



Green Audit

The department participated in 'Green Audit' conducted by the external experts on March 24, 2025. The department apprised the audit team with its sustainability initiatives, including courses on environment, green energy, bioenergy, etc., and faculty participation in events aimed at awareness about SDG goals, disaster risk management, and other ecofriendly approaches.



Celebrations of Dr. BR Ambedkar Jayanti

The University celebrated Dr. BR Ambedkar Jayanti from April 7–13, 2025. In its inaugural session, the faculty members and students of the department paid homage to Dr. BR Ambedkar by reading 'Preamble to the Constitution of India' on April 7, 2025.



DBT-Sponsored 'Popular Lecture Series in Biotechnology'



DEPARTMENT OF BIOTECHNOLOGY
MINISTRY OF SCIENCE & TECHNOLOGY, GOVERNMENT OF INDIA

The Popular Lecture Series in Biotechnology, a DBT (GOI) Biotechnology popularization scheme amongst students from schools, colleges, universities and also for general public, was organized by the department. It aimed at bringing general awareness among them about the basic concepts, recent advances, and potential of modern biology and biotechnology.

The department had the privilege of hosting 'Popular Lecture Series in Biotechnology' generously sponsored by DBT on April 8, 2025. The series covered various topics, including yoga's benefits for physical and mental health, air pollution's impact on health and environment, and strategies to mitigate pollution. The event saw vibrant participation from students across different colleges and schools, with a special

mention to the young participants from Ryan International School, New Delhi.

Distinguished Speakers and the Titles of Lectures were –

- **Dr. Rima Dada**, Professor, Laboratory for Molecular Reproduction and Genetics, Department of Anatomy, AIIMS, New Delhi
 - Lecture 1: Yoga for Health Promotion and Disease Prevention
- **Dr. Shruti Rai Bhardwaj**, Director/ Scientist F, Ministry of Environment, Forest and Climate Change, Govt. of India
 - Lecture 2: National Clean Air Programme (NCAP)
- **Prof. Jai Gopal Sharma**, Professor, Department of Biotechnology, Delhi Technological University
 - Lecture 3: पर्यावरण की सुरक्षा: अपने से शुरुआत करें

Prof. Rima elaborated on yoga as a profound science and technology aimed at achieving equilibrium of the mind and body. She stated that at the molecular and cellular levels, yoga has the potential to positively influence the epigenome and activate beneficial metabolic and transcriptomic pathways that support physiological changes and are beneficial in various disorders including rheumatoid arthritis, polycystic ovarian syndrome, diabetes, male infertility, cognitive decline, cardiovascular disease, Alzheimer’s disease, depression, and cancers. She highlighted that yoga promotes holistic well-being and enhances overall health and resilience by modulating immunological, neuroendocrine, and psycho-neuroendocrine pathways. It enhances psychological and physical well-being through its cumulative effects on genetic and epigenetic profiles. She added scientific input based on her studies on yoga with respect to improving mitochondrial integrity and delayed cellular aging. Prof. Rima concluded that yoga holds immense promise in preventing or delaying the onset of lifestyle-related disorders, supporting their management, and ultimately enhancing both health and lifespan.

Dr. Shruti highlighted the growing concern of air pollution, affecting human health and the environment. She stated that air pollution emission issues are associated with sectors including power, transport, industry, residential, construction, and agriculture. In the context of far-reaching impacts of air pollution beyond local sources, she explained the need for a national level strategy for reduction in air pollution levels at both regional and urban scales and hence the launching of National Clean Air Program (NCAP)

in 2019 by the Ministry of Environment Forests and Climate Change. She highlighted the key features of NCAP program, including its aim to reduce ambient particulate matter pollution levels in 130 cities from 24 States and Union Territories. Dr. Shruti also discussed various strategies to mitigate air pollution, including extensive plantation drive to absorb pollutants and produce oxygen, technology support to reduce emissions from industries and vehicles, green mobility to promote eco-friendly transportation options, and e-mobility to encourage the use of electric vehicles.

Prof. Jai Gopal Sharma discussed the effects of various types of pollution, including land, air, solid waste, and food waste, mentioning examples from Delhi and the impact on the Yamuna river. He discussed strategies for environmental conservation and the importance of clean water management citing international examples of successful pollution mitigation strategies. Prof. Sharma encouraged audience participation, particularly from school children, who proposed innovative solutions for water conservation. Prof. Sharma emphasized the importance of population control in improving the quality of life through a balanced approach involving society, government, and individuals. The interactive session fostered a collaborative discussion on addressing pollution challenges.

The event achieved its goals with flying colors, sparking meaningful conversations and igniting new ideas among participants. The experience was both thought-provoking and empowering, leaving a lasting impression on all.





E-Workshop on 'Bioinformatics & Molecular Docking'



BioSoc-DTU successfully organized an e-workshop on Bioinformatics & Molecular Docking on April 8, 2025, providing participants with hands-on experience in cutting-edge computational biology techniques. The workshop combined theoretical foundations with practical applications. It featured interactive lectures on molecular docking principles, bioinformatics tools (AutoDock, PyMOL, Chimera), drug design and protein-ligand interactions. Hands-on sessions were conducted on docking simulations, COVID-19 drug repurposing and cancer therapeutics, and troubleshooting

common computational challenges. Expert demonstration of live walkthroughs of docking workflows, emphasizing best practices for analyzing results was the other key feature of the workshop.

The workshop underscored the growing importance of computational skills in biotechnology. The participants gained practical insights into molecular docking tools used in modern drug discovery and biotechnology research. By demystifying complex tools, it empowered attendees to integrate bioinformatics into their academic and professional pursuits.



Awareness Workshop on 'SDG Integration in University Activities'

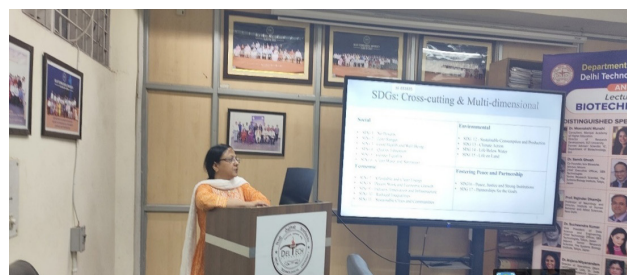
The department organized an awareness workshop on 'SDG Integration in University Activities' for the faculty members and Ph.D. students on May 6, 2025.

Resource Person -

- **Dr. Smita Rastogi Verma**, Member Secretary, SDG Committee, Department of Biotechnology

The workshop included creating awareness about 17 SDGs, target areas, sub-themes, indicators, and cross-cutting and multidimensionality, roadmap for incorporating SDGs into education system, impact evaluation, key metrics, and impact

reporting. Additionally, participants engaged in practical training on analyzing faculty research output using Scopus, with a focus on contributing to SDG attainment and aligning academic curricula with relevant SDGs.



Release of Third Edition of BioSoc-DTU's Newsletter 'PetriDish'



BioSoc-DTU proudly launched the third edition of its newsletter 'PetriDish' on May 18, 2025. The newsletter featured innovation insights on impulsionics, AI in oncology, skin gas sensors, fruit fly robotics; spotlight on J. Craig Venter and Dr. Joel Habener; feature focus on Dr. Nishant Sinha who explained AI in diagnostics, engineered T-cells, and global research; study sphere on AI meets Genomics with focus on LLMs in variant classification, rare disease detection, and Alzheimer's research. Other features were events organized, internship timeline, opportunities from IITs, IIT-Delhi, IISc, IISER Pune, Khorana Program, Nestlé, and FSSAI internships for structured career growth.



Visit of School Students

During their visit to various departmental laboratories on May 22, 2025, the Class XII students from Mount Abu School were introduced to essential lab techniques used in the field of biotechnology. They were explained practical aspects of various equipments like autoclave, centrifuge, micropipette, spectrophotometer, laminar flow hood, PCR, and gel electrophoresis, etc. The visit provided them with a deeper understanding of the crucial role of biotechnology in the fields of medicine, agriculture, and environmental science.



Educational Tour to Mother Dairy



On May 24, 2025, BioSoc-DTU organized an insightful industrial visit to the Mother Dairy Plant at Patparganj, Delhi, one of the largest liquid milk plants in Asia. The visit was coordinated by the faculty coordinator Dr. Prakash Chandra. Technical staff members Mr. CB Singh and Mr. Jitendra also accompanied the students.

The tour encompassed two key facilities: the ice cream plant and the milk processing plant. The

students were explained the entire journey, from raw milk reception to final product packaging, and strict hygiene protocols ensuring that all products meet the highest safety and quality standards. Students were impressed by the enormous milk silos, highlighting the large-scale operations and storage capacity of Mother Dairy and gained real-world insights into the journey of milk from farm to factory to consumer.



DTU-Sponsored Lecture Series in Biotechnology: Lecture-4

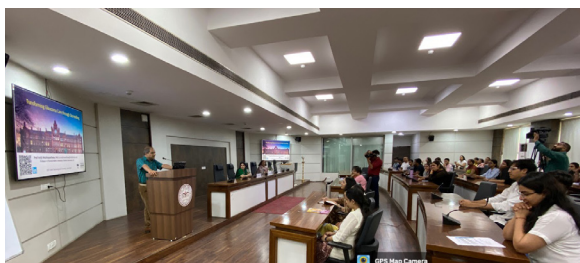
Third lecture under the 'Lecture Series in Biotechnology' was organized on June 26, 2025 (Convener: Dr. Navneeta Bharadvaja).

Distinguished Speaker and the Title of Talk was –

- **Prof. Arijit Mukhopadhyay**, Professor of Precision Health, The University of Salford, United Kingdom
- **Title of talk:** Transforming Glaucoma Care Through Storytelling

In his captivating talk Prof. Mukhopadhyay uniquely blended science with narrative, offering a powerful lens on precision health, public engagement, and the future of patient-centered

care. He presented an innovative perspective on how patient-centric narratives and storytelling methods can play a transformative role in enhancing glaucoma diagnosis, treatment adherence, and care delivery. His talk bridged the gap between clinical precision and human-centered communication, offering valuable insights for students and researchers in biotechnology, medical sciences, and public health. The event witnessed enthusiastic participation from faculty, research scholars, and students, contributing to a dynamic discussion on interdisciplinary approaches in healthcare.



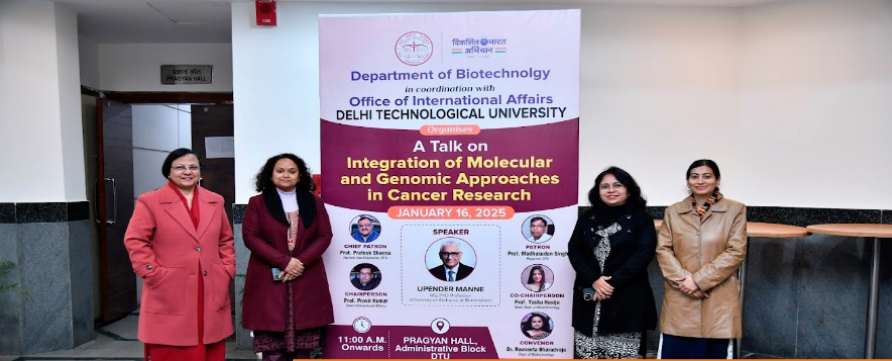


PHOTO GALLERY







For More Information

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