

## Department of Biochemical Engineering and Biotechnology

(DRC-4/2024-25)

19 Nov 2024

DRC Meeting No.4/2024-25 was held on 18 Nov 2024 in the DBEB Committee Room at 2.30 pm. The following members were present:

Prof. Shilpi Sharma (Chairperson)  
Prof. Prashant Mishra  
Prof. Preeti Srivastava  
Prof. Kumari Priti Sinha  
Prof. Anjan Roy  
Prof. Amit Das  
Prof. Lucinda Doyle (Convenor)

### Agenda Items

1. Confirmation of the minutes of the 3rd meeting of the DRC for the session 2024-25 held on 22 Oct 2024.  
[The minutes were confirmed as circulated.](#)
2. Matters arising from the minutes of Meeting No. 3/2024-25.  
[In relation to Item No. 4. December Ph.D. selections, coordinators of the PhD entrance exam question paper \(PS and KPS\) are requested to arrange a meeting with the DFB in the first week of December to discuss the questions.](#)
3. Shortlisting criteria for Ph.D. applications for Semester 2, 2024-25, and projects to be floated.  
[The shortlisting criteria in Annexure 1 were approved. The following projects were approved for floating:](#)

No.	Project Title	Supervisor
1.	Rhizosphere engineering to combat biotic stress	Prof. Shilpi Sharma
2.	Transforming disease conducive soil to suppressive one	Prof. Shilpi Sharma
3.	An Automated and AI based microscopy for digital pathology	Prof. Ravikrishnan Elangovan
4.	Single cell imaging for rapid susceptibility assay	Prof. Ravikrishnan Elangovan

5.	Identification of check point and Licensing proteins which link DNA Replication and cell division in Rhodococcus erythropolis PR4	Prof. Preeti Srivastava
6.	Characterization of DivIVA proteins of Rhodococcus erythropolis PR4	Prof. Preeti Srivastava
7.	Mathematical modeling to understand coordination of bacterial growth and division in microbes	Prof. Anjan Roy
8.	Development of lab-on-a-chip platform for assessment of cardiovascular diseases	Prof. Priti Sinha
9.	Microfluidic characterization of human red blood cells for detection of vascular diseases	Prof. Priti Sinha
10.	Synthesis of green chemicals by cell free metabolic engineering	Prof. Ashish Misra and Prof. Preeti Srivastava

4. Constitution of new SRCs.

Name/Entry No	Supervisor	Chairperson	Internal expert	External expert
Dhruvi Vats (2024BEZ8109)	Prof. Lucinda Doyle	Prof. Preeti Srivastava	Prof. Priti Sinha	Prof. Pravin Ingole (Chemistry)
Jahanvi Sharma (2024BEZ8108)	Prof. Ritu Kulshreshtha	Prof. Ravikrishnan Elangovan	Prof. Preeti Srivastava	Prof. Manoj Menon (KSBS)
Eshaan Agarwal (2024BEZ8105)	Prof. Ritu Kulshreshtha	Prof. Ravikrishnan Elangovan	Prof. Preeti Srivastava	Prof. Manoj Menon (KSBS)
Soumyadeep Paul (2023BEY7558)	Prof. Ishaan Gupta	Prof. K.J. Mukherjee	Prof. Anjan Roy	Prof. Shilpi Minocha (KSBS)

Action: The above students are requested to raise a request for SRC formation in the ERP. All supervisors of students whose SRC is not yet approved by DRC are requested to submit the composition before the next DRC meeting.

5. Student requests:

- a. Request of Rewati Dixit (2019BEZ8187) to avail of maternity leave from 25 Nov 2024 – 24 May 2025.

The Committee approved the request and recommended for forwarding.

- b. Request of Argha Sinha (2022BEZ8516) for Ex-India leave from 25 Jan – 7 August 2025 to avail a research partnership grant from the ZHAW Leading House South Asia and Iran. Research is to be undertaken at the lab of Prof. Laure Weisskopf, University of Fribourg, Switzerland, as part of doctoral project work. The request included availing Institute Assistantship during the period.  
[The Committee approved the request and recommended for forwarding.](#)

6. Matters for ratification

- a. Results of Comprehensive Exam for the following students:
- i. Khushi Chouhan (2023BEZ8390)
  - ii. Tanya Bansal (2023BEZ2002)
  - iii. Ambeesh Rolta (2023BEZ8396)
- [Based on their performance in the Ph.D. Comprehensive Exam on Oct 17th and 18th, the above students were deemed to have passed the exam and were notified of the same.](#)
- b. Request of Poorvika Kulshrestha (2022BEZ8514) to avail Ph.D. contingency fund to attend International Conference on Advances in Sustainable Solutions for Energy Transitions (ASSET 2025), IIT Guwahati, 2 – 4 January 2025.  
[The Committee approved the request.](#)
- c. Request of Archana V (2022BEZ7568) to avail Ph.D. contingency fund to attend International Conference on Advances in Sustainable Solutions for Energy Transitions (ASSET 2025), IIT Guwahati, 2 – 4 January 2025.  
[The Committee approved the request.](#)
- d. Request of Argha Sinha (2022BEZ8516) to avail Ph.D. contingency fund to attend Global Soils Conference 2024, New Delhi, 19 – 22 November 2024.  
[The Committee approved the request.](#)
- e. Request of Kolli Venkata Supraja (2020BEZ8516) to avail RSTA to attend AlgaEurope 2024, Athens, Greece, December 10–13 Dec 2024 during the ongoing Ex-India leave period (until February 2025 under the IGSTC Industrial Fellowship in Germany).  
[The Committee approved the request.](#)
- f. Project proposals submitted by faculty members.

S. No.	Project Name	Investigator	Funding Agency
1.	Carbon Nanodots as trackable theranostic platform for dual/triple drug delivery and their synergism with efflux pump inhibitors against Mycobacterium tuberculosis.	Prof. Prashant Mishra (PI-IITD) Dr. Tulika Prasad (PI JNU)	ICMR
2.	Predicting Microbial Response to Genetic and	Prof. Anjan Roy	ANRF PM Early Career Research Grant

	Environmental Perturbations.		
3.	Synthesis of green chemicals by cell free metabolic engineering	Prof. Ashish Misra (co-PI) Prof. Preeti Srivastava (co-PI)  Prof. Ramalingam S (Anna University) (PI)	DBT BIRAC

The above projects were circulated to members. As no comments were received, the projects were forwarded to the concerned authorities, and the item was ratified.

The meeting ended with a vote of thanks to the Chair.



Lucinda E. Doyle  
DRC Convenor

**Department of Biochemical Engineering and Biotechnology  
Indian Institute of Technology – Delhi**

**Short-listing criteria for Admission to Ph.D. Program (Sem II, 2024-25)**

The candidates must have first class (60% or 6.0/10 CGPA) in all examinations starting from 10+2 up to the qualifying exam and they must meet the following criteria based on their qualifying exam degree:

**Table: 1 Minimum Qualification for Admission to full-time Ph.D. Programme**

Qualifying exam	Acceptable majors	General Category	General Category (EWS)	OBC (Non-creamy layer)	SC/ST & PD
B.Tech/B.E.	Biochemical Engineering, Chemical Engineering, Biotechnology, Industrial Biotechnology, Bioinformatics, Environmental Engineering, Pharmaceutical Biotechnology	(i) 75% or 7.5/10 CGPA  (ii) Valid JRF* or GATE score of min. 650 in Life Sciences or Biotechnology or Chemical Engg.	(i) 75% or 7.5/10 CGPA  (ii) Valid JRF* or GATE score of min. 650 in Life Sciences or Biotechnology or Chemical Engg.	(i) 75% or 7.5/10 CGPA  (ii) Valid JRF* or GATE score of min. 600 in Life Sciences or Biotechnology or Chemical Engg.	(i) 70% or 7.0/10 CGPA  (ii) Valid JRF* or GATE score of min. 550 in Life Sciences or Biotechnology or Chemical Engg.
M.Tech/ M.E/ MS(R) or equivalent	Biochemical Engineering, Biological Engineering, Bioprocess Engineering, Bioscience and Bioengineering, Chemical Engineering, Chemical Technology, Biotechnology, Industrial Biotechnology, Bioinformatics, Environmental Engineering, Pharmaceutical Biotechnology, Agricultural Biotechnology	(i) 85% or 8.5/10 CGPA	(i) 85% or 8.5/10 CGPA	(i) 85% or 8.5/10 CGPA	(i) 80% or 8.0/10 CGPA
M.Sc	Biotechnology, Environmental science, Physics, Chemistry, and all branches of Life science	(i) 70% or 7.0/10 CGPA  (ii) Valid JRF* or GATE score of min. 650 in Life Sciences or Biotechnology or Chemical Engg	(i) 70% or 7.0/10 CGPA  (ii) Valid JRF* or GATE score of min. 650 in Life Sciences or Biotechnology or Chemical Engg	(i) 70% or 7.0/10 CGPA  (ii) Valid JRF* or GATE score of min. 600 in Life Sciences or Biotechnology or Chemical Engg	(i) 65% or CGPA 6.5/10  (ii) Valid JRF* or GATE score of min. 550 in Life Sciences or Biotechnology or Chemical Engg.

\*Only following JRF categories are considered for shortlisting: CSIR-NET (JRF), UGC-NET (JRF), ICMR-JRF and DBT-BET-JRF-Category-A.

**For students from Centrally Funded Technical Institutions (CFTI)**

Requirement of qualification in the GATE / National Exam is waived for the following categories of applicants from CFTIs:

- 1) Currently registered students in CFTIs pursuing B.Tech./B.E./Integrated M.Tech/ Integrated M.Sc. programmes, who have completed 6 semesters or more, and have CGPA of 8.000 or above (on a 10 point scale). Such students must obtain a CGPA of 8.000 or above at the time of graduation, and before they formally register for the Ph.D. programme (80% aggregate marks, if marks is the primary mode of evaluation);
- 2) B.Tech./B.E./ Integrated M.Tech/ Integrated M.Sc. programmes of CFTIs (in the programmes marked under (1) with a final graduation CGPA of more than 8.000 (80% aggregate marks, if marks is the primary mode of evaluation);
- 3) M.Sc. graduates/M.Tech graduates from IITs with CGPA 8.000 or above.

**Minimum Qualifications for admission to Part-time and Sponsored (full-time) Ph.D. Programme:**

The following eligibility conditions apply for the Part-time and sponsored full-time programme:

1. Only employees of Public Sector Undertakings or Government Departments or Research and Development Organizations or Private Industries (approved by Faculty Boards) are eligible for admission to these programmes.
2. The minimum full-time experience required *after* obtaining the qualifying degree and as on date of registration, is given below in Table 2:

**Table 2: Experience required for admission to part-time Ph.D programme**

<b>Programme</b>	<b>Qualifications</b>	<b>Work Experience (Post Qualification)</b>
Ph.D.	M.E./M.Tech./M.S.(R)/M.D.or Equivalent	Nil
Ph.D.	B.E./B.Tech./M.Sc./M.A./M.B.A./MBBS or equivalent, from CFTIs/Central Universities	1 Year
Ph.D.	B.E./B.Tech./M.Sc./M.A./M.B.A./MBBS or equivalent, and working in IIT Delhi* (Project or Regular) *Through proper channel	1 Year
Ph.D.	B.E./B.Tech./M.Sc./M.A./MBA/MBBS or equivalent, from institutions other than CFTIs/Central Universities	2 Years

3. Minimum qualification for these candidates is the same as for full-time candidates (**Table 1**), except that the requirement of qualifying in a national examination is waived.
4. For part-time candidates from outside NCR (or at a radial distance of more than 50 km from IIT Delhi), there is a minimum residency requirement of 6 months. The Department may specify a higher residency requirement based on the courses recommended as well as the background.