

Department of Biochemical Engineering and Biotechnology
DRC Meeting No. 4 (2022-2023)

The fourth meeting of the Departmental Research Committee for the academic session 2022-2023 was held on 23rd Feb 2023 in the DBEB Committee Room at 4 pm.

The following members were present:

Prof. Prashant Mishra (Chairperson)
Prof. Ritu Kulshreshtha
Prof. K.J. Mukherjee
Prof. Preeti Srivastava
Prof. Kumari Priti Sinha
Prof. Lucinda Elizabeth Doyle (Convenor)

1. Confirmation of the minutes of the 3rd meeting of the DRC for the session 2022-23 held on 10th Jan 2023.
[The minutes were confirmed as circulated.](#)
2. Matters arising from the minutes of Meeting No. 3/2022-23.
[Item No. 3: Due to issues within the ERP, it was decided that the hard copy of the SRC form will be filled for students who joined this semester and last semester.](#)
3. Constitution of new SRCs.

Name/Entry No	Supervisor	Chairperson	Internal expert	External expert
Argha Sinha (2022BEZ8516)	Prof. Shilpi Sharma	Prof. D. Sundar	Prof. Preeti Srivastava	Prof. P. Hariprasad, CRDT
Yashul Bharadwaj (2022BEZ8513)	Prof. Ravikrishnan Elangovan	Prof. Ashish Misra	Prof Priti Sinha	Prof Vivekanandan Perumal, KSBS

Sonali Sharma (2022BEZ8510)	Prof. Ravikrishnan Elangovan	Prof Preeti Srivastava	Prof Amit Das	Prof Saurabh Raj, KSBS
Ishita Mittal (2022BEZ8509)	Prof. Ritu Kulshrestha	Prof. D. Sundar	Prof. Preeti Srivastava	Prof. Saran Kumar, KSBS
Mansi (2022BEZ8511)	Prof. Ritu Kulshrestha	Prof. D. Sundar	Prof. Preeti Srivastava	Prof. Saran Kumar, KSBS
Shatakshi Bhattacharjee (2022BEZ8508)	Prof. Amit Das	Prof. D. Sundar	Prof. Ravikrishnan Elangovan	Prof. Anita Roy (KSBS)
Nabanita Biswas (2022BEZ8515)	Prof. Amit Das	Prof. Ritu Kulshreshtha	Prof. Anjan Roy	Prof. Archana Chugh (KSBS)
Triveni Shelke (2022BEZ8352)	Prof. Ishaan Gupta Prof. Vanika Gupta (Delhi University) (co-supervisor)	Prof. Preeti Srivastava	Prof. Anjan Roy	Prof. Shilpi Minocha (KSBS)
Kapil Saini (2022BEZ8517)	Prof. Prashant Mishra	Prof. Preeti Srivastava	Prof. Lucinda Doyle	Prof. Nityanand Goswami (MSE)
Poorvika Kulshreshtha (2022BEZ8514)	Prof. Preeti Srivastava	Prof. Shilpi Sharma	Prof. Ritu Kulshreshtha	Prof. Pooja Ghosh (CRDT)

Gursimar Singh (2022BEZ8512)	Prof. Preeti Srivastava	Prof. Ishaan Gupta	Prof. Ritu Kulshreshtha	Prof. Aradhana Srivastava (GGS-IPU)
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The Committee approved the constitution of the SRCs detailed above.

4. Approval of Plan of Work for PhD students

- a. Plan of work of Jaykumar Kiritkumar Patel (2021BEZ8007) for the thesis entitled “Molecular Source Tracking of AMR Pathogens based on Whole Genome Sequencing” was approved based on recommendation by the student’s SRC.
- b. Plan of work of Ritanksha Joshi (2021BEZ8444) for the thesis entitled “Elucidating the Role of Long Non-Coding RNAs in Meningioma Pathogenesis & Identifying New Therapeutic Targets” was approved based on recommendation by the student’s SRC.
- c. Plan of work of Surbhi (2021BEZ8446) for the thesis entitled “Molecularly imprinted polymers for the targeted delivery of prodrug and detection of breast cancer” was approved based on recommendation by the student’s SRC.
- d. Plan of work of Shilpi Kumari (2021BEZ8445) for the thesis entitled “Development of Systematic Methods for Overcoming Catabolite Repression in *Escherichia coli*” was approved based on recommendation by the student’s SRC.
- e. Plan of work of Sounak Dasgupta (2021BEZ8010) for the thesis entitled “Optimization of Recombinant Protein Production and Export” was approved based on recommendation by the student’s SRC.

5. Synopsis of students:

- a. The Committee discussed and based on the recommendation of SRC, approved the synopsis of the PhD thesis with the revised title “Enhancement of growth attributes of *Cajanus cajan* by the synergistic action of bioinoculants” submitted by Priyanka (2016BEZ8005). The Committee also approved the panel of Examiners and authorised the Chairperson to forward the same to Dean (Academics).
- b. The Committee discussed and based on the recommendation of SRC, approved the synopsis of the PhD thesis with the revised title “Microbiome-based rhizosphere engineering for mitigation of salinity stress in *Vigna radiata*” submitted by Shubham Dubey (2017BEZ7534). The Committee also approved the panel of Examiners and authorised the Chairperson to forward the same to Dean (Academics).
- c. The Committee discussed and based on the recommendation of SRC, approved the synopsis of the MSR thesis entitled “Using Thermochemistry Density Functional Theory calculations for predicting Lanthanum and Yttrium selective siderophores” submitted by Nandita Fuloria (2020BEY7517). The Committee also

approved the panel of Examiners and authorised the Chairperson to forward the same to Dean (Academics).

6. Student requests:

- a. Request of Kritika Narula (2018BEZ8239) for Ex-India leave and to avail of RSTA award to attend 33rd Anniversary World Congress on Biosensors, South Korea, from 5-8th June 2023.
The matter was discussed and the Committee approved the request.
- b. Request of Shabnam Parwin (2018BEZ8441) for Ex-India leave to avail of RSTA award to attend Microbiology 2023, United Kingdom, XX from 17 to 20 April 2023.
The matter was discussed and the Committee approved the request.
- c. Request of Shubham Dubey (2017BEZ7534) to avail of contingency grant to attend Current Trends and Future Prospects of Plant Biology, University of Hyderabad, from 23 to 25 February 2023.
The matter was discussed and the Committee approved the request, provided the approved Institute norms are followed with respect to the enhanced contingency grant awarded to students who previously received RETA.
- d. Request of Qazi Noorul Mateen (2020BEY7605) to attend a student training programme at Brigham and Women's Hospital, Harvard Medical School from 1 Feb to 30 April 2023, in addition to a 2 month extension for thesis defence upon return.
The matter was discussed and the Committee recommended the student should submit his thesis within one month of returning (30 May 2023). In case of any further extension, SRC approval is required.
- e. Request of Ajanth Praveen (2022BEZ8354): withdrawal from programme.
The Committee discussed the matter and recommended HOD to forward a letter to Dean (Academics) notifying the student's withdrawal and requesting the student's name be removed from the roll.
- f. Request of Preetha Ganguly (2022BEZ8521) to attend ICEIS-2023, Jadavpur University, on 27 Feb 2023 and to utilise PMRF contingency fund for the same.
The matter was discussed and the Committee approved the request.
- g. Request of Anirban Jana (2016BEZ8004) for thesis submission.
The matter was discussed and as the final date for thesis submission has passed, the Committee recommended re-synopsis as per Institute norms. Based on circumstances of the student, the Committee also recommended the re-synopsis can be carried out in online mode.

7. SRC composition of Sharad JS (2019BEY7512)
 A request was received from Prof. D. Sundar to be recused from the SRC of Sharad JS (2019BEY7512). The Committee approved the request.
8. Request of Anish Raju (Emp code: 26927) to pursue part-time PhD from School of Interdisciplinary Research (SIRE).
 The Committee suggested that this matter may be discussed in the faculty board.
9. Matters for ratification
- a. Project proposals submitted by faculty members.

S. No.	Project Name	Investigator	Funding Agency
1.	Interaction of Nanoparticles with Microbial Cells: toxicity evaluation, removal and valorization of heavy metals	Prof. Prashant Mishra (PI) Prof. Sunil K. Khare, Prof. Paras N. Prasad (co-PIs)	MFIRP (BU)
2.	Are ORFan genes really orphan? Deciphering the role of ORFans in <i>Rhodococcus erythropolis</i> PR4	Prof. Preeti Srivastava	SERB
3.	Development of microvasculature-on-a-chip model for the assessment of cardiovascular diseases	Prof. Kumari Priti Sinha	SERB
4.	Theoretical understanding of bacterial growth response to various nutrient environments	Prof. Anjan Roy	SERB
5.	Deciphering the impact of bodily fluids on microbiome on fabrics of relevance in healthcare settings	Prof. Shilpi Sharma (mentor) Dr. Annapurna Bhattacharjee (applicant)	DBT RA Scheme
6.	Targeted engineering of rhizosphere microbiome for enhancing growth parameters of tomato under abiotic stress	Prof. Shilpi Sharma	SERB
7.	Monitoring of stresses in arable land by Smart	Prof. Shilpi Sharma (PI) Prof. Brejesh Lall (co-PI)	AI4ICPS

	Agricultural modelling based on Satellite Hyperspectral imaging and deep learning tools (SmASH).		
8.	Development of novel metabolite-based bioformulations for combating multiple stresses in arable land	Prof. Shilpi Sharma (PI) Dr. Y. S. Shivay (ICAR-IARI) (co-PI)	Sree PVF
9.	Decoding biophysical principles of dynamic cell-cell adhesions: local cell control of tissue-scale processes	Prof. Amit Das	SERB
10.	Identifying bottlenecks in protein folding landscapes using a nano-body based search light and its amelioration using antisense RNA and CRISPR-i.	Prof. Preeti Srivastava (mentor) Arunangshu Das (applicant)	DBT RA Scheme

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