

**Department of Biochemical Engineering and Biotechnology**

**Minutes of DRC meeting**

(DRC-3/2021-2022)

Dated: 20<sup>th</sup> Oct 2021

The third meeting of the Departmental Research Committee (DRC) for the academic session 2021-2022 was held on 14<sup>th</sup> Oct 2021 at 3 pm by video conferencing.

The following members were present:

Prof. Shilpi Sharma (Chairperson)

Prof. D. Sundar

Prof. T. R. Sreekrishnan

Prof. Atul Narang

Prof. K. J. Mukherjee

Prof. Ritu Kulshreshtha

Prof. Preeti Srivastava

Prof. Ishaan Gupta

Prof Madhuresh Sumit (Convenor)

1. To confirm the minutes of the 2nd meeting of the DRC for the session 2021-2022 held on 15<sup>th</sup> Sept 2021.

*The minutes were confirmed as circulated.*

2. To report the matters arising from minutes of Meeting No. 02/2021-2022.

*None.*

3. Allotment of topics to Ph.D. and MSR students of Entry Sem I, 2021-2022

*Based on the preferences given by students of Entry Sem I, 2021-22 topics were allotted to the students as per Annexure 1.*

4. Constitution of SRC for Ph.D. and MSR students of Entry Sem I, 2021-2022

*SRCs were constituted for Ph.D. and MSR students of Entry Sem I, 2021-2022 as per Annexure 2.*

5. Allocation of new supervisors to students mentored by Prof. Rohan Jain

*In view of the resignation of Prof Rohan Jain, his suggestions for new supervisors for MTP, MSR and PhD students under his mentorship was recorded (Annexure 3). The committee decided to seek consent of new supervisors and students before the allotment.*

6. Re-constitution of SRCs of Ph.D. and MSR students

*SRC members were assigned in place of Prof. Rohan Jain for selected doctoral students as per Annexure 4.*

7. Addition of an expert member to the SRC for Swati Varshney (2016BEZ8325)

*In view of the superannuation of external expert Prof. Kushal Sen, the supervisor was asked to seek advice from Dean Academics, regarding Prof. Sen's continuation as a member of the SRC for Ms Swati Varshney (2016BEZ8325), before assigning a new expert.*

8. New Ph.D. projects by faculty members

*The following new projects were approved for Ph.D. students:*

- Development of genome engineering tools for Gordonia based upon the recombination machinery of phages. Supervisor: Prof. Preeti Srivastava*
- Engineering rhizospheric microbiota through compost amendment for enhanced suppressiveness against pathogens. Supervisors: Prof. Shilpi Sharma, and Dr Pascal Piveteau (UR OPAALE, Rennes, INRAE)*

9. Ph.D. selection for Entry Sem II, 2021-22

- The committee decided to conduct the selection of Ph.D. students for Entry Sem II, 2021-22 from 29<sup>th</sup> Nov to 1<sup>st</sup> Dec 2021.*
- The selection will be based on an Online Viva of eligible applicants, followed by an Interview of shortlisted candidates.*
- A committee comprising of Prof. T. R. Sreekrishnan, Prof. Atul Narang, Prof. Ashish Misra, Prof. Preeti Srivastava, Prof. Ishaan Gupta was constituted to set the paper for Online Viva.*
- The first draft of the question paper should be handed over to the Ph.D. Coordinator and DRC Chairperson by 15<sup>th</sup> Nov 2021 for vetting.*

10. Application received from MSR student Nirmal Singh Mahar (2020BEY7518) for conversion from MSR to Ph.D. programme

*Request from M.S.(Res) student, Nirmal Singh Mahar for conversion to Ph.D. was approved for forwarding, in view of his fulfilment of the Ph.D. selection criteria for admissions held for Sem I, 2020-21.*

11. Request for change of SRC composition and Ph.D. title for Aastha Singh (2019BEZ8182)

*(a) A request received from Prof Ritu Kulshreshtha for change in SRC composition of her Ph.D. student Aastha Singh (2019BEZ8182) was discussed. Due to an oversight the supervisor had included Prof. Preeti Srivastava (in place of Prof Prashant Mishra, as approved in 2<sup>nd</sup> meeting of DRC, 2019-20) in the conduct of Paper 2 of the written comprehensive examination, and Oral comprehensive examination of the PhD student.*

(b) Further, as the student is a recipient of the PMRF fellowship, the supervisor requested a change in the title of her Ph.D. project. The new title proposed is:

*Deciphering the role of microRNAs in the regulation of EMT in breast cancer*

*Keeping the student's interest in mind, the requests were recommended by the committee as a special case.*

12. Request received from Soumya Rajpal (2017BEZ8291) for extension of ex-India leave

*Ms Soumya Rajpal (2018BEZ8291) is currently in Germany availing research grant under DAAD-Bi-nationally Supervised Doctoral Degrees/Cotutelle, 2020/21 at University of Ulm. The committee noted that the approval of extension of her fellowship was issued by DAAD in July 2021 for an year's extension w.e.f. 1<sup>st</sup> Oct 2021. She mailed her request for extension of ex-India leave directly to the Dean Academics on 29<sup>th</sup> September 2021. The Dean instructed her to route the same through DRC. In view of the supervisor's forwarding of her request (email dated 7<sup>th</sup> Oct 2021), the committee recommended the extension of Ex-India leave for one year w.e.f. 1<sup>st</sup> Oct 2021 .*

13. Requests received for change in fellowship from (a) Jaykumar Kirtikumar Patel (2021BEZ8007) (CSIR JRF to DBT JRF), and (b) Shubham Sharma (2020BEZ7520) (Institute assistantship to CSIR JRF)

*The committee recommended a change in doctoral fellowship of (a) Jaykumar Kirtikumar Patel (2021BEZ8007) (from CSIR JRF to DBT JRF), and (b) Shubham Sharma (2020BEZ7520) (Institute assistantship to CSIR JRF).*

14. Comprehensive examination (Paper 2 and Oral comprehensive) of 2019 and 2020 entry Ph.D. students

*The committee noted the dates for Paper 2 of written comprehensive examination for Arjun Rastogi (2019BEZ8183) (27<sup>th</sup> Sept 2021) and Debasa Mukherjee (2019BEZ8667) (30<sup>th</sup> Sept 2021). The supervisors were advised to conduct the oral comprehensive examination for the 2019 entry students at the earliest.*

*The supervisors for 2020 entry Ph.D. students were requested to complete the process of conducting Paper 2 of written comprehensive exam (by the SRC), and the oral comprehensive examination by the end of the semester 2, 2021-22.*

15. To report the matters for ratification by the DRC

(a) Project proposals submitted by faculty members

S. No.	Project Name	Investigators	Funding Agency
1	Development of a switchable electrogenic and electrotrophic biofilm for bioelectrochemical energy generation and storage	Dr. K. Aiyer (I-PDF); Mentor: LED	DBT: Indo-Finnish mobility scheme
2	Unravelling the role of exopolysaccharide producing bacteria in salinity stress alleviation in rice	Dr. S. Srivastava; Mentor: SS	DBT RA

3	Dissecting the role of epigenomic regulation in virulence and multi drug resistance of invasive fungal pathogen <i>Candida auris</i>	Dr. Surbhi Kohli; Mentor: IG	DBT RA
4	Deciphering the molecular mechanisms of hypoxia associated aggressiveness in meningioma: Role of coding and non-coding RNAs	RK	SERB POWER fellowship
5	Organic farming for green electricity using plant microbial fuel cells (PMFCs)	LED (PI), SS (Co-PI)	DBT
6	Understanding the mechanism of asymmetric cell division in <i>Rhodococcus erythropolis</i>	PS	SERB POWER

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

(b) Request for extension of fellowship by PhD (Entry 2016) and MSR (Entry 2019) students

*The application for extension of fellowship for a period of 3 months (October to December 2021) for the following Ph.D. and MSR students were forwarded by the DRC Chairperson and the item was ratified:*

- 2016BEZ8004 Anirban Jana
- 2016BEZ8007 Ritu Bhardwaj
- 2016BEZ8008 Ngangom Pravina Devi
- 2016BEZ8009 Navodit Kumar Singh
- 2016BEZ8325 Swati Varshney
- 2019BEY7510 M. Apurva
- 2019BEY7511 Rajat Anand
- 2019BEY7513 Shravya Velamala
- 2019BEY7514 Sourabh Gangaram Chavan

16. Any other item with the permission of Chair

*One offline application (dated 27<sup>th</sup> September 2021) was received for admission to Part-time MSR programme of the department for entry in Semester 1, 2021-22. The committee noted the following:*

- *The application was received after the last date of application, after completion of half of semester I, 2021-22.*
- *Details concerning the duration of experience by the candidate was missing. This is a mandatory requirement for admission to part-time MSR programme.*

*In view of this the committee was of the opinion that the candidate be asked to furnish complete details and apply for Semester 1, 2022-23.*

Shilpi Sharma

**Circulation to DFB (by email)**

**Annexure 1a**

**Allotment of topics and supervisors to Ph.D. students (Entry Sem 1, 2021-2022)**

<b>Name of student and Entry no.</b>	<b>Project Title</b>	<b>Supervisor</b>	<b>Qualification of student</b>	<b>Minimum no. of credits to be completed for course work</b>
Ritanksha Joshi 2021BEZ8444	Investigating the role of long non-coding RNAs in meningioma pathogenesis	Prof. Ritu Kulshrestha	M.Sc.	20
Sounak Dasgupta 2021BEZ8010	Modulating the stress responses in <i>Escherichia coli</i> as a strategy for design of improved host cell platforms	Prof. K. J. Mukherjee	M.Sc.	20
Soumya Sahai Saxena 2021BEZ8009	Novel supplementation strategies in mammalian fed batch processes using mathematical modeling and at line metabolite monitoring	Prof. Madhuresh Sumit	M.Sc.	20
Surbhi 2021BEZ8446	Nanostructured stimuli-responsive molecularly imprinted polymers for the targeted delivery of prodrug and detection of breast cancer	Prof. Prashant Mishra	M.Sc.	20
Shilpi Kumari 2021BEZ8445	Development of systematic methods for overcoming catabolite repression in <i>Escherichia coli</i>	Prof. Atul Narang	M.Sc.	20

**Annexure 1b**

**Allotment of topics and supervisors to MSR students (Entry Sem 1, 2021-2022)**

<b>Name of student and Entry No.</b>	<b>Project Title</b>	<b>Supervisor</b>
Itube Hegui 20221BEY7567	Understanding the kinetics of <i>Saccharomyces cerevisiae</i> strains that resist catabolite repression	Prof. Atul Narang
Bhavika Mahajan 2021BEY7571	Liquid Biopsy: Exosome based diagnostics for lung cancer.	Prof. R. Elangovan
Anshuman Singh Yadav 2021BEY7565	Development of an accelerostat —a bioreactor for rapid acquisition of steady state data.	Prof. Atul Narang

**Annexure 2****SRC composition of Ph.D. and MSR students (Entry Sem 1, 2021-2022)**

<b>S. No</b>	<b>Name of student and Entry No.</b>	<b>Chairperson</b>	<b>Internal expert</b>	<b>External expert</b>	<b>Supervisor</b>
1	Jaykumar K Patel 2021BEZ8007	P. Srivastava	Z. Ahammad	V. Perumal, KSBS	R. Elangovan
2	Ratnabali Ghosh 2021BEZ8008	P. Mishra	R. Kulshreshtha	K. Khare, Dept of Physics	R. Elangovan

<b>S. No</b>	<b>Name of student and Entry No.</b>	<b>Chairperson</b>	<b>Expert 1</b>	<b>Expert 2</b>	<b>Supervisor</b>
1	Shreyoshi Karmakar 2021BEY7568	S. Sharma	D. Sundar	R. Kulshreshtha	P. Srivastava

**Annexure 3****Proposed names of new supervisors in view of resignation of a faculty member**

<b>Name of student and Entry No</b>	<b>Title</b>	<b>Proposed new Supervisor</b>
<b>Ph.D.</b>		
Aratrika Ghosh 2020BEZ8512	Development of siderophores immobilized magnetic material for the recovery of germanium from industrial wastewater and solid waste	TRS
Kolli Venkata Supraja 2020BEZ8516	Development of algae based slow release fertilizer	ZA
Rewati Dixit 2019BEZ8187	Recovery of selenium from wastewater for its application as slow-release fertilizer	TRS
<b>MSR</b>		
Nandita Fuloria 2020BEY7517	Identification and production of siderophores that can selectively and sensitively bind to rare earth elements	ZA
<b>M.Tech</b>		
Kshitij Sahu 2017BB50060	LCA for torrefaction of microalgal biomass for generation of biofuel using GREET	TRS



**Annexure 4****Re-constitution of SRCs due to resignation of a faculty member**

<b>Name and Entry No.</b>	<b>Supervisor</b>	<b>Chairperson</b>	<b>Internal Expert</b>	<b>External Expert</b>
<b><u>Ph.D.</u></b>				
Rashi Tyagi 2020BEZ8525	SS	PS	LED	P. Hariprasad (CRDT)
Debasa Mukherjee 2019BEZ8667	LED	PS	IG	Jayati Sarkar (ChE)
Arjun Rastogi 2019BEZ8183	TRS & GPA	AM	ZAS	Anupam Shukla (ChE)
Surabhi Mishra 2019BEZ8189	ZAS	PS	IG	Vivek Perumal (KSBS).
Salina Tigga 2018BEZ8439	ZAS	TRS	PS	A. Kumar (Civil)
Sidra Ghazali Rizvi 2018BEZ8442	TRS	ZAS	PS	V. Arya (Civil)
Navodit K. Singh 2016BEZ8009	TRS & AKS	ZAS	KJM	K.K. Pant (ChE)
Jyoti Sharma 2015BEZ8503	PS & DS	SS	LED	Ashok Patel (KSBS)
<b><u>MSR</u></b>	<b>Supervisor</b>	<b>Chairperson</b>	<b>Expert 1</b>	<b>Expert 2</b>
Sourabh Chavan 2019BEY7514	PS	LED	SS	RK