Department of Biochemical Engineering and Biotechnology

Minutes of DRC meeting

(DRC-2/2021-2022)

Dated: 15th Sept 2021

The second meeting of the Departmental Research Committee (DRC) for the academic session 2021-2022 was held on 15th Sept 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. Ritu Kulshreshtha
Prof. Ishaan Gupta

1. To confirm the minutes of the 1st meeting of the DRC for the session 2021-2022 held on 11th Aug 2021, and special DRC meeting held on 16th Aug 2021.

   The minutes were confirmed as circulated.

2. To report the matters arising from minutes of Meeting No. 01/2021-2022 and special DRC meeting held on 16th Aug 2021.

   None.

3. Plan of work of Nidhi Patil (2019BEZ8669) for her thesis titled "Molecular basis of asphaltene biotransformation"

   The plan of work for Ms Nidhi Patil was approved based on recommendation by her SRC. The date for Paper 2 of written comprehensive examination was noted as 15th July 2021, and that of oral comprehensive examination was 17th Aug 2021.

4. Nomination for FITT award

   One nomination was received in response to the call circulated by Head, DBEB to all groups on 25th Aug 2021. The nomination of Dr. Jananee Jaishankar (2015BEZ8350) for her doctoral thesis "Isolation and molecular characterization of promoters from Gordonia" was deliberated upon. Based on the relevance of the project to the industry, comments from PhD examiners' reports, and the list of publications and patent arising out of the work, the committee decided to forward her nomination to Dean Academics. (Act: Head, DBEB)

5. Paper 1 of written comprehensive examination held on 12th Aug 2021

   The following students were declared to have passed Paper 1 of Ph.D. comprehensive examination held on 12th Aug 2021:

S. No.	Name	Entry no
1	Akshay Lohakare	2020BEZ8511
2	Aratrika Ghosh	2020BEZ8512
3	Asheemita Bagchi	2020BEZ8513
4	Dasari Abhilash	2020BEZ8510
5	Juwayria	2020BEZ8514
6	Khadeeja Parveen	2020BEZ8515
7	Kolli Venkata Supraja	2020BEZ8516
8	Mahenaz Haneef	2020BEZ8517
9	Monika Luthra	2020BEZ8518
10	Nikita Deshwal	2020BEZ8519
11	Palistha Tuladhar	2020BEZ8568
12	Pallavi Chakraborty	2020BEZ8520
13	Preetha Ganguly	2020BEZ8521
14	Rashi Tyagi	2020BEZ8525
15	Salila Pradhan	2020BEZ8522
16	Shubham Sharma	2020BEZ7520
17	Subhashree Pagal	2020BEZ8524

6. Request received from Prof. R. Jain regarding supervision of Ph.D. students

   In view of Prof Rohan's leave application, his request for induction of faculty members as supervisors for Ph.D., MSR and MTP students (Annexure 1, with consent from respective faculty members) currently being solely supervised by him, was recommended. He will continue to serve as co-supervisors for these students.

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

   It was decided to circulate the list of available projects to PhD and MSR students, Entry Sem 1, 2021-2022 (Annexure 2). The students need to submit the preference of projects from three different faculty members latest by 8th October 2021 to Chairperson DRC. Before submission they are required to discuss the projects with the respective faculty members and seek their consent on the preference form.

8. Synopsis of Ph.D. thesis of Rohit Khandelwal (2015BEZ8355) entitled "Synthesis of malic acid by redirection of cellular metabolism in *Zymomonas mobilis*"

   The Committee discussed and approved the synopsis submitted by the Ph.D. student Mr Rohit Khandelwal. The Committee also approved the panel of Examiners and authorized the Chairperson to forward the same to Dean (Academics).
   (Action: 1 Thesis supervisor to send the following documents to the DRC Chairperson: (a) Filled-in form for Ph.D. synopsis submission & Appointment of Examiners (b) 2 hard copies of the Synopsis and (c) soft copy of the Synopsis by email) (Action 2: Upon receipt of the above documents, Chairperson DRC to forward it to Dean-Academics)

9. To report the matters for ratification by the DRC

(a) Project proposals submitted by faculty members

S. No.	Project Name	Investigators	Funding Agency
1	The effects of polymer additives and environmental pollutants on biopolymer biodegradation	TRS	UQ-IITD
2	Mitigation of drought stress by employing the novel combination of top-down and bottom-up approaches of rhizospheric engineering	Dr. A. Bhattacharjee; Mentor: SS	DBT RA
3	Development of strategies for efficient storage of soil microbiome to retain its functionality	SS	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 received by Ms Rashi Tyagi (2020BEZ8525) for conversion from Institute fellowship to DST-INSPIRE fellowship w.e.f. 15th Sept 2021.

As the DST-INSPIRE fellowship was approved for Ms Rashi Tyagi (vide notification dated 3rd September 2021), her request for conversion from Institute fellowship to DST-INSPIRE fellowship was forwarded to Dean Academics.

(c) Applications by Ms Dhvani Vora (2017BEZ8293) for Research Scholar Travel Award to participate in INSERM Workshop No 260 at Bordeaux, France (20-22nd October 2021), and Ex-India leave request thereof from 19-23rd October 2021.

Application for Research Scholar Travel Award and Ex-India leave by Ms Dhvani Vora was recommended to be forwarded to Dean Academics.

10. Any other item

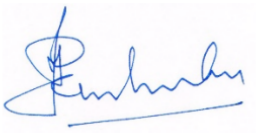
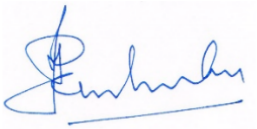
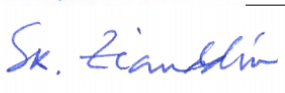
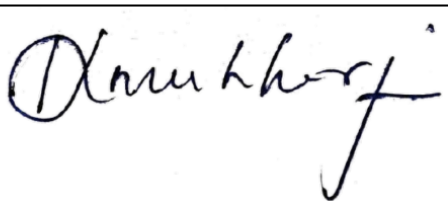
- *Head apprised the committee of a new ERP module called as the "PhD Life cycle" to be rolled out soon. This will be effective for students of Entry Sem 1, 2021-2022 onwards.*
- *It was decided to seek Ph.D. proposals from faculty members for the selection cycle for Entry Sem 2, 2021-2022.*

Shilpi Sharma

Circulation to DFB (by email)

Annexure 1

List of supervisors inducted for students currently supervised by Prof. Rohan Jain*

Name	Supervisor	Signature	Remarks
Rewati Dixit	Prof. TR Sreekrishnan		The project involve anaerobic reduction of selenium, speciation of metalloid and transport in soil systems.
Aratrika Ghosh	Prof. TR Sreekrishnan		The work involved the metal recovery and packed column operation.
Supraja V Kolli	Dr. Ziauddin Ahammad		The work involved operation of the photobioreactor and recovery of phosphate from municipal wastewater.
Nandita Fuloria	Prof. K J Mukherjee		The work involves production of the siderophores as well as their complexation with metals.
Anshuman Singh Yadav	Dr. Ziauddin Ahammad		The work is part of the recently funded DST project where Prof. Ahammad is a Co-PI.
Kshitij Sahu	Dr. Ziauddin Ahammad		The work involve LCA of the algal+torrefaction process.

***Consent was sought by the new supervisors for the following:**

The students will be accommodated in supervisor's own research labs and will be supported with the required consumables/ chemicals, etc. No requests will be made by the new supervisors to the department for extra space or consumables/chemicals, etc to accommodate these students.

Annexure 2

List of projects available with faculty members for Ph.D. students, Entry Sem I, 2021-22

Faculty	No. of Ph.D. students supported by Institute Assistantship	No. of Ph.D. slots proposed by faculty	Project number and Title	Project availability
A. Narang	2	2	Project no. 1. Development of systematic methods for overcoming catabolite repression in *Escherichia coli*.	Available
			Project no. 2. Enhancing the ethanol productivity of glucose-limited cultures of *Scheffersomyces* (Pichia) *stipitis*.	Available
P. Mishra	6	2	Project no. 3. Fabrication of bioactive peptide loaded multifunctional mesoporous silica nanoparticles for cancer treatment	Available
			Project no. 4. Biomarker based noninvasive method for detection of oral cancer using nanosensor.	Available
			Project no. 5. Nanostructured stimuli-responsive molecularly imprinted polymers for the targeted delivery of product and detection of breast cancer.	Available
R. Kulshreshtha	4	1	Project no. 6. Investigating the role of long non-coding RNAs in meningioma pathogenesis	Available
R. Elangovan	4	2	Project no. 7. Molecular source tracking of AMR pathogens based on Whole Genome Sequencing	Jaykumar Patel (2021BEZ8007)
			Project no. 8. Optimization of light sheet microscopy for large clinical specimen analysis	Ratnabali Ghosh (2021BEZ8008)
R. Jain & K. J. Mukherjee	3 (RJ)	1	Project no. 9. Production, characterization and application of the tetradentate siderophores	Available
M. Sumit	0	1	Project no. 10. Novel supplementation strategies in mammalian fedbatch processes using mathematical modeling and at line metabolite monitoring	Available
K. J. Mukherjee	0	1	Project no. 11. Modulating the stress response in *Escherichia coli* as a strategy for design of improved host cell platforms	Available

List of projects available with faculty members for MSR students, Entry Sem I, 2021-22

Faculty	No. of open slots	Project number and Title	Availability
A. Narang	2	Project no. 1. Understanding the kinetics of *Saccharomyces cerevisiae* strains that resist catabolite repression.	Available
		Project no. 2. Development of an accelerostat —a bioreactor for rapid acquisition of steady state data.	Available
M. Sumit	1	Project no. 3. Understanding the effect of metabolism on pathways that influence critical quality attributes in mammalian fedbatch processes through mathematical modeling	Available
P. Mishra	1	Project no. 4. Bioactive molecule conjugated nano-hydroxyapatite: an angiogenic-osteogenic biomaterial for bone tissue engineering application	Available
P. Srivastava	1	Project no. 5. Development of genome editing tools for Gordonia	Shreyoshi Karmakar (2021BEY7568)
R. Elangovan	1	Project no. 6. Liquid Biopsy: Exosome based diagnostics for lung cancer	Available
R. Jain	1	Project no. 7. Recovery of acetic acid and removal of furfural from torrefaction condensate and subsequent conversion of acetic acid to valuable compounds	Anshuman S. Yadav (2021BEY7565)
S. Sharma	2	Project no. 8. Transfer of microbial load from fabric to other surfaces	Available
		Project no. 9. Soil metabolome as indicator of soil health	Available
Z. A. Shaikh	1	Project no. 10. Assessment of anaerobic digester performance in mitigating AMR proliferation during treatment of sewage	Available
K. J. Mukherjee	1	Project no. 11. Modulating the stress response in *Escherichia coli* as a strategy for design of improved host cell platforms	Available