

Department of Biochemical Engineering and Biotechnology

**Minutes of the meeting of
Departmental Research Committee (DRC)
(DRC-04/2014-2015)**

April 01, 2015

The fourth meeting of *Departmental Research Committee* (DRC) for the academic session 2014-2015 was held on **Wednesday, March 18, 2015** at **3:30 PM** in the Committee Room (I-230) of the Department.

The following members were present:

Prof. Prashant Mishra (*Chairman*)
Prof. V.S. Bisaria
Prof. Saroj Mishra
Prof. A.K. Srivastava
Prof. Atul Narang
Dr. Shilpi Sharma
Dr. Ritu Kulshreshtha
Dr. D. Sundar (*Convener*)

Item No. 1 - To confirm the minutes of the 3rd meeting of the DRC for the session 2014-2015 (DRC-03/2014-2015) held on January 20, 2015.

The Minutes of the DRC meeting No. 3/2014-2015 were confirmed as circulated.

Item No. 2 - Matters arising out of the minutes of DRC-03/2014-2015.

None.

Item No. 3 - Allotment of projects for 2014 Dec-entry PhD students.

The Committee approved the allotment of projects to the 2014 Dec-entry PhD students as given in **Annexure - 1**. An updated list of projects approved by DRC & available for allotment in the future is given in **Annexure - 2**.

Item No. 4 - Finalization of results of the PhD written Comprehensive Exam conducted during January 27-28, 2015.

The Committee finalized the results of the PhD written Comprehensive Exams conducted during January 27-28, 2015 and approved the list of successful students who have passed the examination as given in **Annexure - 3**.

Item No. 5 - Synopsis of the PhD thesis titled 'Improved biodesulfurization of persistent organosulfur compounds' submitted by Ms. Pooja Singh (2011BEZ8425).

Based on the recommendations of the SRC, the Committee discussed and approved the synopsis submitted by Ms. Pooja Singh (2011BEZ8425). The Committee also approved the panel of Examiners for the thesis and authorized the Chairman to forward the same to Dean (Academics).

(Action: 1. Supervisor to send the following documents to the DRC Convener - (a) Filled-in form for PhD synopsis submission & Appointment of Examiners (b) 2 hard copies of the Synopsis and (c) soft copy of the Synopsis on CD and by email)

(Action 2: Upon receipt of the above documents, Chairman DRC to forward it to Dean - Academics)

Item No. 6 - Report on Comprehensive Examination and Approval of Research Plan of the PhD student Ms. Sonam Takkar (2013BEZ8030).

The Plan of Work for Ph.D submitted by Ms. Sonam Takkar was discussed, and based on the recommendations of the SRC, it was approved.

(Action: Chairman DRC to forward the Form w/ enclosures to Dean - Academics)

Item No. 7 - Formation of Student's Research Committee (SRC) for the MSR student Mr. Ashish Lohar (2014BEY7503).

The Committee discussed and constituted the SRC as given in **Annexure - 4**.

Item No. 8 - PhD/MSR Admission Schedule for 1st Semester 2015-2016.

The Chairman informed the Committee about the Institute Schedule for PG admissions for 1st Semester 2015-2016. The Committee decided that the written test/interview for admission to PhD/MSR programs in the Department would be conducted during May 14-15, 2015. The Committee further decided that the Coordinators for ensuing round of PhD and MSR admissions would be Dr. Shilpi Sharma and Dr. Ritu Kulshreshtha, respectively.

Item No. 9 - A note received from Dr. Shilpi Sharma for awarding Junior Research Fellowship (JRF) from a DST-sponsored project, to the MSR student Ms. Varsha Walvekar, in lieu of the Teaching Assistantship being received by her from the Institute. [DST project – 'Impact of synthetic- and bio-pesticides on functional diversity of agricultural soil' (RP02607)]

The Committee discussed and approved the award of *Junior Research Fellowship (JRF)* to the MSR student Ms. Varsha Walvekar (2014BEY7525) from the DST-sponsored project RP02607 of Dr. Shilpi Sharma operated through IRD.

(Action: Dr. Shilpi Sharma)

Item No. 10 - A note received from Dean (Academics) seeking nominations for the award of *Distinction in Doctoral Research* to students who successfully defended their PhD thesis in the calendar year 2014.

The Committee discussed and finalized the list of PhD graduates from the Department who graduated in the calendar year 2014, to be recommended for the *Distinction in Doctoral Research*. The criteria adopted by the Committee were the Impact Factor of the journal publications arising out of the PhD thesis as well as the assessment report of the PhD thesis submitted by the foreign examiner. The finalized list is as follows, in the order of merit.

	PhD Student	Entry Number	Date of Viva Voce
1	Rashi Gupta	2008BEZ8220	21-11-2014
2	Geeta Gahlawat	2008BEZ8283	06-08-2014

The Committee authorized the DRC Chairman/Head to forward these nominations to the Dean (Academics).

Item No. 11 - A note received from Dr. D. Sundar for consideration of the application of Ms. Vinita Periwal, for availing *Postdoctoral / Research Associateship* from DBT/DST, by working under his mentorship.

The Committee discussed and recommended that mentor should take care of the area of expertise before forwarding the application to concerned agency. They should make sure that same project is not submitted twice. Once grant is sanctioned, DRC will consider such projects. As per current norms of DST/DBT, such applications need to be forwarded at the time of Joining only.

Item No. 12 - Application for MSR program, received from a Foreign National Student Mr. Dhiraj Kumar Das, under Self Financing Scheme.

On scrutiny of the application, the Committee found the applicant Mr. Dhiraj Kumar Das to be ineligible to be considered for admission, as he doesn't satisfy the minimum short-listing criteria of the department.

(Action: Chairman DRC to forward the recommendations to Dean-Academics)

Item No. 13 - A note received from Profs. A.K. Srivastava and T.R. Sreekrishnan, regarding the potential PhD projects, which were originally floated by them together and are available for allotment to new students.

The request received from Profs. A.K. Srivastava and T.R. Sreekrishnan was discussed and the arrangement of being sole Supervisors for the projects were agreed to, as given below:

Sl.	Project Title	Supervisor
1	Continuous production of Biopolymers (PHB and its derivatives) from by-product of biodiesel industry (glycerol) using high cell density cell culture.	AK Srivastava
2	Production of biopolymers (PHB and its derivatives) from sulfite waste water	AK Srivastava
3	Production of Biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>	TR Sreekrishnan
4	To study and establish optimum recovery protocol for PHB/Copolymers	TR Sreekrishnan

Item No. 14 - Consideration of project proposals submitted by the Departmental Faculty, for funding from national agencies:

Sl.	Project Title	Project Investigators	Funding Agency
1	Diversity of ACC Deaminase producers in the rhizosphere of cajanus cajan: on the lookout for bioinoculants for stressed agricultural environments	Shilpi Sharma (PI) VS. Bisaria (Co-PI) K. Annapurna (Co-PI) IARI, Pusa, New Delhi	DBT
2	Development of strategies for recombinant production and functional expression of therapeutically important proteins in microbial systems	Tapan Chaudhuri (PI) Saroj Mishra (Co-PI)	DBT
3	Biocatalyst engineering for carrying out organic synthesis in nearly anhydrous organic solvents	Prashant Mishra (PI) MN. Gupta (Co-PI)	CSIR
4	How safe are biopesticides - A comparative study on impact of chemical and biological pesticides on phosphorus cycle	Shilpi Sharma (PI)	MoEF

The Committee discussed and recommended the above proposals to be forwarded to Dean (R&D) for onward transmission to the funding agency.

(Action: Respective PIs)

Item No. 15 - Matters for information of the DRC.

The following matters were informed to the members by the Chairman DRC:

- a) Research Scholar Travel Award applications of the following PhD students were forwarded to Dean (Academics) during the past two months:

Sl.	Student	Entry Number	Conference
1	Akanksha Mehrotra	2011BEZ8222	6th Congress of European Microbiologists (FEMS 2015), June 7-11, 2015, Maastricht, The Netherlands
2	Saakshi Aggarwal	2013BEZ8027	

Item No. 15 - Any other item with the permission of the Chair.

- a) *A note received from Dean (Academics) seeking a nomination of one senior PhD student from amongst the PhD students on roll in the Department, for presentation during the **Research Scholar's Day** on April 10, 2015*

The Committee discussed and decided to nominate Ms. Tenzin Kenzom (2009BEZ8511), for the *Research Scholar's Day* presentation. The Committee authorized the DRC Chairman/Head to forward the name to the Dean (Academics).

(Action: The nominee to submit a one-page write-up through the Supervisor to Dean-Academics by March 25, 2015)

- b) Requests for mentoring applicants of DBT-Research Associateship by working under the mentorship of Departmental Faculty.

Sl.	Applicant for DBT Research Associateship	Research Topic	Mentor(s)
1	Ms. Megha Mathur	Comparative Bacterial and Archaeal Community Characterization during Anaerobic Digestion of Different Feedstocks	Shilpi Sharma Anushree Mallik (CRDT)
2	Dr. Ramesh B.	Biopolymer production	AK. Srivastava

The Committee discussed and recommended that mentor should take care of the area of expertise before forwarding the application to concerned agency. They should make sure that same project is not submitted twice. Once grant is sanctioned, DRC will consider such projects. As per current norms of DST/DBT, such applications need to be forwarded at the time of Joining only.

- c) Project proposals submitted by Drs. Ritu Kulshreshtha and Ravikrishnan Elangovan as given below:

Sl.	Project Title	Project Investigators	Funding Agency
1	A novel technique to decipher microRNA target interactions and their functional implications in cancer metastasis	Ritu Kulshreshtha (PI) IIT Delhi Stella Aronov (PI) Ariel Univ, Israel	India-Israel Joint Academic Research Program (UGC-ISF)
2	TcRαβ/CD19 negative depletion for haploidentical stem cell transplantation	Ravi Elangovan (PI) Sunil Bhatt (Collaborator) Narayna Hyrudalaya Health City Bangalore	BIRAC Contract Research Scheme (CRS) - Academia for Translational Research

The Chairman informed that the above projects have been circulated to DRC members and if no comments are received in stipulated 10 days time from the date of circulation, it would be presumed that they have no comments to offer and the Chairman DRC may then forward it to IRD for onward transmission to the funding agency and projects will be ratified in the next DRC.

- d) Formation of Student's Research Committee (SRC) for the MSR student Mr. Shuddhodana (2014BEY7507)

The Committee discussed and constituted the SRC as given in **Annexure - 4**.

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


D. SUNDAR
DRC Convener

Distribution

All DRC members and other DBEB Faculty (by email)

Cc: DRC File

Allotment of Projects for 2014-Dec entry PhD students

Sl. No.	Student	Project Title	Supervisor(s)
1	Aditya Prakash Soni (2014BEZ8264)	Mapping of antibiotic resistance distribution in the rivers [Yamuna in Delhi] & upstream of river Ganges (Rishikesh-Haridwar)] and development of possible mitigation strategy	Ziauddin Ahammad
2	Pooja Murarka (2014BEZ8265)	Isolation and characterization of the protein(s) involved in the regulation of the dsz operon for biodesulfurization of organosulfurs	Preeti Srivastava
3	Raju Kumar (2014BEZ8266)	Production of poly (3-hydroxybutyrate) PHB & its derivatives in different novel airlift bio-reactor configurations	AK Srivastava
4	Vidhi Malik (2014BEZ8267)	Evaluation of molecular mechanisms of natural products: a bioinformatics study towards plant-based drug discovery	D. Sundar
5	Sonia Gupta (2014BEZ8391)	Finding the link between metal pollution and antibiotic resistance	Ziauddin Ahammad

(Action: Respective Supervisors to submit requests to DRC for constitution of SRC)

Updated list of PhD projects approved by DRC and available for allotment in the future

Supervisor 1		Project Title	Supervisor 2
GP Agarwal	1	Protein transmission investigations through ultrafiltration for moderately high-pressure range (> 100 Kpa).	
	2	Production and purification of lipase using MF and UF membrane	Prashant Mishra
VS Bisaria	1	Improved production of malic acid by redirection of cellular metabolism in a suitable bacterial host	Preeti Srivastava
Saroj Mishra	1	Strategies for improvement of human serum albumin production in <i>Pichia pastoris</i> (This project is available only for Part-Time PhD students)	
AK Srivastava	1	Mass production of bio/copolymer using <i>Azohydromonas australica</i> & <i>A. eutropha</i> in novel reactor configurations.	
	2	Continuous production of Biopolymers (PHB and its derivatives) from by-product of biodiesel industry (glycerol) using high cell density cell culture.	
	3	Production of biopolymers (PHB and its derivatives) from sulfite waste water	
TR Sreekrishnan	1	Production of biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>	
	2	To study and establish optimum recovery protocol for PHB/Copolymers	
Sunil Nath	1	Measurement of oxygen exchange by mass spectrometry for probing the mechanism of ATP synthesis by ATP synthase: A splendid molecular machine.	Ravi Elangovan
	2	Probing the mechanism of ATP synthesis	Ravi Elangovan
PK Roychoudhary	1	Process optimization for bioconversion of rice straw to ethanol	Prashant Mishra
Atul Narang	1	Genetic engineering of <i>Pichia stipitis</i> for improved ethanol production	
Sundar D	1	A computational study to investigate protein aggregation	
Shilpi Sharma	1	Effect of application of bioinoculants and "bioirrigation" for sustainable mixed cropping of pigeon pea and finger millet on rhizospheric community	VS Bisaria
	2	Evaluation of microbial community structure and function in pesticide contaminated soil using molecular markers	
	3	Analysis of diversities of bacterial communities in the rhizospheres of economically important legumes using molecular microbiology	
	4	Microbial production of chitosanase for generation of biologically active chitosan-oligosaccharides	Subhash Chand
Ritu Kulshreshtha	1	Investigating modulation of miRNA expression in the hypoxic stem cell niche	
	2	Evaluating therapeutic and prognostic potential of miR-191 in breast cancer	
	3	MicroRNA and AU rich element (ARE) deciphering the regulatory loop	

Contd.....

Updated list of PhD projects approved by DRC and available for allotment in the future

Supervisor 1		Project Title	Supervisor 2
Preeti Srivastava	1	Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4	
	2	Engineering of Dibenzothiophene monooxygenase (DszC) for enhanced substrate range and improved activity	
Ravikrishnan Elangovan	1	Direct detection of Enteric Fever in Blood	Shalini Gupta(Chemical) Vivek Perumal (KSBS)
	2	Study of Torque versus load in Bacterial flagellar Motor	Sunil Nath
	3	Study of switching in Bacterial Flagellar Motor under varying proton motive force	Sunil Nath
	4	High precision localization of elongated fluorescent objects	Sunil Nath
	5	Study of intra-head interaction in myosin II molecule in ensemble	Sunil Nath
Ziauddin Ahammad	1	Efficiency comparison of conventional wastewater treatment systems in removing emerging pollutants	
	2	Study on antibiotic resistance transmission and proliferation in Delhi and development of possible mitigation strategy	
	3	AD Doctor- development of process monitoring strategy for operating anaerobic digesters	
	4	Mitigating the risk of heavy metals and emerging contaminants in the environment	TR Sreekrishnan

Results of the PhD written Comprehensive Exams conducted during January 27-28, 2015

List of PhD students who have passed the Written Comprehensive Examination:

SI. No.	Entry Number	Name of the student
1	2013BEZ7506	Manisha Lamba
2	2013BEZ7510	Sanjay Singh
3	2013BEZ8510	Vidhu S.
4	2014BEZ8002	Lovely
5	2014BEZ8005	Sanjay Kumar

Student's Research Committee (SRC) for MSR students

Student	Chairman, DRC or his nominee	One expert in the field from the Department	Another faculty expert	Supervisor
Ashish Lohar (2014BEY7503)	GP. Agarwal	Atul Narang	Ziauddin Ahammad	TR. Sreekrishnan
Shuddhodana (2014BEY7507)	Prashant Mishra	M.N. Gupta	S.K. Khare	VS. Bisaria