

Department of Biochemical Engineering and Biotechnology

**Minutes of the meeting of
Departmental Research Committee (DRC)
(DRC-01/2014-2015)**

September 09, 2014

The first meeting of *Departmental Research Committee* (DRC) for the academic session 2014-2015 was held on **Tuesday, September 02, 2014** at **4 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. T.R. Sreekrishnan
Prof. A.K. Srivastava
Dr. Shilpi Sharma
Dr. Ritu Kulshreshtha
Dr. D. Sundar (*Convener*)

Item No. 1 - To confirm the minutes of the 6th meeting of the DRC for the session 2013-2014 (DRC-06/2013-2014) held on June 19, 2014.

The Minutes of the DRC meeting No. 6/2013-2014 were confirmed as circulated.

Item No. 2 - Matters arising out of the minutes of DRC-06/2013-2014.

Allotment of M.Tech Major Projects (MTP)

The Chairman informed the Committee that the following MTP projects were allocated to the two students, who had indicated their interest after the first round of allotment:

Sl.	Entry #	Student	Project Title	Supervisors
1	2010BB50036	Santosh Kumar	Relative abundance of dinucleotide in soil bacteria	Shilpi Sharma Vivek Perumal (KSBS)
2	2010BB500041	Swarn Kumar Bhaladhare	Microwave-assisted lipase biocatalysis	Prashant Mishra MN Gupta

Item No. 3 - Synopsis of the MSR thesis submitted by the following students:

Sl.	Student	Entry Number	Title of the thesis	Supervisor
1	Augustine Cleetus	2012BEY7518	<i>In vitro</i> reconstitution of skeletal muscle contraction using nataive thin filaments	RE
2	Raju Kumar	2012BEY7519	Scale up of PHB production using <i>Azohydromonas australica</i>	AKS
3	Anshul Sharma	2012BEY7515	Effect of media constituents and process parameters on production of codon-optimized Granulocyte Colony Stimulating Factor from <i>Pichia pastoris</i>	SM

Based on the recommendations of respective SRCs, the Committee discussed and approved the synopsis submitted by all the three MSR students mentioned in the table above. The Committee also approved the panel of Examiners for the three theses and authorized the Chairman to forward the same to Dean (Academics).

(Action: 1. Respective Supervisors to send the following documents to the DRC Convener - (a) Filled-in form for MSR 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: Chairman DRC to forward it to Dean - Academics)

Item No. 4 – Report on Comprehensive Examination and Approval of Research Plan of the PhD students.

Sl.	Student	Entry Number	Supervisor(s)
1	Shashank P. Katiyar	2012BEZ8193	DS
2	Richa Sharma	2013BEZ8026	SS & VSB

The Plan of Work for Ph.D. submitted by the students mentioned in the table above were discussed, and based on the recommendations of respective SRC's, they were approved.

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

Item No. 5 – Finalization of results of the PhD written Comprehensive Exams conducted during August 11-12, 2014.

The Committee finalized the results of the PhD written Comprehensive Exams conducted during August 11-12, 2014 and approved the list of successful students who have passed the examination as given in **Annexure 1**.

Item No. 6 – Formation of Student's Research Committee (SRC) for the PhD student – Ms. Manisha Lamba (2013BEZ7506).

The Committee decided to identify an Institute Faculty Expert (from outside the Department) in consultation with Dr. Ziauddin Ahammad for constitution of the SRC of Ms. Manisha Lamba. Hence, the agenda item was deferred for consideration in the next meeting.

Item No. 7 - A note received from Dr. Ziauddin Ahammad requesting additional funds from the Institute Planning Unit for his already approved Start-up Grant titled “*Estimation and possible mitigation strategy development to reduce the burden of antibiotic resistance in the environment*” sanctioned under the scheme of *Research Grant to New Faculty (RGNF)*.

The Committee observed that Dr. Ziauddin Ahammad had requested for only one equipment (*Real time quantitative PCR thermal cycler - qPCR*) as part of his RGNF grant. It was noted that the proposed equipment was important to achieve the objectives of the research project and the sanctioned amount of Rs. 10 lakhs was not sufficient to procure the equipment. The Committee decided to strongly recommend the request for additional funds made by Dr. Ziauddin Ahammad and authorized the Chairman to forward the Application to *Professor Incharge Planning* for favorable consideration.

(Action: Chairman DRC to forward the letter to Professor Incharge, Planning Unit)

Item No. 8 - Project proposal titled ‘*Microbiomes as markers to assess transcontinental differences*’ submitted by Dr. Shilpi Sharma for funding from DST under the *India-Austria Scientific-Technological Cooperation (2015-2016)*.

The Committee after discussion ratified the submission of the project proposal to DST. The Committee noted that since no specific comments were received from the members on the proposal, the Chairman DRC had forwarded it on IRIS for onward transmission to the funding agency.

Item No. 9 – Allotment of Projects to 2014 July-entry PhD and MSR students

The Committee approved the allotment of projects to the 2014 July-entry PhD and MSR students as given in **Annexure - 2**. An updated list of DRC approved Ph.D. projects as on date is appended to the end of the minutes (**Annexure 3**).

Item No. 10 - Note received from Dean (Academics) seeking inputs on maximum allowable number of doctoral students to be registered with each faculty member.

The Committee decided that a DBEB faculty shall supervise up to a maximum of six PhD candidates at a time. The Committee also recommended that the existing approach of allocating an overall quota of doctoral students for each department with the flexibility of distributing the same amongst the faculty members as decided by the department should continue.

(Action: Chairman DRC to send the feedback to Dean-Academics)

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

None

Item No. 16 - Any other item with the permission of the Chair.

- a) *A request received from the dual degree student Mr. Ashwin Shrikumar (2008BB50007) for allotment of a new M.Tech Major Project (MTP)*


The Committee discussed at length the request made by the student. It was decided that Mr. Ashwin Shrikumar should continue his M.Tech Major Project (MTP) originally allotted to him during 2013-2014, under the supervision of Dr. Ravikrishnan Elangovan. The Chairman was requested to advise Dr. Ravikrishnan Elangovan to accept the candidate for working under his supervision.

- b) *Applications made for CSIR Research Fellowships*

The Committee noted that the following applications were being submitted through the Department for CSIR Research Fellowships.

Sl.	Candidate Name	Proposed Supervisor	Fellowship applied for	Proposed research title
1	Swati Ojha	Saroj Mishra	Research Associateship	Transformation of bioactive compounds using cell bound microbial enzymes
2	Rashi Gupta	Shilpi Sharma	Senior Research Fellowship (Extended)	Phylogenetic diversity of nitrogen-fixing bacteria and the nifH gene from <i>Cajanus cajan</i> rhizosphere soil

The meeting ended with thanks to all the members.


D. SUNDAR
DRC Convener

Distribution

All DRC members and other DBEB Faculty (by email)

Cc: DRC File

Results of the PhD written Comprehensive Exams conducted during August 11-12, 2014

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

SI. No.	Entry Number	Name of the student
1	2012BEZ8550	Moolchand
2	2012BEZ8551	Jitendra Singh Verma
3	2013BEZ8509	Jaspreet Kaur Dhanjal

Allotment of Projects for PhD students

Sl. No.	Student	Project Title	Supervisor (s)
1	Ankur Kumar (2014BEZ8001)	Engineering of <i>Dibenzothiophene monooxygenase</i> (DszC) for enhanced substrate range and improved activity	Preeti Srivastava
2	Lovely (2014BEZ8002)	Mass Production of biodegradable Co-polymers from renewable resources	AK Srivastava
3	Omkar Suhas Vinchure (2014BEZ8003)	MicroRNA and AU rich element (ARE) deciphering the regulatory loop	Ritu Kulshreshtha
4	Ria Banerjee (2014BEZ8004)	Microbial production of chitosanase for generation of biologically active chitosan-oligosaccharides	Shilpi Sharma Subhash Chand
5	Sanjay Kumar (2014BEZ8005)	Production of Biopolymers (PHB and its derivatives) from sulfite waste water	TR Sreekrishnan AK Srivastava

Allotment of Projects for MSR students

Sl. No.	Student	Broad research area	Supervisor
1	Aakansha Gautam (2014BEY7501)	Heterologous gene expression in <i>Pichia pastoris</i>	Saroj Mishra
2	Ankita (2014BEY7502)	Generation of 3D tumor models and its applications	Ritu Kulshreshtha
3	Ashish K. Lohar (2014BEY7503)	Environmental Engineering, Biopolymer production	Sreekrishnan TR
4	Garima Goyal (2014BEY7504)	Protein Engineering and Bionanotechnology	Prashant Mishra
5	Gaurav Malik (2014BEY7505)	Molecular motors, Fluorescence microscopy	Ravikrishnan E
6	Pravita Singh (2014BEY7506)	Metabolic engineering, Bacterial gene regulation	Atul Narang
7	Shuddhodana (2014BEY7507)	Enzyme stabilization	Bisaria VS
8	Tanaya Bagga (2014BEY7508)	Plasmids from heavy metal contaminated sites	Preeti Srivastava
9	Vishal Bhagat (2014BEY7510)	Biopolymer production	AK Srivastava
10	Varsha Ashok Walvekar (2014BEY7525)	Environmental Genomics	Shilpi Sharma

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

PhD projects approved by DRC (as on Sep 02, 2014)

Annexure 3

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
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.	TR Sreekrishnan
	3	To study and establish optimum recovery protocol for PHB/Copolymers	TR Sreekrishnan
	4	Scale up of PHB production using <i>Azohydromonas australica</i>	TR Sreekrishnan
TR Sreekrishnan	1	Production of Biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>	AK Srivastava
	2	Production of poly (3-hydroxybutyrate) PHB & its derivatives in different novel airlift bio-reactor configurations	AK Srivastava
Sunil Nath	1	Measurement of oxygen exchange by mass spectrometry for probing the mechanism of ATP synthesis by ATP synthase: A splendid molecular machine.	Praveen Kaul
	2	Probing the mechanism of ATP synthesis	Praveen Kaul
PK Roychoudhary	1	Process optimization for bioconversion of rice straw to ethanol	Prashant Mishra
Prashant Mishra	1	Silver nanoparticles: Preparation, Assembly and conjugation with proteins for antimicrobial and analytical applications	
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	
Sundar D	1	A computational study to investigate protein aggregation	
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	
Preeti Srivastava	1	Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4	
	2	Biocatalytic viscosity reduction of heavy crude oil	Manoj Upreti, IOC R&D, Faridabad
Ravikrishnan Elangovan	1	Direct detection of Enteric Fever in Blood	Shalini Gupta (Chemical) Vivek Perumal (SBS)
	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	
	5	Study of intra-head interaction in myosin II molecule in ensemble	
Ziauddin Ahammad	1	Mapping of ARGs distribution in the river Yamuna (in Delhi) and upstream of river Ganges (Rishikesh-Haridwar) and development of possible mitigation strategy.	
	2	Efficiency comparison of conventional wastewater treatment systems in removing emerging pollutants	
	3	Study on antibiotic resistance transmission and proliferation in Delhi and development of possible mitigation strategy	
	4	Finding the link between metal pollution and antibiotic resistance	
	5	AD Doctor- development of process monitoring strategy for operating anaerobic digesters	