

Department of Biochemical Engineering and Biotechnology

Minutes of the meeting of  
Departmental Research Committee (DRC)  
(DRC-03/2014-2015)

January 28, 2015

The third meeting of *Departmental Research Committee* (DRC) for the academic session 2014-2015 was held on **Tuesday, January 20, 2015 at 3 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. T.R. Sreekrishnan  
Prof. Atul Narang  
Dr. Shilpi Sharma  
Dr. Ritu Kulshreshtha  
Dr. D. Sundar (*Convener*)

**Item No. 1 - To confirm the minutes of the 2<sup>nd</sup> meeting of the DRC for the session 2014-2015 (DRC-02/2014-2015) held on December 03, 2014.**

The Minutes of the DRC meeting No. 2/2014-2015 were confirmed as circulated.

**Item No. 2 - Matters arising out of the minutes of DRC-02/2014-2015.**

The following matter was noted with observation/decision as indicated against it:

*DRC-02/2014-2015 : Item No. 13 - Requests received for change of topic of PhD thesis allotted to 2014-July entry PhD students:*

The Committee discussed and approved the change in PhD topics for the students Mr. Omkar Suhas Vinchure (2014BEZ8003) and Ms. Ria Banerjee (2014BEZ8004) as given below. The Committee discussed and constituted the SRC for these students as given in **Annexure 1**.

SI	Student	Supervisor(s)	Previously allotted PhD topic	Newly approved PhD topic
(i)	Omkar Suhas Vinchure (2014BEZ8003)	RK	MicroRNA and AU rich element (ARE) deciphering the regulatory loop	Regulatory and Functional characterization of key miRNAs involved in glioblastoma pathogenesis
(ii)	Ria Banerjee (2014BEZ8004)	SS & SC	Microbial production of chitosanase for generation of biologically active chitosan-oligosaccharides	Biotic and abiotic factors affecting healthy adult Indian gut microflora

**Item No. 3 - Interview of Mr. Biju Jacob for advance admission to PhD program under *Quality Improvement Program (QIP)* for the year 2015-2016.**

Based on the performance of Mr. Biju Jacob, he was selected for admission to PhD program under QIP for the year 2015-2016.

*(Action: Chairman DRC to forward the results to Coordinator-QIP)*

**Item No. 4 - Report on Comprehensive Examination and Approval of Research Plan of the following PhD students:**

Sl.	Student	Entry Number	Supervisor(s)
1	Jitendra Singh Verma	2012BEZ8551	AKS & TRS
2	Siddhi, S.	2013BEZ8029	PKRC & ZAS
3	Himanshu Singh	2012BEZ8189	GPA

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 - Request from Ms. Neha Nagpal (2009BEZ8509) to continue to avail CSIR SRF until the PhD thesis viva voce is completed.**

The Committee discussed the application received from Ms. Neha Nagpal (2009BEZ8509) and recommended the continuation of CSIR-SRF for the period 1<sup>st</sup> September 2014 to 31<sup>st</sup> December 2014.

*(Chairman DRC to forward the recommendations of Supervisors to Dean Academics)*

**Item No. 6 - Request from Ms. Tenzin Kenzom (2009BEZ8511) for extension of PhD registration in the Semester 2014-2015 Sem 2.**

The Committee noted and approved the request of Ms. Tenzin Kenzom.

**Item No. 7 - Request from Ms. Shayoni Dutta (2011BEZ8194) for forwarding her application for *Newton-Bhabha PhD Placement Program* of DST.**

The Committee after discussion ratified the submission of Ms. Shayoni Dutta's application to DST. The Committee noted that the Chairman DRC had already forwarded the application to DST keeping in mind that the deadline for submission was January 15, 2015.

**Item No. 8 - Request from Dr. Ravikrishnan Elangovan to be the sole supervisor in the DRC-approved PhD project entitled "Study of intra-head interaction in myosin II molecule in ensemble".**

The Committee desired that the consent of other Faculty Member, who was associated with the project when it was originally floated, be obtained and then submitted to DRC for its consideration.

*(Action: Dr. Ravikrishnan Elangovan)*

**Item No. 9 - Request from Dr. Ravikrishnan Elangovan to float a new PhD project entitled ‘Isolation and detection of circulating tumor cells on Lab on chip device’.**

This item was deferred for the next meeting, as the proposal could not be reviewed by the DRC members as per the departmental norms.

**Item No. 10 - To discuss the procedure for allotment of projects for 2014 Dec-entry PhD students.**

The schedule for allotment of projects for 2014 Dec-entry PhD students was finalized as given below:

Sl.	Date	Activity
1	January 28, 2015	Display of list of available PhD projects for allotment in the Notice Board
2	February 10, 2015	Students to submit their three choices of projects after consultation with faculty members
3	February 16, 2015	Allotment of projects to students

The list of PhD projects for 2014 Dec-entry PhD students, which was displayed in the Notice Board on the day of PhD selections (Dec 15, 2014) is given in **Annexure 2**.

**Item No. 11 - To discuss the guidelines for floating M.Tech Major Projects.**

The Committee recommended that the first supervisor for any MTP project should normally be from the Department. However, a second supervisor could be inducted from any other academic unit, who must have expertise relevant to the MTP topic and shall normally assist the first supervisor in the provision of guidance or, support the student to achieve certain aspects of the MTP research goal.

**Item No. 12 - Project proposal titled ‘Model-based approach for optimizing recombinant protein synthesis in continuous cultures of *Pichia pastoris*’ submitted by Prof. Atul Narang for funding from DBT.**

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

(Action: Prof. Atul Narang)

**Item No. 13 - Project proposal titled ‘Development of three-dimensional tumor models of glioblastoma to identify key miRNAs involved in drug resistance using miRNA library screening approach’ submitted by Dr. Ritu Kulshreshtha for funding from DBT under the IYBA scheme.**

The Committee after discussion ratified the submission of the project proposal to DBT. 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. 14 - Matters for information of the DRC.**

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

- a) Submission of PhD Thesis by Mr. Muthumareeswaran (2008BEZ8284) on December 09, 2014.
- b) Research Scholar Travel Award application of PhD student Ms. Khushboo Rastogi (2011BEZ8351), for participation in the 59<sup>th</sup> Annual Meeting of American Biophysical Society to be held Baltimore, USA during Feb 7-11, 2015, was forwarded to Dean (Academics) on December 12, 2014.
- c) Letter issued by Associate Dean (PG Research) to Mr. Ashwani Gautam, on the award of 'U' grade for *unsatisfactory* progress during 2014-2015 Semester 1.

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

- a) *Letter received from PG Section for reviewing the eligibility criteria for MSR in DBEB*

The Committee discussed and desired that the same set of qualifying degrees, that was being followed all these years, be adopted for admission to MSR Program in the Department during 2015-2016.


- b) *MoU with National Institute of Advanced Industrial Science & Technology (AIST), Japan*

In view of the long-standing collaboration between IIT Delhi and AIST Japan in the form of joint projects, publications and various scientific exchanges, the Committee approved the proposal of Dr. D. Sundar for MoU between the two Institutions.

- c) *Research on infectious materials in the Department.*

Considering the relative hazards of working with infectious organisms and the design of existing laboratories in the Department, the Committee recommended that work on infectious agents should not be normally carried out in the Department. However, the Committee felt that research on infectious organisms that require upto Containment Level 2 (CL2) could be carried out with the approval of Institute's Biosafety Committee. This would require a specifically designed laboratory, which is equipped with primary containment devices such as Biosafety Cabinets and centrifuges with sealed rotors, personal protective equipments (i.e., gloves, laboratory coats, protective eyewear).

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

**Student's Research Committee (SRC) for PhD students**

<b>Student</b>	<b>Chairman, DRC or his nominee</b>	<b>One expert in the field from the Department</b>	<b>One Institute faculty expert, preferably in the concerned area, from outside the Department to which the student belongs</b>	<b>Supervisor (s)</b>
Omkar Suhas Vinchure (2014BEZ8003)	D. Sundar	Preeti Srivastava	Vivek Perumal Kusuma School of Biological Sciences IIT Delhi	Ritu Kulshreshtha
Ria Banerjee (2014BEZ8004)	VS Bisaria	D. Sundar	Archana Chug Kusuma School of Biological Sciences IIT Delhi	Shilpi Sharma Subhash Chand

*(Action: Respective Supervisors to send the filled-in form to Chairman DRC for forwarding to Dean Academics)*

## List of potential PhD projects for 2014 Dec-entry students

(as displayed in Notice Board on the day of PhD selections – December 15, 2014)

Sl.	Supervisor 1	Supervisor 2	Potential PhD research topic
1	GPA		Protein transmission investigations through ultrafiltration for moderately high-pressure range (> 100 Kpa).
2	AN		Genetic engineering of <i>Pichia stipitis</i> for improved ethanol production
3	VSB	PS	Improved production of malic acid by redirection of cellular metabolism in a suitable bacterial host
4	PS		Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4
5	PS		Isolation and characterization of the protein(s) involved in the regulation of the dsz operon for biodesulfurization of organosulfurs
6	RE		Study of Torque versus load in Bacterial flagellar Motor
7	RE		Study of intra-head interaction in myosin II molecule in ensemble
8	RE		Isolation and detection of circulating tumor cells on Lab on chip device
9	SM		Strategies for improvement of human serum albumin production in <i>Pichia pastoris</i> . <b>(This project is available only for Part-Time PhD students)</b>
10	TRS	AKS	Production of Biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>
11	TRS	AKS	Production of poly (3-hydroxybutyrate) PHB & its derivatives in different novel airlift bio-reactor configurations
12	AKS		Mass production of bio/copolymer using <i>Azohydromonas australica</i> and <i>A. eutropha</i> in novel reactor configurations.
13	AKS	TRS	Continuous production of Biopolymers (PHB and its derivatives) from by-product of biodiesel industry (glycerol) using high cell density cell culture.
14	AKS	TRS	To study and establish optimum recovery protocol for PHB/Copolymers
15	AKS	TRS	Production of biopolymers (PHB and its derivatives) from sulfite waste water
16	DS		Evaluation of molecular mechanisms of natural products: a bioinformatics study towards plant-based drug discovery
17	DS		A computational study to investigate protein aggregation
18	SN	RE	Measurement of oxygen exchange by mass spectrometry for probing the mechanism of ATP synthesis by ATP synthase: A splendid molecular machine.
19	SN	RE	Probing the mechanism of ATP synthesis
20	ZAS		Mapping of antibiotic resistance distribution in the rivers [Yamuna in Delhi] & upstream of river Ganges (Rishikesh-Haridwar)] and development of possible mitigation strategy.
21	ZAS		Efficiency comparison of conventional wastewater treatment systems in removing emerging pollutants
22	ZAS		Finding the link between metal pollution and antibiotic resistance
23	ZAS		AD Doctor - development of process monitoring strategy for operating anaerobic digesters
24	ZAS	TRS	Mitigating the risk of heavy metals and emerging contaminants in the environment