

**Department of Biochemical Engineering and Biotechnology**

**Minutes of the meeting of  
Departmental Research Committee (DRC)  
(DRC-01/2013-2014)**

November 19, 2013

The first meeting of *Departmental Research Committee* (DRC) for the academic session 2013-2014 was held on **Monday, Nov 18, 2013** at **4:00 PM** in the Committee Room (I-230) of the Department.

The following members were present:

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

**Item No. 1 - To confirm the minutes of the 5<sup>th</sup> meeting of the DRC for the session 2012-2013 (DRC-05/2012-2013) held on September 16, 2013.**

The Minutes of the DRC meeting No. 5/2012-2013 were confirmed as circulated.

**Item No. 2 - Matters arising out of the minutes of DRC-05/2012-2013.**

None

**Item No. 3 - A note received from Prof. V.S. Bisaria for including Dr. D. Sundar as Co-Supervisor for MSR project on 'Production of bioactive compounds' allotted to Mr. Peeyush Kumar (2013BEY7508).**

The request received from Prof. V.S. Bisaria for including Dr. D. Sundar as Co-Supervisor for the MSR project of Mr. Peeyush Kumar (2013BEY7508) was discussed and approved.

**Item No. 4 - Application received from Ms. Nivedita Patra (2008BEZ8220) for continuation of Registration and extension of Scholarship for one more semester starting January 2014.**

The Committee discussed and recommended the application received from Ms. Nivedita Patra (2008BEZ8220) to be forwarded to Dean (Academics).

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

**Item No. 5 - Application received from Ms. Dhara Thakore (2009BEZ8512) for continuation of Registration and extension of Scholarship for one more semester starting January 2014.**

The Committee discussed and recommended the application received from Ms. Dhara Thakore (2009BEZ8512) to be forwarded to Dean (Academics).

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

**Item No. 6 - Formation of Student's Research Committee (SRC) for the following PhD students:**

Ms. Richa Sharma (2013BEZ8026), Ms. Sonam Takkar (2013BEZ8030) and  
Ms. Apoorva Verma (2013BEZ8023)

The Committee discussed and constituted the SRC for Ms. Apoorva Verma as given in **Annexure 1**. However, the constitution of SRC for Ms. Richa Sharma and Ms. Sonam Takkar was deferred at the request of the Ph.D. Supervisors.

**Item No. 7 - Plan of Work of the PhD thesis titled 'Continuous culture studies of bioethanol production using *Pichia stiptis*' submitted by Ms. Shradda Maitra (2010BEZ8762).**

The Plan of Work for Ph.D. submitted by Ms. Shradda Maitra (2010BEZ8762) was discussed, and based on the recommendation of SRC it was approved.

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

**Item No. 8 - Synopsis of the thesis titled 'Microbial production of PHB and its designer derivative using *Azohydromonas australica*' submitted by Ms. Geeta Gahlawat (2008BEZ8283)**

The Committee discussed and approved the synopsis submitted by Ms. Geeta Gahlawat (2008BEZ8283). The Committee also discussed and approved the panel of Examiners and authorized the Chairman to forward the same to Dean (Academics).

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

**Item No. 9 - Reconstitution of SRC of Mr. Tushar Dash (2011BEZ8420) due to resignation of Dr. Praveen Kaul**

The Committee discussed and approved the re-constitution of SRC for Mr. Tushar Dash (2011BEZ8420) as given in **Annexure 1**.

**Item No. 10 - Discussion on scheduling the written PhD Comprehensive Exam in December 2013.**

It was decided to conduct the Ph.D Written Comprehensive Examination on December 10 and 11, 2013. Prof. A.K. Srivastava and Dr. Preeti Srivastava will coordinate the setting of question papers and conduct the examination.

**Item No. 11 - Discussion on shortlisting criteria, date and mode of conduct of entrance test/interview for Admission to PhD program (2013-2014, 2<sup>nd</sup> Semester)**

The Chairman informed the committee about the schedule for PG admissions. Dr. Sundar briefed the Committee on the number of PhD applications received and based on this data it was decided to hold an entrance test followed by personal interview on December 05, 2013 (Thursday). Dr. D. Sundar will coordinate the setting of question paper and a Committee consisting of Dr. Shilpi Sharma, Dr. Ravikrishnan Elangovan and Dr. Preeti Srivastava was constituted to conduct the examination and evaluate the answer scripts. The Chairman DRC was authorized to short-list the candidates for interview based on their performance in written test.

All the DRC members were requested to be available on December 05, 2013 to participate in the conduct of entrance test and interview.

**Item No. 12 - Consideration of New PhD and MSR projects floated by Departmental Faculty.**

The following 13 new PhD projects submitted by the Departmental Faculty were circulated by the Chairman DRC to the DRC members on November 11, 2013 for their comments (due on November 14, 2013):

#	PhD Project Title	Supervisor 1	Supervisor 2
1	Mass production of bio/copolymer using <i>Azohydromonas australica</i> & <i>A. eutropha</i> in novel reactor configurations.	AK Srivastava	-
2	Production of medical grade bio/copolymers by gram positive bacteria ( <i>Bacillus</i> sps)	AK Srivastava	-
3	Mass Production of biodegradable Co-polymers from renewable resources	AK Srivastava	-
4	Production of Biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>	AK Srivastava	TR Sreekrishnan
5	Production of Biopolymers (PHB and its derivatives) from sulfite waste water	AK Srivastava	TR Sreekrishnan
6	Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4	Preeti Srivastava	-
7	Biocatalytic viscosity reduction of heavy crude oil *	Preeti Srivastava	M.P. Singh * IOC, Faridabad
8	Unraveling the role of microRNAs in hypoxia:reoxygation biology	Ritu Kulshreshtha	-
9	Investigating modulation of miRNA expression in the hypoxic stem cell niche		
10	Efficacy and Risk Assessment of Bioinoculants in <i>Cajanus cajan</i>	Shilpi Sharma	V.S. Bisaria
11	Effect of application of Bioinoculants and "bioirrigation" for sustainable mixed cropping of pigeon pea and finger millet on rhizospheric community		V.S. Bisaria
12	Production of a therapeutic protein in <i>Pichia pastoris</i>	Saroj Mishra	-
13	Functionally interacting proteins: Analyses and Prediction	D. Sundar	

After discussion, all the new Ph.D. Projects were approved. An updated list of DRC approved Ph.D. projects (**Annexure 2**) and MSR projects (**Annexure 3**) as on date are appended to the end of the minutes.

- \* For appointment of an external Joint Supervisor who is not part of the Institute, the DRC requires the following information and documentation of the proposed Supervisor before it can recommend such an arrangement to Dean Academics for his approval – A curriculum vitae, complete list of publications and a letter of approval from his/her employer. Any MoU for Joint Supervision of Ph.D. projects will also be required.

*(Action: Dr. Preeti Srivastava)*

**Item No. 13 - Discussion on the norms for allotment of more than two (up to a maximum of four additional) Ph.D. students to a faculty member.**

Noting that a larger deliberation / discussion is required, this item was deferred to a later meeting.

**Item No. 14 - Matters for information of the DRC.**

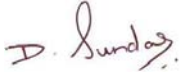
The Chairman informed the following to the Committee

- Three offline applications have been received during the Semester. It was decided that these applications will be considered along with the other online applications if they fulfil the shortlisting criteria.

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

- a) It was decided to monitor the progress of 2012 entry MSR students based on the written report and presentation by the SRC in mid December 2013.
- b) *A note was received from Prof. A.K. Srivastava for formation of SRC for Ms. Anveshika Aditya (2011BEZ8423).* The Committee discussed and constituted the SRC for Ms. Anveshika Aditya as given in **Annexure 1**.
- c) On the request of Prof. Saroj Mishra, the Committee discussed and constituted the SRC for Mr. Ashwani Gautam (2011BEZ8481) as given in **Annexure 1**.

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

**Student's Research Committee (SRC) approved by DRC**

<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</b>
Apoorva Verma (2013BEZ8023)	Saroj Mishra	Preeti Srivastava	Biswajit Kundu Kusuma School of Biological Sciences IIT Delhi	Prashant Mishra
Tushar Dash (2011BEZ8420)	Saroj Mishra	Preeti Srivastava	S.K. Khare Department of Chemistry IIT Delhi	Prashant Mishra
Anveshika Aditya (2011BEZ8423)	TR Sreekrishnan	Atul Narang	S.K. Khare Department of Chemistry IIT Delhi	AK Srivastava
Ashwani Gautam (2011BEZ8481)	Atul Narang	Preeti Srivastava	S.K. Khare Department of Chemistry IIT Delhi	Saroj Mishra

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

## PhD projects approved by DRC (as on Nov 18, 2013)

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	Production of bioactive compounds by plant cell cultures of <i>Tinospora cordifolia</i>	D. Sundar
Saroj Mishra	1	Production of a therapeutic protein in <i>Pichia pastoris</i>	
AK Srivastava	1	Mass production of bio/copolymer using <i>Azohydromonas australica</i> & <i>A. eutropha</i> in novel reactor configurations.	
	2	Production of medical grade bio/copolymers by gram positive bacteria ( <i>Bacillus</i> sps)	
	3	Mass Production of biodegradable Co-polymers from renewable resources	
	4	Production of Biopolymers (PHB and its derivatives) from molasses using <i>A. latus</i>	TR Sreekrishnan
	5	Production of Biopolymers (PHB and its derivatives) from sulfite waste water	TR Sreekrishnan
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	Experimental Investigation of ATP synthesis by chloroplast thylakoids and reconstituted systems	Ravikrishnan
	3	Probing the mechanism of ATP synthesis	Praveen Kaul
PK Roychoudhary	1	Process optimization for bioconversion of rice straw to ethanol	Prashant Mishra
D. Sundar	1	Functionally interacting proteins: Analyses and Prediction	
Shilpi Sharma	1	Microbial production of chitosanase for generation of biologically active chitosan-oligosaccharides	Subhash Chand
	2	Diversity of ACC deaminase positive bacteria in stressed agricultural environments.	VS Bisaria
	3	Evaluation of microbial community structure and function in pesticide contaminated soil using molecular markers	
	4	Efficacy and Risk Assessment of Bioinoculants in <i>Cajanus cajan</i>	VS Bisaria
	5	Effect of application of Bioinoculants and "bioirrigation" for sustainable mixed cropping of pigeon pea and finger millet on rhizospheric community	VS Bisaria
Ritu Kulshreshtha	1	Unraveling the role of microRNAs in hypoxia:reoxygenation biology	
	2	Investigating modulation of miRNA expression in the hypoxic stem cell niche	
Preeti Srivastava	1	Engineering of <i>Dibenzothiphenone monooxygenase</i> (DszC) for enhanced substrate range and improved activity	
	2	Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4	
	3	Biocatalytic viscosity reduction of heavy crude oil	M.P. Singh, IOC, 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	High precision localization of elongated fluorescent objects	

**MSR projects approved by DRC (as on Nov 18, 2013)**

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
AK Srivastava	1	Production of Biopolymers (PHB and its derivatives) from glycerol	
	2	Production of bio/co polymers using cheese whey	
	3	Scale up of PHB production using <i>Azohydromonas australica</i>	
Prashant Mishra	1	Silver nanoparticles: Preparation, assembly and conjugation with proteins for anti-microbial and analytical applications	
Saroj Mishra	1	Synthesis of glycol-conjugates using engineered beta-glucosidase I of <i>Pichia etchellsii</i>	
D. Sundar	1	Studies on isoprenoid biosynthesis in <i>Escherichia coli</i>	VS Bisaria
Shilpi Sharma	1	Diversity of ACC deaminase positive bacteria in stressed agricultural environments.	VS Bisaria
Ritu Kulshreshtha	1	Identification of micro RNAs involved in Chikungunya pathogenesis	Pratima Ray (AIIMS)
Preeti Srivastava	1	Engineering of Dibenzothiphene monooxygenase (DszC) for enhanced substrate range and improved activity	
Ravikrishnan Elangovan	1	High precision localization of elongated fluorescent objects	
	2	Purification of flagellin from <i>Salmonella enteritidis</i> and study its flexural rigidity	
	3	Preparation of synthetic thick filament from chicken skeletal muscle	