

Department of Biochemical Engineering and Biotechnology
DRC MEETING NOTICE
(DRC-01/2015-2016)

Sept 22nd, 2015

The first meeting of *Departmental Research Committee* (DRC) for the academic session 2015-2016 was held on **Wednesday, Sept 16th, 2015** at **03:30 PM** in the Committee Room (I- 230) of the Department.

The following members were present:

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

At the outset of the meeting Chairman welcomed new member Dr. Preeti Srivastava and thanked members of past DRC for their support.

Item No 1. To confirm the minutes of the 6th meeting of the DRC for the session 2014-2015 (*DRC-06/2014-2015*) held on July 10, 2015.

The Minutes of the DRC meeting No. 6/2014-2015 were confirmed as circulated.

Item No 2. To report the matters arising from minutes of Meeting No. 06/2014-2015 and action taken.

Item # in DRC Meeting No. 06/2014-2015	Brief description	Gist of the decision of the DRC	Action taken / Present status
3	Application received from Mr Sunil Kumar (2011BEZ8480) requesting for extension of Institute Assistantship starting July 01, 2015.	Approved	Forwarded to Dean Academics
4	Application received from Mr S. Premnath (2010BEZ8764) requesting for extension of Institute Assistantship starting July 01, 2015	Approved	Forwarded to Dean Academics
5	Request for conversion of MSR registration to PhD programme, received from MSR student, Mr Ashish Lohar (2014BEY7503)	Approved	Forwarded to Dean Academics
6	Formation of Student's Research Committee (SRC) for PhD student, Raju Kumar (2014BEZ8266)	Constituted	Forwarded to DR PGS&R
7	Synopsis of the MSR thesis submitted by the following students	Approved	Forwarded to Dean Academics
8	Application received from MSR student, Ms Ankita (2014BEY7502), for summer internship	Approved	Forwarded to Dean Academics

	in Germany.		
9	Correction/modification for QIP-Admission Information brochure for admission in M.Tech and Ph.D. under QIP for the year 2016-2017	Modified	Forwarded to Coordinator QIP
11	Application received from Ms Ria Banerjee (2014BEZ8004) requesting a break for one semester	Approved	Forwarded to Dean Academics
12	Consideration of project proposals submitted by the Departmental Faculty, for funding from national agencies	Approved	Forwarded to Dean IRD
15	Report on Comprehensive Examination and Approval of Research Plan of Mr Vidhu S. (2013BEZ8510)	Approved	Forwarded to Dean Academics by supervisor
17	Progress report of PhD students for grading DTD899	Approved	Forwarded to Dean Academics
18 (iv)	Application received from Mr Anees Kaprakkaden (2012BEZ8192) for conversion of his PhD registration from full time to part time	Approved	Forwarded to DR PGS&R. However, request was later withdrawn by supervisors.

Item No 3. Discussion on scheduling the written PhD Comprehensive examination in September 2015

It was decided to conduct the Ph.D. written comprehensive examination on 29-30th September 2015. Prof. A. K. Srivastava and Dr. Preeti Srivastava will coordinate the setting of question papers and conduct the examination.

Item No 4. New projects floated by departmental faculty for PhD and MS(R) students

Proposals for new projects floated by departmental faculty members was discussed and approved. Final list of projects to be floated for Ph.D and MS(R) students, based on faculty members' slot availability is given in Annexure 1. It was decided to first float the projects for PhD students followed by that for MS(R) students to avoid any clash. The convenor was authorized to collect preferences from the new Ph.D. students in two weeks from the date of floating the list of projects. For projects involving a co-supervisor from outside IIT Delhi, the supervisors were requested to initiate the process of seeking approval from Dean Academics. Also, as the project floated by Dr R. Elangovan required BSL2 facility, the same may kindly be submitted to IBSC for due approval.

Item No 5. SRC for MTP students, Sem I, 2015-2016

The SRC for MTP students was finalised as in Annexure 2.

Item No 6. Synopsis of the PhD thesis titled "Mass scale production of shikimic acid from different biological sources" submitted by Ms Swati Shalini (2010BEZ8163) (supervisor Prof A K Srivastava)

Based on the recommendations of the SRC, the Committee discussed and approved the synopsis submitted by Ms. Swati Shalini. 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 7. Proposal titled "Integrated computational and experimental analyses to resolve the mechanisms of bioactivities in Ashwagandha leaves: focus on old age pathologies" submitted by Dr D. Sundar (as PI) with Dr R. Kulshreshtha (as Co-PI) for funding from DST under Indo-Japan Cooperative Science Programme.

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 8. Proposal entitled "Metagenomic isolation and study of novel D-aminoacid amidase enzymes for industrial applications" submitted by Dr Sujata Sinha to DST under WOS-A, under the mentorship of Prof Prashant Mishra

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. Request by Dr. D. Sundar for inclusion of Dr Renu Wadhwa as Joint Supervisor for PhD student, Ms. Vidhi Malik (2014BEZ8267)

The request was considered favourably. The committee authorised the Chairman to forward the same to Dean (Academics).

Item No 10. Requests received for change of MTP supervisor and/ or topic

The requests received from Ashwin Shrikumar and Anita Bai Meena for supervisor and title change were considered and approved as follows:

Student	Topic	Supervisor
Ashwin Shrikumar	Fouling studies during microfiltration of treated waste water	Prof G P Agarwal
Anita Bai Meena	Microwave assisted biocatalysis by amidase	Prof M N Gupta & Prof Prashant Mishra

Upon requests by supervisors of Mayank Bharadwaj and Anshika Gupta their MTP topics were changed as follows:

Student	Topic	Supervisor
Mayank Bharadwaj	Complete removal of nitrate from sewage using hybrid sponge reactor	Dr Z. Ahammad
Anshika Gupta	Functional characterization of miR-891a in glioblastoma	Dr Ritu Kulshreshtha

Item No 11. Discussion on evaluation of BED851-854

The following evaluation criteria were decided for evaluation of BED851-854 with immediate effect:

BED851 / 853

CRITERION	MAX MARKS
Understanding of the project	25
Work done	10
Written report	10
Presentation	5
TOTAL	50

BED852 / 854

CRITERION	MAX MARKS
Work done	30
Written report	15
Presentation	5
TOTAL	50

The Internal experts of SRCs were requested to pass on the complete break-up of marks by all committee members to the MTP coordinator within a day of completion of the evaluation.

For students for whom 'A' grade is proposed for Major project Part II, the mandatory requirement was an 'A' grade awarded independently by all SRC members in both Part I and II.

Item No 12. Matters for information of DRC

(a) The Women Scientist Proposal of Dr. Manju Singh entitled "Investigating the ayurvedic medicinal plant *Boerhavia diffusa* as a therapeutic drug for treatment of jaundice" has been sanctioned now under the mentorship of Dr D. Sundar.

(b) PhD student Ms. Jaspreet Kaur Dhanjal (2013BEZ8509, supervisor Dr D Sundar) has been awarded CSIR-SRF (effective from Oct 01, 2015). She is currently receiving Institute Assistantship. As and when she receives the official award letter from CSIR, she will switch to CSIR-SRF.

Item No 13. Any other item with the permission of Chair

(i) Formation of Student's Research Committee (SRC) for the following PhD students:

S. No	Student	Entry Number	Supervisor
1	Sonia Gupta	2014BEZ8391	Z. Ahammad
2	Aditya Prakash Soni	2014BEZ8264	Z. Ahammad

The Committee discussed and constituted the SRC for Ms Sonia Gupta and Mr Aditya Prakash Soni (Annexure 3). Regarding including Prof David Graham from Newcastle University, UK as co-supervisor for Mr Soni, Dr Z. Ahammad was requested to initiate the process of seeking approval from Dean Academics. Request for including Prof Sreekrishnan as co-supervisor for Ms Sonia Gupta was not considered favourably in view of six ongoing PhD students under the supervision of Prof Sreekrishnan.

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

Shilpi Sharma
(Member, officiating Convenor)

Distribution

All DRC members and other DBEB faculty (by email)

Cc: DRC File

Projects for PhD students only

Supervisor I		Project title	Supervisor II
Prof S. Mishra	1	Strategies for improvement of human serum albumin production in <i>Pichia pastoris</i> (Available only for Part-Time PhD students)	
	2	Evaluation of laccase variants for degradation of complex dyes	P. Srivastava
Prof G P Agarwal	1	Succinic acid production and its separation via nanofiltration	P. Srivastava
Prof V S Bisaria	1	Improved production of malic acid by redirection of cellular metabolism in a suitable bacterial host	P. Srivastava
Prof P Mishra	1	Engineering and nano-delivery of Azurin protein for cancer therapy	
Dr S. Sharma	1	Evaluation of microbial community structure and function in pesticide contaminated soil using molecular markers	

Projects common for both PhD and MS(R) students

Prof G P Agarwal	1	Protein transmission investigations through ultrafiltration for moderately high-pressure range (> 100 Kpa).	
	2	Mixed sugars fermentation for alcohol production with the help of nanofiltration	Atul Narang
Prof Sunil Nath	1	Measurement of oxygen exchange by mass spectrometry for probing the mechanism of ATP synthesis by ATP synthase: A splendid molecular machine.	R. Elangovan
	2	Probing the mechanism of ATP synthesis	R. Elangovan
Prof Atul Narang	1	Genetic engineering of <i>Pichia stipitis</i> for improved ethanol production	
Dr D Sundar	1	Bioinformatics insights to the manipulation of hypoxia signalling for cancer metastasis treatment by natural products	Dr Renu Wadhwa, AIST, Japan
Dr S. Sharma	1	Non-dairy probiotics for Indian market	
Dr R. Elangovan	1	Isolation and detection of rare cells on Lab on chip device	
Dr. P. Srivastava	1	Chromosome Segregation in <i>Rhodococcus erythropolis</i> PR4	
	2	Engineering of Dibenzothiphenone monooxygenase (DszC) for enhanced substrate range and improved activity	
	3	Isolation and characterization of promoters from <i>Gordonia</i>	
Dr. Z. Ahammad	1	Efficiency comparison of conventional wastewater treatment systems in removing emerging pollutants	
	2	AD Doctor - development of process monitoring strategy for operating anaerobic digesters	

Projects for MS(R) students only

Prof V S Bisaria	1	Stabilization of cellulolytic enzymes and their applications	
Prof Saroj Mishra	1	Synthesis of glycol-conjugates using engineered beta-glucosidase I of <i>Pichia etchellsii</i>	
Prof P Mishra	1	Cloning and functional expression of amidase gene from <i>Delftia acidovorans</i> in <i>E. coli</i> .	
	2	Cloning and functional expression of aminoacid racemase gene from a bacterial isolate in <i>E. coli</i> .	
Dr. S. Sharma	1	Characterization of toxin from <i>Lactobacillus</i>	
Prof G P Agarwal	1	Protein transmission investigations through ultrafiltration for moderately high-pressure range (>100 Kpa).	
	2	High Cell Density Microbial Cells for Ethanol Fermentation from biomass hydrolysate	T R Sreekrishnan
Dr R 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	
Dr R. Kulshreshtha	1	Regulatory and functional dissection of SNORD115 in glioblastoma	
Prof A K 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>	
	4	Mass production of bio/copolymer using <i>Azohydromonas australica</i> & <i>A. eutropha</i> in novel reactor configurations.	
	5	Continuous production of Biopolymers (PHB and its derivatives) from by-product of biodiesel industry (glycerol) using high cell density cell culture.	
	6	Production of biopolymers (PHB and its derivates) from sulfite waste water	
	7	Scale up of continuous cultivation with cell retention for mass production of bio-pesticide (Azadirachtin) by Plant Cell Cultures	
	8	Scale up of mass scale production of shikimic acid (raw material for TAMIFLU) by Plant Cell Cultures	
Prof T R Sreekrishnan	1	Production of biopolymers (PHB and its derivates) from mollasses using <i>A. latus</i>	
	2	To study and establish optimum recovery protocol for PHB/Copolymers	
Dr Z. Ahammad	1	Mitigating the risk of heavy metals and emerging contaminants in the environment	T R Sreekrishnan

ANNEXURE 2

S.No	Entry #	Project title	Student	Supervisor I	Sup II	Int Expert
1	2011BB50001	Study of Ethanol production on xylose using <i>Pichia stiptis</i>	Amit Prakash	GP Agarwal		VSB
2	2011BB50002	Antimicrobial effect of nanoformulations	Amit Kumawat	Prashant Mishra		RE
3	2011BB50003	Development of magnetic tweezers to trap magnetically labeled	Anandu S Mukundan	Ravikrishnan E		SN
4	2011BB50004	Performance comparison of sponge reactor and activated sludge process to treat domestic sewage	Anirudh Mittal	Ziauddin Ahammad		TRS
5	2011BB50005	Functional characterization of miR-891a in glioblastoma	Anshika Gupta	Ritu Kulshreshtha		DS
6	2011BB50006	Mass propagation of callus in new bio reactor designs for shikimic acid production	Archit Raj	AK Srivastava		AN
7	2011BB50007	Printing of protein micro-array using desktop printer	Ashish Nain	Ravikrishnan E		PS
8	2011BB50008	Evolution study of the single cell organisms chromosome wise	Ashish Gangwar	GP Agarwal		DS
9	2011BB50009	Mass production of shikimic acid in bioreactors	Ashutosh Mishra	AK Srivastava		GPA
10	2011BB50010	Survivability of bioinoculants in rhizosphere	Atul Choudhary	Shilpi Sharma		VSB
11	2011BB50011	Effect of gene dosage on production of Granulocyte Colony Stimulating Factor	Avantika Choudhary	Saroj Mishra		PS
12	2011BB50012	Estimation of intracellular cAMP level in <i>E. coli</i>	Avinash K. Bharti	Atul Narang		DS
13	2011BB50014	Developing methods for microRNA inhibition	Charul Agrawal	Ritu Kulshreshtha		DS
14	2011BB50015	Studies on newer reactor designs for cultivation of hairy root cultures on inert solid support	Chhavi Gupta	AK Srivastava		SC
15	2011BB50016	Effect of additives on enzymatic hydrolysis of lignocellulosic substances	Devesh Mohnot	VS Bisaria		SC
16	2011BB50017	Membrane based processing of Molasses.	Gaurav Ghosh	GP Agarwal		AN
17	2011BB50018	A deeper look at souring and anaerobic reactor failures	Girish Mittal	TR Sreekrishnan		GPA
18	2011BB50019	Characterization of SRBs consortia used for heavy metal ions remediation	Inukurthi Manoj	GP Agarwal		ZA
19	2011BB50021	Investigating the role of N-terminus residues in laccase functioning	Jitender Kumar	Saroj Mishra		RK
20	2011BB50022	Treatment of coke oven effluent using microbial fuel cell	Jyoti	Z. Ahammad		TRS
21	2011BB50023	Capture of rare cells using immuno-magnetic enrichment system	Kalki Kukreja	Ravikrishnan E		PM
22	2011BB50024	Isolation and identification of proteins induced by sulfur starvation	Kokkula Prashanth	Preeti Srivastava		SM
23	2011BB50025	Studies on newer reactor designs for cultivation of plant cells on inert solid support	Komal Saini	AK Srivastava		SN
24	2011BB50027	Development of a shuttle bacterial one hybrid system	Md Aamir Meraj	P. Srivastava		RK
25	2011BB50028	Studies on newer reactor designs for Bio-polymer production	Meghank Garg	A K Srivastava		AN
26	2011BB50030	Microwave assisted biocatalysis by amidase	Ms Anita Bai Meena	M N Gupta	PM	PS

27	2011BB50031	Granulation properties of hydrogen producing dark fermentation bacteria	Nikita Gupta	TR Sreekrishnan		ZA
28	2011BB50032	CO2 sequestration through the anaerobic route	Parth Garg	TR Sreekrishnan		ZA
29	2011BB50033	Scalable enzyme purification process	Payal Jawalkar	M N Gupta	PM	SM
30	2011BB50035	Isolation of mitochondria and their visualization by fluorescence microscopy	Rahul Kumar	Sunil Nath		RE
31	2011BB50036	To study the substrate specificity of Amidase	Saorabh Kumar	Prashant Mishra		MNG
32	2011BB50037	Treatment of domestic sewage using algal bioreactor	Shashank Karnawat	Z. Ahammad		GPA
33	2011BB50038	Localization of chromosomal loci in Rhodococcus erythropolis PR4	Siddhant Malviya	Preeti Srivastava		SS
34	2011BB50042	Fungal production of the platform chemical 6-pentyl-alpha pyrone	Varsha Kumari	Atul Narang		AKS
35	2011BB50043	Bioimprinting of Lipases	Vikrant Mehta	Prashant Mishra		SM
36	2011BB50044	Probiotic potential in India food	Vinayak Maheshwari	Shilpi Sharma		SC
37	2011BB50045	To study corona effect on nanoparticles	Vinayak Shandilya	Prashant Mishra		MNG
38	2011BB50046	To study the synergistic effect of two pretreatment methods of lignocellulosic residues	Vishal Sanduja	VS Bisaria		SN
39	2011BB50047	Assessment of plant growth promoting potential of a few bioinoculants	Yogita Meena	V S Bisaria	SS	SC
40	2011BB50020	Complete removal of nitrate from sewage using hybrid sponge reactor	Mayank Bharadwaj	Z. Ahammad		GPA
41	2008BB50007	Fouling studies during microfiltration of treated waste water	Ashwin Srikumar	G P Agarwal		AKS

Student's Research Committee (SRC) for PhD student

Student	Chairman, DRC or his nominee	One expert in the field from the department	One Institute faculty expert, preferably in the concerned area, from outside the department to which the student belongs	Supervisor
Sonia Gupta 2014BEZ8391	Prof A K Srivastava	Prof G P Agarwal	Prof. Anil K. Saroha (Chemical Engineering), IITD	Dr. Z. Ahammad
Aditya Prakash Soni 2014BEZ8264	Prof Atul Narang	Prof T R Sreekrishnan	Dr. Arun Kumar (Civil Engineering), IITD	Dr Z. Ahammad & Prof. David Graham (Newcastle University, UK)