

Department of Biochemical Engineering and Biotechnology

**Minutes of the meeting of
Departmental Research Committee (DRC)
(DRC-07/2016-2017)**

April 26, 2017

The seventh meeting of the *Departmental Research Committee* (DRC) for the academic session 2016-2017 was held on **Wednesday, April 26, 2017** at **12 noon** in the Committee Room (I-230) of the Department.

The following members were present:

Prof. T.R. Sreekrishnan (*Chairman*)
Prof. Atul Narang
Prof. Saroj Mishra
Prof. A.K. Srivastava
Prof. Prashant Mishra
Dr. Shilpi Sharma
Dr. Ritu Kulshreshtha
Dr. Ziauddin Shaikh Ahammad
Dr. Ashish Misra
Dr. D. Sundar (*Convener*)

Item No. 1 - To confirm the minutes of the 6th meeting of the DRC for the session 2016-2017 (DRC-06/2016-2017) held on March 29, 2017.

The Minutes of the DRC meeting No. 06/2016-2017 were confirmed as circulated.

Item No. 2 - Matters arising out of the minutes of DRC-06/2016-2017.

None

Item No. 3 - Entrance Test/interview for admissions to PhD and MSR Programs (2017-2018, 1st Semester).

The Chairman informed the committee about the schedule for PG admissions for 2017-2018, 1st Semester. Dr. D. 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 for PhD on May 15, 2017 (monday). Based on the details of MSR applications presented by Dr. Ritu Kulshreshtha, it was decided to conduct only personal interview for MSR candidates on May 16, 2017 (tuesday). Prof. Saroj Mishra will coordinate the setting of question paper. A Committee consisting of Dr. Z. Ahammad & Dr. Ashish Misra and Dr. Shilpi Sharma & Dr. Ritu Kulshreshtha was constituted for vetting of the examination questions in Engineering and Bioscience sections respectively. The conduct of written examination and evaluation of answer scripts will be managed by a Committee consisting of Prof. Saroj Mishra, Dr. Shilpi Sharma, Dr. Ritu Kulshreshtha, Dr. Z. Ahammad and Dr. Ashish Misra. All the departmental faculty were requested to be available on May 15 & 16, 2017 to participate in the conduct of entrance test and interview. The details of PhD slots available as on April 20, 2017 is given in **Annexure - 1**.

The schedule for the PhD and MSR admissions were finalized as given below:

	Day	Time	Activity
1	May 15, 2017 (Monday)	8:30 AM	All the shortlisted candidates for the PhD program will report for the written test
2		9:00 – 10:00 AM	Written test for PhD program
3		< 12 noon	Announcement of list of qualified candidates for the interview for PhD program
4		12:30 PM onwards	Verification of original documents of the candidates who have been shortlisted for the interview for PhD program
5		1:00 PM onwards	Interview for candidates who have qualified in the PhD written admission test
6	May 16, 2017 (Tuesday)	9:00 AM onwards	Verification of original documents of the candidates who have been shortlisted for the interview for MSR program
7		9:30 AM onwards	Interview for candidates who have qualified in the MSR written admission test

Item No. 4 - Finalization of results of the PhD written Comprehensive Exam conducted on April 17 & 18, 2017

The Committee finalized the results of the PhD written Comprehensive Exams conducted on April 17 & 18, 2017 and approved the list of successful students who have passed the examination as given below:

Sl. No.	Entry Number	Name of the student
1	bez158354	Manju
2	bez158355	Rohit Khandelwal
3	bez158503	Jyoti Sharma
4	bez168009	Navodit Kumar Singh

Item No. 5 - Allotment of major projects for students who will be pursuing BTP-1 and MTP.

The Committee approved the allotment of projects for students who will be pursuing BTP-1 and MTP based on the choices and availability (**Annexures 2 and 3**). However, the allotment of projects for some students was yet to be finalized because of clash in the submitted preferences. It was recommended that these students should submit fresh choices of projects after discussing with the faculty members (**Annexure 4**).

(Action: Dr. Shilpi Sharma)

Item No. 6 - A request received from Mr. Ritesh Kumar (2010BB500032) for allotment of fresh project for his MTP-2.

The Committee recommended that the student be asked to continue on the same project entitled 'Carrier free immobilization of lipases and proteases' under the mentorship of Prof. Prashant Mishra and Prof. M.N. Gupta, with whom the student had earlier done his MTP-1.

(Action: Mr. Ritesh Kumar to report to the Supervisors after fresh registration)

Item No. 7 - A note received from Dr. Ashish Misra about the PhD project floated for Arun Thapa

The Committee discussed the objections raised by Prof. V.S. Bisaria & Dr. Preeti Srivastava for Dr. Ashish Misra to work on the topic 'Engineering *Zymomonas mobilis* for the production of high value isoprenoids'. It was concluded that objection to pursue a particular line of research couldn't be raised by faculty members just on the grounds of competing interests. However, Dr. Ashish Misra along with the SRC, was advised to ensure that the student's academic interests is not compromised due to any possible overlap.

Item No. 8 - Awards for Dual Degree Students – (a) BOSS (b) Ujjwal Jeewan Charitable Trust

Sl.	Name of the award	Amount of award	Criteria of selection
1	BOSS Award	Rs. 10,000/-	<ul style="list-style-type: none">Award to encourage B.Tech./Dual degree students for experimental/design based hardcore projects in the area of their specialization.Participation and presentation in the Institute, Tryst or some other prestigious event to be given due credit during evaluation.
2	Ujjwal Jeewan Charitable Trust Award	Medal	For the best all rounder M.Tech student in the department

Noting that these awards for meant for the graduating batch of dual degree students (2016-2017), the Committee recommended that the MTP coordinator Dr. Shilpi Sharma seek nominations from students before they complete the MTP requirements and present the nominations for consideration of the DRC in the beginning of Semester 1, 2017-2018.

(Action: Dr. Shilpi Sharma)

Item No. 9 - Application for PhD program received through ICCR.

On scrutiny of the application, the Committee decided to interview the candidate *Ms. Fatehmeh Khosravi Nohooji* over Skype on May 15, 2017 to find out her suitability for admission to PhD program in the Department.

(Action: Convener DRC)

Item No. 10 – To report the matters for ratification by the DRC.

a) *The Committee ratified the approval accorded by the Chairman DRC or Head of the Department on the following projects proposals submitted by the Departmental Faculty:*

Sl.	Project Title	Project Investigators	Funding Agency
1	Managing the Risks of Antimicrobial Pollution in New Delhi	Z.A. Shaikh (PI) TR Sreekrishnan (Co-PI)	DST-NERC-EP SRC

2	Biotechnology for the recovery of germanium, indium and copper from industrial copper dust waste (Bio-CuInGe)	Z.A. Shaikh (PI) TR Sreekrishnan (Co-PI)	IGSTC
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b) *Research Scholar Travel Award application of the following PhD student was forwarded to Dean (Academics) during the past two months:*

Sl.	Student	Entry Number	Conference
1	Tushar Das	2011BEZ8420	18 th Tetrahedron Symposium, June 27-30, 2017; Budapest, Hungary

Item No. 11 - Any other item with the permission of the Chair.


a) *A note received from Prof. V.S. Bisaria to mentor an applicant for National Postdoctoral Fellowship of DST*

Since Prof. V.S. Bisaria is due for retirement in a few months time, the Committee decided that the application for National Postdoctoral Fellowship could be forwarded if any other departmental faculty can serve as the main mentor. Prof. Bisaria could then serve as the Joint Mentor.

b) *A note received from Prof. Sunil Nath for consideration of the application of Dr. Arindam Kushagra for the Institute Postdoctoral Fellowship to work under his mentorship*

It was decided that the application of Dr. Arindam Kushagra would be considered along with other applicants for Institute Postdoctoral Fellowship in due course of time.

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

PhD Slots as on April 20, 2017

Department/ Centre/ School	*Sanctio- ned Faculty Strength	Institute Assistantship												Total Instt. Assistantship			Students in Addl. Categories			Total of All Categories		
		GEN			SC			ST			OBC			S	P	V	QIP#1	FN#1	PH#1	S	P	V
		S	P	V	S	P	V	S	P	V	S	P	V									
Applied Mechanics	27	42	24	18	12	2	10	6	0	6	22	4	18	81	30	51	1	0		270	80	190
D.B.E.B	18	28	14	14	8	3	5	4	0	4	15	7	8	54	24	30	1			180	52	128
Chemical Engg.	31	48	23	25	14	5	9	7	0	7	25	10	15	93	38	55	0	3		310	139	171
Chemistry	28	43	21	22	13	0	13	6	0	6	23	4	19	84	25	59				280	125	155
Civil Engg.	47	73	56	17	21	11	10	11	1	10	38	11	27	141	79	62	10	11		470	238	232
Computer Sc. & Engg.	31	48	15	33	14	0	14	7	0	7	25	0	25	93	15	78	0	3		310	48	262
Electrical Engg.	57	88	92	-4	26	9	17	13	2	11	46	14	32	171	117	54	5	1	2	570	314	256
Hum. & Soc. Sc.	37	57	35	22	17	2	15	8	0	8	30	4	26	111	41	70	1	1		370	96	274
Mathematics	25	39	9	30	11	0	11	6	0	6	20	1	19	75	10	65				250	45	205
Management Studies	22	34	27	7	10	6	4	5	0	5	18	4	14	66	37	29	1	0		220	120	100
Mechanical Engg.	44	68	53	15	20	9	11	10	1	9	36	15	21	132	78	54	6	5	1	440	169	271
Physics	43	66	27	39	19	7	12	10	1	9	35	13	22	129	48	81	0	0		430	171	259
Textile Technology	24	37	12	25	11	2	9	5	0	5	19	3	16	72	17	55	0	0		240	52	188
C.A.R.E.	12	19	14	5	5	2	3	3	0	3	10	3	7	36	19	17	1	0		120	44	76
C.A.S.	16	25	14	11	7	1	6	4	0	4	13	4	9	48	19	29				160	43	117
C.B.M.E.	11	17	10	7	5	0	5	2	0	2	9	3	6	33	13	20	1			110	54	56
C.E.S.	24	37	18	19	11	3	8	5	0	5	19	10	9	72	31	41	1	1		240	96	144
C.P.S.E.	7	11	10	1	3	1	2	2	1	1	6	0	6	21	12	9				70	29	41
C.R.D.T.	11	17	13	4	5	2	3	2	0	2	9	4	5	33	19	14				110	64	46
I.T.M.M.E.C.	6	9	6	3	3	1	2	1	0	1	5	4	1	18	11	7		1		60	20	40
I.D.D.C.	13	20	7	13	6	2	4	3	0	3	11	2	9	39	11	28				130	20	110
School of Biological Sc.	12	19	15	4	5	1	4	3	0	3	10	1	9	36	17	19		0		120	63	57
TRIPP	0	3	2	1	1	0	1	0	0	0	2	0	2	5	2	3				12	11	1
NRCVEE	0	2	0	2	1	0	1	0	0	0	1	0	1	4	0	4				0	6	-6
B.S.T.T.M.*		10	10	0	3	0	3	2	0	2	5	1	4	20	11	9				80	44	36
Amar Nath School of I.T*		7	10	-3	2	0	2	1	0	1	4	1	3	13	11	2				50	27	23
Total	546	867	537	330	253	69	184	126	6	120	456	123	333	1647	735	945	28	26	3	5602	2170	3432

** Faculty for B.S.T.T.M and Amar Nath School of I.T. is not shown as they do not have Permanent Faculty.

Allotment of topics for BTP-1

Sl.	Entry Number	Student	Topic	Supervisor
1	2014BB10058	Shashank Garg	To develop newer recovery and purification protocols for PHB	AKS
2	2014BB10061	Sonakshi Bhatia	To develop newer production protocols for PHB derivatives	AKS
3	2014BB10033	Bhave Chaitanya Vidyadhar	Metabolic modeling and analysis for predicting host strain improvements	AM
4	2014BB10040	Jatin Mittal	Affinity capture and detection using a PDMS device	AM
5	2014BB10052	Rashmi Yadav	Expression of reporter gene to check stability of shuttle vectors in Bacillus species	AM
6	2014BB10063	Varsha Seshadri	Replication and expression of broad host range plasmids in gram negative bacteria	AM
7	2014BB10064	Vatan Goyal	Affinity capture and detection using a PDMS device	AM
8	2014BB10023	Aditi Agrawal	Analysis of a mathematical model of the <i>mel</i> and <i>lac</i> operons of <i>E.coli</i>	AN
9	2014BB10043	Kartikeya Singh	Kinetics of ethanol production by <i>Pichia stipitis</i>	AN
10	2014BB10041	Jatin Kohar	Preparation of magnetic nanoparticles for purification of amidase	PM
11	2014BB10030	Ayushi Agrawal	Localization of FtsZ-GFP in <i>Rhodococcus erythropolis</i>	PS
12	2014BB10055	Saurabh Srivastava	Characterization of a Fructosyl amino acid oxidase mutant	PS
13	2014BB10047	Pankaj Yadav	Rapid and specific digestion of genomic DNA with rare endonucleases	RE
14	2014BB10056	Saurabh Parikh	High through put screening assays for enzymes	RE
15	2014BB10042	K Vinay	Hif bio-sensor	RK
16	2014BB10050	Randheer Kumar	Design and construction of miRNA sponges	RK
17	2014BB10051	Neha Rangari	Purification and characterization of fructosyl transferase from <i>Microbacterium paraoxydans</i>	SM
18	2014BB10053	Satyajeet Kumar	evaluation of adsorbant for enrichment of fructo-oligosacharrides from sugar reaction mixture	SM
19	2014BB10025	Ankit Kumar Kaswan	Computer simulation of rotary biological transport models	SN
20	2014BB10031	Barath Kumar S	Studies on crystallization of proteins	SN
21	2014BB10035	Gajraj Singh Yadav	Computer simulation of ATP synthesis	SN
22	2014BB10048	Pradhan Siddhant Sameer	Computer simulation of photosynthesis	SN
23	2014BB10022	Abhi Jain	Effect of toxic compounds on biofilm formation and on well-developed biofilms	TRS
24	2014BB10026	Ankit Kumar	Transport limitations in biofilms	TRS
25	2014BB10028	Anurag Dani	A mathematical model for the transport and biodegradation of pollutants in natural water bodies	TRS
26	2014BB10036	Ganji Umesh Chandan	Transport limitations in Biofilms	TRS
27	2014BB10057	Shantanu Mathankar	Surface specificity for attachment by methanogenic bacteria	TRS
28	2014BB10021	Abhay Karol	Effect of cross linking reagents on activity of cellulytic CLEA	VSB
29	2014BB10034	Deepak Kumar	Effects of additives on enzymatic hydrolysis of lignocellulosic substrate	VSB
30	2014BB10054	Saumya Goyal	Impact of Bisphenol A on antibiotic resistance proliferation	ZAS
31	2014BB10059	Shaurya Malhotra	Evaluation of antimicrobial effect of the common species	ZAS
32	2014BB10065	Vijayant Pratap	Impact of heavy metals on antibiotic resistance proliferation	ZAS

Allotment of topics for MTP

Sl.	Entry Number	Student	Topic	Supervisor
1	2013BB50035	Saurabh Sharma	Mass production of medical grade biopolymers in two stage bioreactor	AKS
2	2013BB50019	Kumar Sahaj	To study mass propagation of hairy roots of <i>A. annua</i> for secondary metabolite production in nutrient sprinkle bioreactor	AKS
3	2013BB50040	Shubham Maddheshiya	To study mass propagation of hairy roots of <i>C. roseus</i> for secondary metabolite production in nutrient sprinkle bioreactor	AKS
4	2013BB50018	Kshitij Rai	Use of auxotrophies for culturing bacteria	AM
5	2013BB50009	Deepak Kumar Jat	Analysis of a mathematical model of the mel and lac operons of <i>E.coli</i>	AN
6	2013BB50021	Malla Paramesh	Kinetics of recombinant protein synthesis by <i>Pichia pastoris</i>	AN
7	2013BB50044	Tishya Kapoor	Computational analysis of genomic big data	DS
8	2013BB50022	Mira Kabra	Investigation of potential action mechanism of herbal drugs	DS
9	2013BB50038	Shreya Pal	Computational insights for improved genome editing	DS
10	2012BB50033	Raghav Kumar	Bioconversion of D-amino acid amidase to respective acids using <i>Ensifer meliloti</i> amidase	PM
11	2013BB50003	Aniruddh Yadav	Localization of partitioning proteins in <i>Rhodococcus erythropolis</i>	PS
12	2013BB50005	Bijjiga Jayaram	Cloning and characterization of a promoter	PS
13	2013BB50006	Bintu Kumar Meena	Cloning, expression and characterization of a transcriptional regulator	PS
14	2012BB50007	Anant Preet	Isolation of circulating miRNA	RE
15	2013bb50017	Kaluram Ninama	Linearization of DNA molecules in nano channels	RE
16	2013BB50042	Sparsh	Study the hypoxia regulated miRNA in cancer	RK
17	2013BB50048	Palash Gupta	Predicting inhibitors for cancer treatment	RK
18	2013BB50008	Jayant Darokar	Study the role of mediator subunit in cancer	RK
19	2013BB50037	Shilpa Kamboj	Developing a membrane/adsorption based process for separation of sugars from fructo-oligosaccharides	SM & GPA
20	2013BB50028	Rishabh Sethi	Biologically-inspired design of a quantum computer	SN
21	2013BB50012	Dhruv Bhalla	Computer simulations of biological transport models	SN
22	2013BB50023	Naresh Kumar Meena	Approaches to the crystallization of membrane proteins	SN
23	2013BB50024	Prashant Pandey	Effect of textile on its microbial load	SS
24	2013BB50016	Jayant Nahata	Anaerobic treatment using thermophilic methanogenesis	TRS
25	2013BB50025	Priyanka Jalwan	Colour removal from waste waters using high cell density bioreactors	TRS
26	2013BB50046	Vageesh Gupta	Performance of common effluent treatment plants (CETPs) of Delhi	TRS
27	2013BB50043	Swati Agrawal	Magnetic Combi-CLEAs of cellulase and xylanase - Synthesis and application	VSB
28	2013BB50014	Ekatmika	Effect of microparticles on production of cellulolytic enzymes in <i>Trichoderma / Aspergillus</i>	VSB
29	2013BB50045	Tushar Khandelwal	Evaluating the role of sewage treatment systems on antibiotic resistance proliferation	ZAS
30	2013BB50020	Kunal Chaudhary	Treatment of sewage using high rate sponge reactor	ZAS

List of students for whom project topic is yet to be allotted**BTP-1**

Sl.	Entry Number	Student
1	2014BB10029	Archit Kumar

MTP

Sl.	Entry Number	Student
1	2013BB50029	Rishi Dayanand
2	2013BB50026	Priyanshu Agarwal
3	2013bb50010	Devendra Singh
4	2012bb50041	Nikhil Kanojia
5	2013BB50013	Divya Chaudhary
6	2013BB50002	Ajay Singh Dhayal
7	2013BB50047	Yatish Agrawal
8	2013BB50036	Shailly Dharawat
9	2013BB50004	Arogya Rajkumar Gummadi
10	2012BB50042	TRK Saran
11	2013BB50034	Satyarth Gupta
12	2013BB50027	Raj Kumar
13	2012BB50021	Ramesh Chand Meena

The above students should submit fresh choices of projects to the BTP/MTP Coordinator Dr. Shilpi Sharma, after discussing with the faculty members. The currently available project topics are listed below. Students are recommended to discuss their research interests with the departmental faculty members, so that the concerned faculty could float new MTP projects.

List of available projects

Sl.	Topic	Supervisor
1	To study mass cultivation of callus of <i>Azadirachta indica</i> in a newly developed bioreactor design	AKS
2	Expression of reporter gene to check stability of shuttle vectors in <i>Bacillus</i> species	AM
3	Kinetics of ethanol production by <i>Pichia stipitis</i> .	AN
4	Extractive fermentation of 6-pentyl pyrone by <i>Trichoderma atroviride</i> .	AN
5	Preparation of molecularly imprinted polymers for separation of pharmaceutical drugs	PM
6	Evaluating parameters affecting whole cell catalyzed synthesis of fructo-oligosaccharides.	SM
7	Efficient decomposting of rice straw using microbial consortia	SM & SS (CRDT)
8	Identification of core microbiome in <i>Vigna</i>	SS
9	Effect of nitrogen on granulation of methanogenic bacteria	TRS