

## Department of Biochemical Engineering and Biotechnology

### Minutes of the meeting of Departmental Research Committee (DRC) (DRC-01/2017-2018)

July 18, 2017

The first meeting of the *Departmental Research Committee* (DRC) for the academic session 2017-2018 was held on **Tuesday, July 18, 2017** at **10 AM** in the Committee Room (I-230) of the Department.

The following members were present:

Prof. T.R. Srekrishnan (*Chairman*)  
Prof. Atul Narang  
Prof. Prashant Mishra  
Prof. Shilpi Sharma  
Prof. Ritu Kulshreshtha  
Prof. Preeti Srivastava  
Prof. Ravikrishnan Elangovan  
Prof. Ashish Misra  
Prof. D. Sundar (*Convener*)

#### **Item No. 1 - To confirm the minutes of 8<sup>th</sup> meeting of the DRC for the session 2016-2017 (DRC-08/2016-2017) held on May 15, 2017.**

The Convener, while giving details of the comments received from Prof. Shilpi Sharma on the Committee formed to conduct PhD entrance exam for 1<sup>st</sup> Semester 2017-2018, sought the confirmation of the minutes. The members agreed to confirm the minutes of the DRC meeting No. 07/2016-2017 item # 3 by correcting the composition of the formed Committee excluding Prof. Shilpi Sharma.

#### **Item No. 2 - Matters arising out of the minutes of DRC-08/2016-2017.**

The committee noted that the request of MSR student Mr. Arif Nissar Zargar (2016BEY7504) [item # 5 of DRC-08/2016-2017] for conversion of full time MSR registration to PhD program was approved by Dean (Academics) w.e.f. Semester 2, 2016-2017. The Committee recommended that Prof. Preeti Srivastava, Supervisor of Mr. Zargar, submit request to DRC for constitution of SRC for the student.

#### **Item No. 3 - Allotment of major projects for students who will be pursuing MTP.**

The Committee approved the following allotment of projects for the remaining students who will be pursuing MTP:

Sl.	Entry Number	Student	Topic	Supervisor
1	2010BB50042	Talabathula Raval Kanaka Saran	Identification of core microbiome in <i>Vigna</i>	SS
2	2012BB50041	Nikhil Kanojia	Efficient decomposing of rice straw using microbial consortia	SM & SS (CRDT)
3	2013BB50047	Yatish Agrawal	Bioethanol production by <i>Pichia stipitis</i>	AN

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

The Plan of Work for PhD submitted by the following students were discussed, and based on the recommendations of the respective SRCs, it was approved:

Sl.	Student	Entry Number	Supervisor(s)	Title of the thesis
1	Rishabh Shukla	2015BEZ8351	ZAS	Efficiency comparison of conventional wastewater treatment systems in removing emerging pollutants
2	Srishti Srivastava	2015BEZ8353	RK	Investigating the role of mediator complex in glioblastoma multiforme
3	Manju	2015BEZ8354	SM & PS	Degradation of complex dyes present in textile effluents using engineered laccase

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

**Item No. 5 - Synopsis of the PhD thesis titled ‘Study of limiting flux for mixture of proteins during ultrafiltration’ submitted by Mr. Sunil Kumar (2011BEZ8480).**

The Committee discussed and approved the synopsis submitted by the PhD student Mr. Sunil Kumar. The Committee also approved the panel of Examiners and authorized the Chairman to forward the same to Dean (Academics).

*(Action: 1 Thesis 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 by email)*

*(Action 2: Upon receipt of the above documents, Chairman DRC to forward it to Dean - Academics)*

**Item No. 6 - Synopsis of the MSR thesis titled ‘Bioinformatics insights to the effect of CAPE and its analogues on hypoxia signaling: relevance to cancer metastasis’ submitted by Ms. Anjani Kumari (2015BEY7502).**

The Committee discussed and approved the synopsis submitted by the MSR student Ms. Anjani Kumari. The Committee also approved the panel of Examiners and authorized the Chairman to forward the same to Dean (Academics).

*(Action: 1 Thesis Supervisor 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 by email)*

*(Action 2: Upon receipt of the above documents, Chairman DRC to forward it to Dean - Academics)*

**Item No. 7 - A note received from Prof. G.P. Agarwal seeking recommendation for providing Assistantship to his PhD student Mr. Sunil Kumar (2011BEZ8480) from one his sponsored projects in IRD.**

The Committee discussed & approved the award of Assistantship to the PhD student Mr. Sunil Kumar (2011BEZ8480) from one of the sponsored projects of Prof. G.P. Agarwal through IRD.

*(Action: Prof. G.P. Agarwal)*

**Item No. 8 - Award of grade for the course DTD899 (Doctoral Thesis) – Semester 2, 2016-2017.**

It was informed by the Chairman that PhD students were required to submit their Progress Reports for Semester 2, 2016-2017 in the online system (<http://academic.iitd.ac.in/academic>) by July 10, 2017 and the Supervisors were to record their recommendations as satisfactory or unsatisfactory in the online-generated PDF report. The Committee authorized the Chairman DRC to award the letter grade X (satisfactory progress) or U (unsatisfactory progress) for the PhD students, based on the recommendations of the Supervisors, and forward it to Dean (Academics).

*(Action: Chairman DRC)*

It was noted that the following students have completed five years or more in the PhD program and based on the recommendations of the respective supervisors, the Committee approved the registration of the students beyond 5 years.

Sl.	Entry	Reg #	Student	Supervisor(s)
1	2012 Entry	bez128188	Arpita	SM
2	2011 Entry	bez118228	Anamika Singh	AN
3	2011 Entry	bez118420	Tushar Dash	PM
4	2011 Entry	bez118423	Anveshika Aditya	AKS
5	2011 Entry	bez118424	Neeti	PM
6	2011 Entry	bez118480	Sunil Kumar	GPA
7	2010 Entry	bez108762	Shraddha Maitra	AN
8	2010 Entry	bez108763	Surbhi Goel	PM
9	2010 Entry	bez108846	Ritesh Kumar Aggarwal	AN

These students are required to register for the DTD899 doctoral thesis course in the new semester and the requirement of submitting progress report each semester along with the recommendations of the Supervisor/SRC will continue until the thesis is submitted.

*(Action: Concerned students and their supervisors)*

**Item No. 9 - Allotment of Projects to 2017 July-entry PhD and MSR students.**

The Committee decided the following schedule for allotment of projects to 2017 July-entry PhD and MSR students:

Sl.	Activity	Date
1	Submission of new PhD and MSR projects by faculty members	July 28, 2017
2	Approval of the PhD and MSR projects by DRC members (by circulation)	Aug 08, 2017
3	PhD and MSR students to submit their choices of three projects	Aug 31, 2017
4	Allotment of projects by DRC	Sep 1 <sup>st</sup> /2 <sup>nd</sup> week

*(Action: Convener DRC)*

An updated list of DRC approved Ph.D. and MSR projects available for allocation is given in **Annexure - 1**.

**Item No. 10 - A request received from Ms. Deeksha Singh (currently PhD student in CSIR-ICB, Kolkata) for the possibility of transferring to our Department for completion of her PhD program.**

The Chairman informed that the Institute doesn't accept transfer students. However, it was recommended that the candidate may be advised to apply for a fresh PhD program in the Department if she is interested and fulfils the criteria.

*(Action: Convener DRC to inform the candidate)*

**Item No. 11 – 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	Functional characterization of differentially regulated microRNAs in cancer	Ritu Kulshreshtha (PI) <i>Collaborator</i> - Stella Aronov, Ariel Univ, Israel	INSA – Bilateral Exchange Program
2	Portable device for early stage and cost-effective diagnosis of typhoid in 6 hours	Ravi Elangovan (PI) Co-PI – Valetude Primus Healthcare Pvt Ltd	CSIR – NMITLI
3	Development of a point-of-care (POC) diagnostic panel for rapid detection and stratification of bacterial septicemia in critically-ill patients	Shalini Gupta, ChE (PI) Co-PIs - Ravi Elangovan , Hemant Kashyap (Che), Nidhi Jain (Che)	DST – Nano Mission

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	Gautam Anand	2013BEZ8024	FEMS 2017 – Federation of European Microbiological Societies, 7 <sup>th</sup> Congress of European Microbiologists, July 9-12, 2017; Valencia, Spain

**Item No. 12 - To report the matters for information of the DRC**

- The DRC Convener appraised the DRC members about the status of admission to PhD and MSR program. It was informed that 10 students have joined in the PhD program and 7 students have joined in the MSR program.

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

a) ***Nomination for FITT Award for Best Industry relevant PhD/MSR/Dual Degree projects:***

The Committee was informed that the DRC convener had emailed the departmental faculty seeking nomination by July 18, 2017. It was noted that no nomination has been received so far. The Committee authorized the Chairman DRC to scrutinize and forward any eligible nomination that may be received before the deadline.

**b) Report on Comprehensive Examination and Approval of Research Plan of the PhD students Mr. Arun Thapa (2015BEZ8357) and Mr. Shashi Kumar (2015BEZ8358)**

The Plan of Work for PhD submitted by the following students were discussed, and based on the recommendations of the respective SRCs, it was approved:

Sl.	Student	Entry Number	Supervisor(s)	Title of the thesis
1	Arun Thapa	2015BEZ8357	AM	Engineering of <i>Zymomonas mobilis</i> for the production of fumaric acid
2	Shashi Kumar	2015BEZ8358	TRS & GPA	High cell density for ethanol production from biomass hydrolysate

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

**c) Synopsis of MSR thesis submitted by Ms. Shikha Gupta and Ms. Asmita Pandey.**

Sl.	Student	Entry Number	Supervisor(s)	Title of the thesis
1	Shikha Gupta	2015BEZ8351	RK	Regulatory and Functional dissection of SNORD115 in Glioblastoma
2	Asmita Pandey	2015BEY7503	VSB	Preparation of magnetic cross linked enzyme aggregates of cellulolytic enzymes and their application in hydrolysis of wheat straw


(Action: 1 Thesis 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 by email)

(Action 2: Upon receipt of the above documents, Chairman DRC to forward it to Dean - Academics)

**d) The Committee approved the following projects proposals submitted by the Departmental Faculty:**

Sl.	Project Title	Project Investigators	Funding Agency
1	Interdisciplinary cluster on design and development of novel genome engineering tools for functional and translational genomics	D. Sundar (PI) (Other PIs are from JNU, NIPGR, AIIMS)	DBT
2	Dual targeting of Akt/mTOR and Keap-1/Nrf-2 pathways for developing highly efficacious Drugs for the Treatment of Oral Cancer	D. Sundar (PI) (PI from collaborating Institution - Dr. Ajai Kumar, IIT Guwahati)	DBT

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

## Updated list of PhD projects approved by DRC and available for allotment in the future

(as on July 18, 2017)

Sl.	Supervisor 1	Supervisor 2	Potential PhD research topic
1	AKS		Mass production of bio/copolymer using <i>Azohydromonas australica</i> and <i>A. eutropha</i> in novel reactor configurations.
2	AKS		Production of biopolymers (PHB and its derivatives) from sulfite waste water
3	AKS		Scale up of continuous cultivation with cell retention for mass production of bio-pesticide (Azadiractin) by plant cell cultures
4	PM		Engineering of Lipase for their application in reigo and stereoselectivity
5	SN	RE	Measurement of oxygen exchange by mass spectrometry for probing the mechanism of ATP synthesis by ATP synthase: A splendid molecular machine
6	SN	RE	Probing the mechanism of ATP synthesis
7	AN		Production of platform chemical 6-pentyl- $\alpha$ -pyrone (6PP) by <i>Trichoderma atroviride</i>
8	DS		Computational genome analysis
9	DS	Renu Wadhwa, AIST, Japan	Bioinformatics insights to the manipulation of hypoxia signalling for cancer metastasis treatment by natural products
10	SS		Non-dairy probiotics for Indian market
11	SS		Biotic and abiotic factors affecting healthy Indian adult microflora
12	PS		Engineering of Dibenzothiphene monooxygenase (DszC) for enhanced substrate range and improved activity
13	PS		Regulation of dsz operon
14	RE		Visualizing processive molecular motors using single molecular fluorescence techniques
15	RE		Development of nano metal substrate for single molecule fluorescence detection