DEPARTMENT OF BIOSCIENCES AND BIOENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

ANNUAL REPORT

APRIL 2015 to MARCH 2016

ANNUAL REPORT: DEPARTMENT OF BIOSCIENCES AND BIOENGINEERING
IIT Guwahati

(PERIOD: 1 APRIL 2015 – 31 MARCH 2016)

1. **Year of Establishment of the Department /Centre:** Indian Institute of Technology, Guwahati established Department of Biotechnology in the year 2002. In the year 2015, the department was renamed as Department of Biosciences and Bioengineering.
2. **Academic Programmes Offered:** The Department offers B. Tech., M. Tech., and PhD programmes. The department also organizes conferences, workshops, and quality improvement programs for training and hands-on-experience in biotechnological tools and techniques. The department also offers for summer intership for external students.
3. **No. of Laboratories with brief introduction: (Total No: 40) Brief Description of each:** The department spans the N and O blocks of the institute occupying approximately 3637 squared meters. Around 40% of the total are is dedicated for running the laboratory courses of the B. Tech. and M. Tech. academic programmes. Currently the department holds 30 individual research laboratories working in diverse field of biological sciences.

These laboratories include:

1. APPLIED BIODIVERSITY LAB: Addresses the research questions in areas of Applied Biodiversity with special reference to bioresources of Northeast India using an integrative approach
2. BIOCHEMICAL ENGINEERING LAB: Addresses the research questions in areas of Bioprocess development (upstream to downstream), Metabolic Engineering, Bioenergy.
3. BIOENGINEERING RESEARCH LAB: Addresses the research questions in areas of Biomedical Engineering, Biodiversity and Bio-entrepreneurship
4. BIOINTERFACE ENGINEERING LAB: Addresses the research questions in areas Surface and interfacial science particularly in the area of Bio-interfaces and Biomaterials
5. BIOMATERIAL AND TISSUE ENGINEERING LAB: Addresses the research questions in areas of developing lab grown tissue/organ replacements for human transplantation
6. BIOMEDICAL SCIENCES LAB: Addresses the research questions in specific group of calcium permeable ion channels called store operated calcium channels
7. BIOPAT LAB: Addresses the research questions in building quality in to products by innovation process design
8. BIOPHYSICAL CHEMISTRY LAB: Addresses the research questions on peptides based antibiotics, protein/peptide aggregation and peptide membrane interactions.
9. BIOPROCESS DEVELOPMENT LAB: Addresses the research questions on development for various value added products using microbes as a cell factory like biodiesel, bioethanol and butanol production.
10. BIOSENSOR LAB: Addresses the development rapid detection methods such as, lab-on-chip and biosensors for clinical applications.
11. CALCIUM SIGNALLING LAB: Addresses the research questions on calcium signaling, Genetics, DNA repair.
12. CANCER BIOLOGY LAB: Addresses the research questions on cancer development, diagnosis and its treatment
13. CARBOHYDRATE ENZYME BIOTECHNOLOGYLAB: Addresses the research questions on structural and functional proteomics of carbohydrate active enzymes and other industrial microbial enzymes
14. COMPUTATIONAL AND CELL CULTURE LAB:
15. ENZYME APPLICATIONS LAB: The lab focuses on understanding the chemical basis of enzymes which renders them their biological function.

16. FUNGAL BIOTECHNOLOGY RESEARCH LAB: The lab focuses on

    i) Biological control
    ii) DNA fingerprinting and Transformation studies
    iii) Studies on extracellular enzymes and toxic metabolite production
    iv) Development of a potent biopesticide
17. INFECTIOUS DISEASE BIOLOGY LAB
18. INTEGRATED BIOPROCESSING LAB
19. K P LAB: The labspecializes on biological removal of pollutants (organic/inorganic) and resource recovery from wastes.
20. MALARIA RESEARCH LAB: The laboratory has focused on the biological and molecular processes driving malaria related functional abnormalities with-in brain, liver and immune cells of the host.
21. MECHANISTIC APPROACHES TO BIOLOGY LAB: The main interest of this lab is in RNA Biology concerns with the mechanistic understanding of CRISPR-Cas adaptive immune system, Ribosome Assembly and Riboswitch mediated gene regulation.
22. MOLECULAR INFORMATICS AND DESIGN: The research is focused on 1) Development of peptide based antibiotics and tumor targeting drug delivery systems 2) Design of bio-nano assemblies and devices 3) Development of 'target' and 'small molecule' profiling systems for specific applications and 4) *in silico* and *in vitro* approaches to understand protein-aggregation and neuro-degeneration.
23. MOLECULAR MICROBIOLOGY LAB: Addresses the research questions in the development of diagnostics and vaccine for spirochetes.
24. PLANT TISSUE CULTURE AND SECONDARY METABOLITE PRODUCTION: Focus of the Laboratory

    - Micropropagation / Clonal-propagation of elite medicinally and economically valuable plants for mass multiplication.
    - *In vitro* Double-haploid and Triploid production to improve the plant yield and quality.
    - Cytological and Histological studies of *in vitro* raised cultures to understand their development and origin.
    - Somatic - embryogenesis for synthetic seed production.
    - Protoplast isolation and regeneration for single cell cloning and isolation of mutants.
    - Selection of elite cell lines for high yield of Secondary Metabolites of industrial importance.

25. PLANT TISSUE CULTURE ROOM-R.C. LAB
26. PROTEIN BIOCHEMISTRY AND MOLECULAR PARASITOLOGY LAB:
27. PROTEIN BIOPHYSICS LAB.
28. Stem and Cancer Biology Lab: Through collaborations with hospitals in the North East, the lab studies the therapeutic use of stem cells in tissue repair and regeneration. We also study chemo-resistance in several cancers with special focus on bone metastasis.
29. STRUCTURAL & COMPUTATIONAL BIOLOGY LAB (2 Nos.): In this laboratory, researchers try to use the knowledge of various techniques such as computational biology, molecular biology, structural biology (X-ray Crystallography) and biophysical and biochemical studies to understand the mechanism of different biological functions. At the computational Biology/Chemistry group research is focused on understanding the speed and accuracy of translation using Computer Simulations.
30. VIRAL IMMUNOLOGY LAB: Working on virology and immunology of major animal and poultry pathogens.

"In addition, the dry lab courses are conducted in the "Computational Biology Laboratory located in the O-block. The department also houses a "Bioinformatics Infrastructure Facility" funded by the

Department of Biotechnology, India. The laboratories are well-equipped for smoothly carrying out the experiments of the academic curricula.

Approximately 40% of the total space is dedicated to the research laboratories. The research laboratories are used for carrying out the routine experiments. For specialized experiments, department hosts a "Cell Culture Laboratory", a "Spectroscopy Laboratory". Apart from the departmental instruments housed at different locations within the department, the department has a DBT funded Program Support Instrument Facility (N-block, ground floor).

The technical staffs of the department support the smooth conduct of experiments and maintenance of the laboratories. Most of the laboratories and faculty rooms are equipped with centralized air conditioning facilities. The laboratories are equipped with adequate furniture, chemical, glassware, and water supply units, maintained by the individual project grants and the IIT facility.

4. Major Equipment and Facilities acquired during 1 April 2015 – 31 March 2016:

Sl. No.	Equipment	Qty.	Location	Status	Received/ Installed
1.	Refrigerator	03	Faculty members (Newly joined)/ Lab	**P.O. out** for 03 nos. (RO)	Yes
2.	Refrigerator	02	Faculty members (Newly joined)/ Lab	Fresh indent raised, **P.O. out**, 09.03.2016	Yes
3.	Water purifier	01	'O' Block, HoD office	**P.O. out**	Yes
4.	Peristaltic pump	01	Store	**P.O. out**, INVOICE NO. 638 Dt. 18-08-2015 FOR Rs. 43891-00, sent by S&P to F&A on 18.02.2015 (BMR no. 3030)	Yes
5.	Spectrophotometer	01	B.Tech/ M.Tech Lab	Sanction sheets submitted on 240316	
6.	Balance (4 decimal)	02	B.Tech/ M.Tech Lab (01 no.) and DCIF, gr. floor ('O' block, 01 no.)	**P.O. out** Payment pending for one (01), Inspection report submitted to office on 02032016	Yes
7.	Autoclave (table top)	02	B.Tech/ M.Tech Lab	**P.O. out**,70316	
8.	Ultra Low Temp. freezer	03	B.Tech/M.Tech Lab	**P.O. out** (RO) for 01 no.; Fresh indent raised for 01 more on 230216, Sanction sheets submitted for 01 no. on 240316	
9.	Magnetic Stirer cum	02	B.Tech/	**P.O. out**	Yes

	Hot plate		M.Tech Lab (Store)		
10	Inverted Microscope with fluorescence	01	DCIF	Quotes received, being processed (Technical bid done)	
11	Chiller	03	B.Tech/M.Tech Lab	**P.O. out**, 0070316	
12	Compressor	02			
13	Scanner Auto duplex, in-built LAN support, 40 pages per…..	01	HOD office	**P.O. out**	
14	Nikon 5mp ccd Camera	01	DCIF	**P.O. out**	
15	Chemidoc	01	DCIF	**P.O. out**	

5. **Major Areas of Research and Development:** The major thrust of the department includes biochemical engineering, tissue engineering, plant biotechnology, environmental biotechnology, nanobiotechnology, molecular biology, stem cell biology, gene therapy, computational biology, cancer biology, infectious diseases and proteomics. Keeping in mind the demands of the modern biotechnological research, the plans for establishing advanced research facilities are underway. In addition department is also involved in promoting science and education in the north east pertaining to the field of biotechnology by organizing workshops, symposium and seminar.

6. **Outreach programme:**

Schools	**Date**	**Activities**	**Student participants**
Delhi Public School Guwahati	1st Oct 2015	Brief presentation by Dr. Sachin Kumar on departmental activities, laboratory demonstration and visit to department common facility in groups	60, XI level Science Students along with their few teachers
Bongaigaon Rly. H.S. School, Bongaigaon	7th March 2016	Brief presentation by Dr. Sachin Kumar on departmental activities, laboratory demonstration and visit to department common facility in groups	50 +2 level Science Students along with their few teachers
Botany Department, Handique Girls' College, Guwahati	18th March 2016	Brief presentation by Prof. Rakhi Chaturvedi on Tissue culture and its scope, Laboratory demonstration and visit to department common facility in groups	30 students of both UG and PG of Botany Department
Department of Molecular Biology and Biotechnology	19th March 2016	Brief presentation by Dr. Ranjan Tamuli on departmental activities and visit to department	11 students of Integrated MSc 4th Semester along with a

(MBBT), Tezpur University		common facility in groups	few faculty members

7. Major initiatives and breakthrough in Research and Development during 1 April 2015 – 31 March 2016:

Prof A. Ramesh:

1. Rationally designed low molecular weight synthetic amphiphiles and their metal complex have been exploited in antibacterial and antibiofilm applications by developing delivery systems based on biocompatible nanomaterials. Another significant research endeavor has focused on exploring small molecule ligands as sensors for metals and anions having healthcare implications. Target analyte detection has been achieved both in solution as well as in live cells using imaging tools.

Dr Sachin Kumar:

2. Analysis of complete genome sequence of Newcastle disease virus (NDV) from Northeast.
3. Report of first outbreaks of NDV and infectious bursal disease virus (IBDV) from Northeast.
4. Development of diagnostics against Newcastle disease virus using recombinant phosphoprotein.
5. Development of diagnostics against classical swine fever virus using recombinant envelope protein

Dr Manish Kumar:

6. Dr Manish Kumar molecular microbiology laboratory has deciphered the architecture of *Leptospira* CRISPR- Cas subtype I-B and has further elucidated the biochemical characteristics of one of the core Cas proteins of *Leptospira*, Lep_Cas2. This study supports their hypothesis that one of the possible reasons for difficulty in genetic manipulation of pathogenic form of *Leptospira* in comparison to saprophytic form of *Leptospira* is due to the existence of functional CRISPR-Cas defense system only in pathogenic form of *Leptospira.*

Dr. Vikash Kumar Dubey:

7. Conserved hypothetical proteins, LdBPK_070020, was found to be novel drug target against Leishmania. LdBPK_070020 gene knocked out Leishmania has several morphological changes and impaired growth and infectivity (Arch Biochem Biophys. 2016,596,10-21).
8. We report a novel molecule, PS-203 {4-(4,4,8-trimethyl-7-oxo-3-oxabicyclo[3.3.1]non-2-yl)-benzoic acid methyl ester}, as effective against a miltefosine-unresponsive strain of the parasite. Further, combinations of PS-203 with miltefosine were also showed promising results against a miltefosine-unresponsive strain (Antimicrob Agents Chemother. 2015, 59, 7826-9).

Dr L. M. Pandey:

9. Kinetic studies of attachment and re-orientation of octyltriethoxysilane for formation of self assembled monolayer on a silica substrate.
10. Dual Effect of copper ion on the aggregation behavior of Albumin.

Prof. P. Goswami:

Novel fabrication method for paper based microfluidic diagnostic platform developed that prevents sample leakage during tests and thereby reducing the cost of laminating both sides of the device. New design and method for preparing the test zone of paper based microfluidic device with hassle-free spotting of reagents and treatment of the test zone was also developed

and validated with both chemical and biomolecule targets. The prepared device requires low sample volume, involves reduced cost of production, and enables the integration of customized test zones.

Dr. Biman B. Mandal:

Our "Biomaterial and Tissue Engineering" laboratory is granted a "Unit of Excellence" status by DBT at Biosciences and Bioengineering Department, IIT Guwahati. We have focused on a number of tissue engineering projects generously funded by Government of India towards affordable human healthcare using natural resource North-East silk as a biomaterial. To name a few, in our research group, we are working towards developing transplantable "**human corneas**" for vision restoration and "**bioartificial pancreas**" for sustained delivery of insulin to diabetic patients. We are further developing narrow diameter "**human blood vessels**" for by-pass surgery patients. These vessels are of advanced level as compared to existing products in the market. In one of our International collaborative projects, we are developing "**human skin**" grafts and "**smart wound dressings**" specifically targeted for diabetic ulcer patients. To combat back pain, cartilage and bone degeneration, we are developing "**intervertebral disc**" for slip disc patients and "**bone implants**" for patients with soft tissue/bone damage.

Prof. R. Swaminathan:

A steady state fluorometer has been built in our lab by Mr. Alark S. Kulkarni (M.tech Student) using mostly indigenous components.

Prof. Siddhartha Sankar Ghosh:

1. Gene Therapy: Our group is mainly focused in developing 'Gene Therapy Vectors'. We have established molecular mechanism of cell death via apoptotic signaling in suicide gene therapy. Combination therapy involving various cytokines, cell signaling molecules and nanomaterials is another area of our interest.
2. Nanobiotechnology: We are pursuing interdisciplinary collaborative research at the Centre for Nanotechnology on "nanoparticles and nanocomposites". We are developing new nanoclusters for the potential applications as sensors, antimicrobial and anticancer agents.

Dr. L. Sahoo:

The laboratory has developed transgenic cowpea and mungbean for salinity tolerance through overexpressing vacuolar sodium proton transporter gene. The lab has recently characterized of cowpea isolates of Begomo viruses severely infecting cowpea in India, demonstrated that broad-spectrum resistance in transgenic cowpea using RNAi technology against cowpea-begomoviruses. Besides, the lab has developed transgenic Jatropha with improved oil quality and mustard for tolerance to both drought and salinity.

Dr. Yasufumi KOBAYASHI

1) Novel aluminum stress signaling mediated by MPK6-related MAP cascade in Arabidopsis for implementing in acid soil agriculture
2) Expression regulation of iron and copper deficiency responsive genes by excess copper stress in Arabidopsis for low nutrient soil agriculture
3) Molecular analysis of VuSTOP1 overexpression in cowpea to contribute in acid-soil stress tolerance.

Dr Rakhi Chaturvedi:

11. Her work on two complex tree specis where she developed in vitro Haploids and Triploids of Neem, and Haploids of Tea that has brought the Tissue Culturists a step closer to develop homozygous diploid (Pure) lines amenable to generate hybrid vigour which otherwise is impossible to achieve conventionally.
12. To develop a process for simultaneous recovery of three important anti-cancer pentacyclic triterpenoids - *Betulinic, Oleanolic and Ursolic acids* - from *L.camara* and an antimalarial alkylamide, *spilanthol* - from *S.acmella,* for the first time, using *in vitro* raised cell biomass.

8. Research Projects:

a) New Sponsored Projects (Total No: 17)

Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration
Dr. Bithiah Grace Jaganathan	Study of Cancer Promoting Role of CD90/THY1 in Leukemia Associated Stroma	DBT	25	Dr. Anil M Limaye	3 years
Dr. Bithiah Grace Jaganathan	BMP signalling in osteolytic bone metastasis of breast cancer	ICMR	20	Dr. Anil M Limaye Dr. Gayatri Gogoi (AMCH)	2 years
Dr. Vikash Kumar Dubey	Unit of excellence in Molecular and Biochemical Parasitology: Investigation on evolutionary pressure for unique redox metabolism of *Leishmania* parasite	DBT	105.55	Dr. Manish Kumar	2015-18
Dr. Vikash Kumar Dubey	Optimization of novel antileishmania scaffold 4-(4,4,8-Trimethyl-7-oxo-3-oxabicyclo[3.3.1]non-2-yl)-benzoic acid methyl ester, a oxabicyclo[3.3.1]nonanones: A mechanistic study	DBT	25.66	Dr. Anil K Saikia, Dept of Chemistry, IITG	2015-17
Prof. S.S. Ghosh	DBT Programme Support on Fundamental Molecular Investigations in Biotechnology - Phase II	DBT	Total Amount : 723.04 Lakhs (it includes the entire project containing one Core-II and four R&D	Prof. P. Goswami Prof. L. Sahoo Dr. B. Bose Prof. A. Ramesh	2016 onwards

Prof. S.S. Ghosh	CORE –II grant	DBT	grants) 248.76 Lakhs (amount sanctioned for the Core-II grant)	Prof. P. Goswami Prof. L. Sahoo Dr. B. Bose Prof. A. Ramesh	2016 onwards
Prof. S.S. Ghosh	Investigation on the Molecular Mechanism of Nanomaterial-Cellular Interactions to Develop Potential Therapeutics.	DBT	89.09 Lakhs (amount sanctioned for the R&D grant-I)	Dr. B. Bose Prof. A. Ramesh	2016 onwards
Prof. P. Goswami (PI)	Studies and Application of Redox Enzymes for Bioelectronics Devices	DBT	145.34 Lakhs (amount sanctioned for the R&D grant-II)	Prof. S.S. Ghosh	2016 onwards
Dr. B. Bose (PI)	Design Principles in the Molecular Network of an Oncofetal Protein	DBT	84.23 Lakhs (amount sanctioned for the R&D grant-III)	Prof. S. S. Ghosh	2016 onwards
Prof. L. Sahoo (PI)	Development of Abiotic Stress Resilient Tropical Pulses Through Tailoring of ABA Receptor Genes	DBT	155.62 Lakhs (amount sanctioned for the R&D grant-IV)	Dr. B. Bose	2016 onwards
Dr. B. Anand	Mechanistic Insights into the Functional Landscape of Sensory and Regulatory RNAs	DST-SERB	29.96	-	3 yrs
Dr. B. Anand	Mechanistic Insights into the Adaptation Stage of CRISPR-Cas Immune System	DBT	43.23	-	3 yrs
LalitPandey	Thermodynamics of Protein Aggregation in Bulk Solution and in the presence of Surfaces	DST	35	NA	5
Vibin	Design and Characterization	CSIR India		-	24

Ramakrishnan	of Polypeptide constructs as Prototypes for Bio-sensing and Imaging Applications.		10.67 Lakhs		months
Dr. Biman B Mandal	Electrospun Silk Bioglass Scaffold for Interfacial Tissue Engineering	INDO-UK (DST-UKIERI) International grant	15.5	Dr. P. Sukumar (BSBE) Dr. R. Konwarh (BSBE)	2 years
Dr. Biman B Mandal	North East Silk Biomaterial Based Injectable Hydrogels for Drug Delivery and Tissue Engineering.	DBT (Unit of Excellance)	134.00	N/A	3 years

b) Ongoing Sponsored Projects (Total No: 39)

Principal Investigator	**Name of Project**	**Sponsoring Agency**	**Amount Sanctioned (Rs. in Lakh)**	**Co-Investigator**	**Duration**
Prof. Gopal Das	Design and Synthesis of Amphiphiles and its Interaction with Biomolecules	Science & Engineering Research Board New Delhi	38.0	Prof. A. Ramesh	2013-2016
Anil M. Limaye	Investigations into estrogen regulation of cystatin A expression in breast cancer cells and its role in proliferation and migration	DBT	24.85	Dr. Sachin Kumar	3 yrs (2015-2018)
Anil M. Limaye	A multifaceted research program to investigate the role of the G-protein coupled estrogen receptor (GPR30) in the normal and neoplastic breast: molecular investigations using *in vitro*, *in vivo* and clinical	DBT	78.85 (total) 36.95 (IITG)	Dr. Sachin Kumar, Dr. Vandana Raphael (NEIGRIHMS) and Dr. Deepak Modi (NIRRH)	3 yrs (2014-2017)

	approaches.				
Prof. Gopal Das	Design and Synthesis of Amphiphiles and its Interaction with Biomolecules	Science & Engineering Research Board New Delhi	38.0	Prof. A. Ramesh	2013-2016
Shankar Prasad Kanaujia	Structural and functional studies of translation initiation factors from *Pyrococcus horikoshii* OT3	DBT	52.90	Dr. Vikash Kumar Dubey	3 years
Shankar Prasad Kanaujia	Understanding the mechanism of substrate delivery through solute-binding proteins related to ABC transporters	DST	47.19	None	4 years
Shankar Prasad Kanaujia	Elucidation of the substrate delivery and specificity mechanism of solute-binding proteins cognate to the ABC transporters	DST	24.00	None	3 years
Dr. Manish Kumar	Deciphering the role and architecture of CRISPR/Cas defense system in *Leptospira interrogans*	DBT	47.95	Dr. Shankar Prasad Kanaujia	2013-2016
Dr. Manish Kumar	Modulation of gene expression in *Leptospira interrogans* exposed to human catecholamine hormone	SERB, DST	23.5	None	2013-2016
Sachin Kumar	INSPIRE faculty award for New castle disease	Department of Science and Technology	35	NA	2012-2017

	virus				
Sachin Kumar	Improved Infectious Bursal Disease Virus Vaccines Using Newcastle Disease Virus Vector	Department of Biotechnology	72.04	Dr Nitin Chaudhary	2012-2015 (extended for 6 months)
Sachin Kumar	Role of N-glycans of Newcastle disease virus fusion protein in the host immune signaling molecules	Department of Atomic Energy	16.8	NA	2013-2016
Sachin Kumar	Adenoviral based diagnostics for Japanese encephalitis virus	Indian Council of Medical Research	Rs 20.24 Lakhs	Dr Anil Limaye	2015-2017
Dr. Vikash Kumar Dubey	Identification of novel drug targets of *Leishmania donovani:* Studies on CAAX prenyl protease I and II of the pathogen	DBT	73.69		2014-2017
Dr. B. Anand	"Molecular Mechanism of Ribosome Assembly in Bacteria" under "Unit of Excellence in RNA Biology"	DBT	70.202	-	3 yrs
Dr. B. Anand (PI, IITG) Prof. S. Ramaswamy (PI, inStem)	Molecular Mechanism of Target Recognition and Cleavage by the CRISPR-Cas Bacterial Immune System	DBT	122.96	-	3yrs
Dr. B. Anand	Structural and Functional	DBT	59.182	Dr. NitinChaudhary	3yrs

	Characterization of Adaptation Stage of CRISPR-Cas System in Mycobacterium tuberculosis				
Prof Rakhi Chaturvedi	In vitro production of doubled haploids in Tea (*Camellia sinensis* L.).	DBT, New Delhi	64.58	Dr Vishal Trivedi	2014-2017
Dr.Senthilkumar Sivaprakasam	Bioprocess development and optimization of D-lactic acid production from cassava fibrous waste using amylolytic lactic acid bacteria	Council for Scientific and Industrial Research (CSIR)	13	None	3 Years
Dr.Senthilkumar Sivaprakasam	Design and Application of a Robust Process Analytical Technology (PAT) Platform for Real-time Monitoring and Control of Hyaluronic Acid Production	DBT	78.348	Prof. Guhan Jayaraman, IIT Madras	2013-2016
Dr.Senthilkumar Sivaprakasam	Application of Dielectric Spectroscopic Measurements for Real-time Monitoring and Control of High Cell Density Cultivation (HCDC) of *Pichia pastoris* for Production of Glycosylated Human Interferon Alpha2b	DST	20.57		2013-2016
Prof. Venkata V	Development	DBT	38.28400	Dr. Soumen Kr.	2 years

Dasu	of Bioprocess for the production of recombinant interferon gamma (IFNG)			Maiti	
Dr. Soumen Kr. Maiti	Process development for autotrophic algal growth and biofuel production in tubular reactor	IIT Guwahati	5.00	-	2 years
Prof. Arun Goyal	Development of novel thermophilic glycoside hydrolases and carbohydrate binding modules and exploiting their properties for bioethanol production and for food and industrial applications	Indo-Portugal Joint Project, DST, New Delhi	8.04	--	Jun 2014 - Mar-2017
Prof. Arun Goyal	Synthesis, structure and application analyses of glucans from hyper-producing LAB strains from North-east Indian microbial diversity	Department of Biotechno-logy (DBT) New Delhi	26.65	--	Jul 2014 - July 2016
Dr. D. Das	DBT-PAN-IIT Center for Bioenergy (No. BT/EB/PAN IIT/2012) 1. Improvement of hydrolytic enzymes by protein	DBT	92.08 Lakh	Prof. Arun Goyal	Dec 2014 -Dec 2019

	engineering for higher activity and SSF of plant carbohydrates to ethanol (PI) 2. Development of Clostridium sp. as a cell factory for butanol production: Metabolic & biochemical engineering approach.				
Prof. Pranab Goswami	Studies on structure of enzymes and their interaction with nanostructured materials for bioelectronics devices and other applications	DBT India	473.42 lacs	Prof. V. K. Dubey Prof. P. Mahanta	3.5 years
Prof. Pranab Goswami	Development of Bioelectrodes for Biofuel Cell Applications.	MNRE, India	35 Lacs	Prof. P. Mahanta	3 years
Dr. Biman B Mandal	Silk2Heal	INDO-SWEDEN International grant from DBT	74.70	Dr. P. Sukumar (BSBE)	3 years
Dr. Biman B Mandal	Development of novel tissue engineered silk biomaterial based wound dressing patch for diabetic foot ulcers	DBT	56.96	Dr. P. Sukumar (BSBE) Dr. N. Chaudhary (BSBE)	3 years
Dr. Biman B Mandal	Stem Cell Based Bioengineering of Annulus Fibrosus in an Intervertebral Disc model using North-	DST	54.50	N/A	3 years

	East Silk Biomaterials				
Dr. Biman B Mandal	Understanding the role of cellular cross talks for cartilage tissue repair using a 3D co-culture tissue model	DBT- RGYI	39.06	Dr. S. Sivaprakasam (BSBE)	3 years
Dr. Biman B Mandal	Development of bioplastic based sustainable nano-biocomposite food packaging (Sustain Nano-PACK)	DBT	134.13	(Dr. Vimal Katiyar, Chemical Engineering, PI)	3 years
Dr. Nitin Chaudhary	Structural organization of huntingtin exon 1 fibrils	DST	23.8	None	3 years
R. Swaminathan	Investigating the role of protein dynamics on the function of few disordered proteins.	DBT: Biotech Consortium of India Limited, New Delhi	98.2	NONE	3 years
Prof. L. Sahoo	Exploring the binding space to develop an optimal transcriptional control system for abiotic stress tolerance in crops	DBT	111.42	Dr. Biplab Bose	2015-2018
Prof. L. Sahoo	Development of Transgenic Cowpea for Virus Resistance Using the Tool of RNA Interference (RNAi)	DBT	83.34	Dr. Sunil Mukherjee (formerly at ICGEB)	2013-2015
Prof. L. Sahoo	Development of Transgenic Cowpea for Insect	DBT	45.23	Prof. M. V. Rajam (UDSC, New Delhi)	2015-2018

	Resistance through RNA Interference Technology				
Prof. L. Sahoo	Plant probiotics to improve crop production in low nutrient soil	DST-JSPS	11.73 lakhs	Prof. Hiroyuki Koyama (Gifu University, Japan)	2015-2017

c) Completed Sponsored Projects (Total No: 41)

Principal Investigator	**Name of Project**	**Sponsoring Agency**	**Amount Sanctioned (Rs. in Lakh)**	**Co-Investigator**	**Duration**
Anil M. Limaye	The SHBG-R_{SHBG} pathway: insights from prostate cancer cell lines	DST	19.0	NIL	3 yrs
Anil M. Limaye	Modulation of estrogen regulated gene expression by the green tea polyphenol EGCG in ER positive breast cancer cells: A microarray study	ICMR	7.95	NIL	3 yrs
Anil M. Limaye	Real-time PCR based expression profiling of matrix metalloproteinases and their inhibitors in prostate cancer cell lines	DST	24.0	Dr. B. G. Jaganathan	2 yrs
Kannan Pakshirajan	Carbon monoxide conversion using native hydrogenogenic microorganisms for sulphate rich wastewater treatment	Department of Biotechnology (DBT), Government of India	14.45	Prof. G. Pugazenthi, Department of Chemical Engineering, IIT Guwahati	2014-2015
Kannan Pakshirajan	Strategy Development for the mitigation of heavy metals in surface waters around coal mining areas using native	Department of Biotechnology (DBT), Government of India	46.62	-	2012-2015

	cyanobacterial strains				
L Rangan	Molecular and physico-chemical characterization of selected ginger species from North Eastern Region	DBT	52,75	Dr A Parida (MSSRF Chennai) Dr S Mitra (JNU New Delhi)	3 years (2011-2015)
Dr. RanjanTamuli	Studies on the cellular roles of calcium signaling proteins in *Neurospora crassa* (NE-Twining project)	DBT, India.	72.88 (Total), 50.70 (IITG)	Dr. Utpal Bora (IITG)	24.03.2011 -9.10.2015
Dr. Manish Kumar	Purification and characterization of putative outer membrane protein of *Leptospira interrogans*	IITG	5	NIL	2012-15
Dr. Manish Kumar	Purification and characterization of recombinant outer membrane proteins of *Leptospira interrogans* for vaccine and diagnostics	ICMR	10	NIL	2013-16
Dr. Vikash Kumar Dubey	X-ray crystallographic structure elucidation of key drug target enzymes of *Leishmania donovani.*	DBT	72.69		2012-2015 (Completed during period of the report)
Dr. Vikash Kumar Dubey	Studies on trypanothione synthetase, a key enzyme of redox metabolism of *Leishmania donovani*.	DBT	26.73		2012-2015 (Completed during period of the report)
Dr. Vikash Kumar Dubey	DBT-Innovative Young Scientist Project Award Deciphering the molecular	DST	60 .52		2010-2015 (Completed during period of the report)

	mechanism underlying the activity of antitumor agents as antileishmanial agents and their potential for therapy.				
Dr. Vikash Kumar Dubey	Variation in proteome profile of legume plants in response to heavy metal toxicity.*	DST	~25.0	Dr. Anil Verma	2012-2015 (Completed during period of the report)
Dr. Ranjan Tamuli (IITG)	Molecular investigation of epigenetic modifications in exposure to environmental pollution using *Neurospora crassa* as a model system	DBT, Govt. of India	Rs. 55.00 lakhs	Dr. Utpal Bora (IITG)	3 years (2012-2015)
Dr. Utpal Bora (IITG) Dr. Rajlakshmi Devi (Coordinator, IASST) Dr. K. Suresh Babu (IICT)	Identification and characterization of bioactive molecules from some indigenous medicinal plants of NE region of India with special reference to anti-oxidant and hypolipidemic properties	DBT, Govt. of India	Rs 84.8 lakhs	Dr. Ranjan Tamuli (IITG), Dr. Jibon Kotoky (IASST), Dr. A.K. Tiwari (IICT)	3 years (2012-2015)
Dr. Utpal Bora (IITG)	Development of aptamer based molecular diagnostics for breast cancer	DBT, Govt. of India	154.85 lakhs	Dr. Ranjan Tamuli (IITG), Dr. A.C. Kataki (BBCI), Dr. Bibhuti Bhusan Borthakur (BBCI), Dr. Jagannath Dev Sharma (BBCI), Dr. P. Nahar (IGIB)	4 years (2011-2015)

Dr. Utpal Bora (IITG)	Development of silk protein derived artificial nerve growth conduits for neural tissue engineering	Central Silk Board (CSB), Ministry of textiles, Govt. of India	45.30 lakhs	Dr. Ranjan Tamuli (IITG)	3 years (2011-2014)
Dr. Utpal Bora (IITG)	Silk based scaffolds for neural tissue engineering	DBT, Govt. of India	58.44 lakhs	Dr. Ranjan Tamuli (IITG)	3 years (2011-2014)
Dr. Ranjan Tamuli (IITG)	Studies on the cellular roles of calcium signaling proteins in *Neurospora crassa* (NE-Twining project)	DBT, Govt. of India	72.88 lakhs	Dr. Utpal Bora (IITG), Dr. Durgadas P. Kasbekar (CCMB), Dr. Ch. Mohan Rao (CCMB)	3 years (2011-2014)
Dr. Latha Rangan (IITG)	DNAB (DNA Barcoding) based biodiversity inventory in Zingiberaceae of Northeast India	DIT, MCIT, Govt. of India	71.18 lakhs	Dr. Utpal Bora, Dr. L. Sahoo (IITG)	5 years (2008-2013)
Dr. Utpal Bora (IITG)	Electrospun nanofiber scaffolds for hepatic tissue engineering	DBT, Govt. of India	52.55 lakhs	Dr. Pranab Goswami (IITG)	3 years (2007-2010)
Dr. Utpal Bora (IITG)	Nanoparticle mediated targeted siRNA delivery to cancer cell lines	DST, Govt. of India	12.96 lakhs	-	3 years (2007-2010)
Dr. Pranab Goswami (IITG)	Enzymatic biofuel cell for biomedical application	DBT, Govt. of India	35.00 lakhs	Dr. Utpal Bora (IITG)	3 years (2007-2010)
Dr. Pranab Goswami (IITG)	Development of enzyme electrode for the construction of cholesterol biosensor	CSIR, Govt. of India	2.25 lakhs	Dr. Utpal Bora (IITG)	3 years (2007-2010)
Dr. Utpal Bora (IITG)	Synthesis of biodegradable nanocarriers for targeted drug delivery	DBT, Govt. of India	14.686.00	Dr. Pranab Goswami (IITG)	3 years (2006-2009)
Dr. S.K. Khijwania,	Glucose sensor based on	BRNS, Dept. of Atomic Energy,	9.35 lakhs	Dr. Utpal Bora (IITG)	3 years (2005-

(IITG)	evanescent wave induced fluorescence spectroscopy	Govt. of India			2008)
Dr. Ranjan Tamuli (IITG)	Molecular investigation of epigenetic modifications in exposure to environmental pollution using *Neurospora crassa* as a model system	DBT, Govt. of India	Rs. 55.00 lakhs	Dr. Utpal Bora (IITG)	3 years (2012-2015)
Prof. S.S. Ghosh (Project coordinator)	DBT Programme Support on Fundamental Molecular Investigations in Biotechnology - Phase I	Department of Biotechnology (DBT)		Prof. P. Goswami Prof. L. Sahoo Dr. B. Bose Prof. A. Ramesh Dr. S. Patra	2008-2015
Prof. S.S. Ghosh (Project coordinator)	Fundamental Molecular Investigations in Biotechnology	DBT	Total amount: 1133.68 Lakhs (it includes the entire project containing one Core-I and four R&D grants)	Prof. P. Goswami Prof. L. Sahoo Dr. B. Bose Dr. A. Ramesh Dr. S. Patra	2008-2015
Prof. S.S. Ghosh (Project coordinator)	Core-I Grant	DBT	760.18 Lakhs	Prof. P. Goswami Prof. L. Sahoo Dr. B. Bose Dr. A. Ramesh Dr. S. Patra	2008-2015
Prof. P.	Studies and	DBT	94.96	Dr. S. Patra	2008-2015

Goswami (PI)	application of redox enzymes for bioelectornics devices		Lakhs		
Dr. B. Bose (PI)	Combination therapy using suicide genes and recombinant antibody	DBT	97.32 Lakhs	Prof. S. S. Ghosh	2008-2015
Prof. S. S. Ghosh (PI)	Investigations on the molecular mechanism of nanomaterial-cellular interactions	DBT	102.82 Lakhs	Dr. B. Bose Dr. A. Ramesh	2008-2015
Prof. L. Sahoo (PI)	Molecular cloning and functional characterization of heavy metal stress specific phytochelatin synthase gene from *Eichhornia crassipes*	DBT	78.40 lakhs		2008-2015
Prof. S.S. Ghosh (PI)	Novel nanoscale materials targeted towards antimicrobial and anticancer activities.	DBT *Implemented at the Centre for Nanotechnology	169 Lakhs	Prof. A Chattopadhyay Dr. Biplab Bose	2011-2015
Dr. B. Anand	Structural Basis for the Maturation of the Prokaryotic siRNA	DBT	40.43494	-	3yrs
Dr. B. Anand	Dynamical Aspects of Era GTPase - 16S rRNA Interactions and its Implication in Ribosome Assembly	DAE-BRNS	16.85	-	3yrs
Prof Rakhi Chaturvedi	Yield enhancement strategies for production of therapeutic compounds by cell and tissue cultures of *Tinospora cordifolia* (willd.) Miers ex Hook. F.	DBT, New Delhi	82.52	Prof. V.S. Bisaria, IIT Delhi and Dr B.S. Bhau, NEIST, Jorhat	2011-2015

	& Thoms.				
Vibin Ramakrishnan	Design, Synthesis and Characterization of Self-assembled Molecular Materials from Hetero-tactic Polypeptide Constructs; Applications in Drug Deleivery and Nano-Scale energy storage devices	DBT India	4.05 Lakhs (2015-16)	Senthilkumar S.	3 years (completed in Jan 2016)
Dr. Biman B Mandal	Stimulation of stem cell differentiation on silk fiber reinforced composite with tunable strength and degradation towards enhanced osteogenesis	DST-FAST TRACK	23.00	N/A	3 years
Dr. Biman B Mandal	Bioengineered silk vascular grafts for blood vessel engineering	DAE - BRNS	17.00	N/A	3 years
Dr. Biman B Mandal	Mechanically strong silk composite matrices for bone tissue engineering	ICMR	10.00	N/A	3 years
Dr. Nitin Chaudhary	Understanding the role of cation-π interaction in the self-assembly of amyloidogenic and *de novo* designed peptides	DBT	31.03	R. Nagaraj PI, CCMB,	3 years
R.Swaminathan	Single molecule fluorescence investigations on the mechanism of lysozyme aggregation and RNA helicase activity	DBT	94.75	B. Anand	4 years
Prof. L. Sahoo	Exploring the	DBT	111.42	Dr. Biplab	2015-2018

	binding space to develop an optimal transcriptional control system for abiotic stress tolerance in crops			Bose	
Prof. L. Sahoo	Development of Transgenic Cowpea for Virus Resistance Using the Tool of RNA Interference (RNAi)	DBT	83.34	Dr. Sunil Mukherjee (formerly at ICGEB)	2013-2015

9. Consultancy (Total No:NIL)

Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration

10. Research Publications

International and National Journal

Total No. of International Journal: 118

Total No. of National Journal:

Format for submission of Research Publications/Journals

Sl. No.	Authors	Paper Title	Journal Name	Year	Volume	Issue Number	Starting Page	Ending Page
1	Nadeem Akhtar, Kanika Gupta, Dinesh Goyal and Arun Goyal	Physico-chemical characteristics of leaf litter biomass to delineate the chemistries involved in biofuel production. (In press)	Journal of the Taiwan Institute of Chemical Engineers	2016	doi:10.1016/j.jtice.2016.02.011			
2	Arup Jyoti Borah, Mayank Agarwal, Manisha Poudyal, Arun Goyal and Vijayan and Moholkar	Mechanistic investigation in ultrasound induced enhancement of enzymatic hydrolysis of invasive biomass species.	Bioresource Technology	2016	doi:10.1016/j.biortech.2016.02.024			

3	Shraddha Shukla, Anil Verma, Ilkka Kajala, Antti Nyyssolä, Rwivoo Baruah, Kati Katina, Riikka Juvonen, Maija Tenkanen and Arun Goyal	Structure modelling and functional analysis of recombinant dextransucrase from *Weissella confusa* Cab3 expressed in *Lactococcus lactis.*	Preparative Biochemistry and Biotechnology,	2016	doi:10.1080/10826068.2016.1141299			
4	Ilakka Kajala, Jari Mäkelä, Rossana Coda, Shradda Shukla, Qiao Shi, Ndegwa Henry Maina, Riikka Juvonen, Päivi Ekholm, Arun Goyal, Maija Tenkanen and Kati Katina	Rye bran as fermentation matrix boosts *in situ* production by *Weissella confusa* compared *to* wheat bran.	Applied Microbiology and Biotechnology,	2016	doi:10.1007/s00253-015-7189-6			
5	Damini Kothari and Arun Goyal	Enzyme resistant isomalto-oligosaccharides produced from *Leuconostoc mesenteroides* NRRL B-1426 dextran for functional food applications.	Biotechnology and Applied Biochemistry,	2016	doi:10.1002/bab.1391			

6	Rwivoo Baruah, Deeplina Das and Arun Goyal	Heteropolysaccharides from Lactic acid bacteria: Current trends and applications.	Journal of Probiotics and Health	2016	4	2	1	6
7	Arun Dhillon, Fernando M.V. Dias, Jose A.M. Prates, Luis M.A. Ferreira, Carlos M.G.A. Fontes, Maria S.J. Centeno and Arun Goyal	A new member of family 11 polysaccharide lyase, rhamnogalacturonan lyase (*Ct*RGL*f*) from *Clostridium thermocellum*.	Molecular Biotechnology	2016	58	4	232	240
8	Nadeem Akhtar, Kanika Gupta, Dinesh Goyal and Arun Goyal	Recent advances in pre-treatment technologies for efficient hydrolysis of lignocellulosic biomass.	Environmental Progress and Sustainable Energy	2016	35	2	489	511
9	Saprativ P. Das, Ashutosh Gupta, Debasish Das and Arun Goyal	Enhanced bioethanol production from water hyacinth (*Eichhornia crassipes*) by statistical optimization of fermentation process parameters using Taguchi orthogonal array design.	Biodeterioration and Biodegradation,	2016	109		174	184
10	Ashutosh Gupta,	Optimization of enzyme saccharification and	Research Journal of Recent	2015	4		144	156

	Saprativ P. Das, Arabinda Ghosh, Anil Verma, Debasish Das and Arun Goyal.	fermentation process parameters for bioethanol production from Populus nigra using recombinant enzymes from *Clostridium thermocellum*.	Sciences					
11	Nadeem Akhtar, Dinesh Goyal and Arun Goyal	Biodegradation of leaf litter biomass by combination of *Bacillus sp*. and *Trichoderma reesei* MTCC164.	Minerva Biotechnologica	2015	27	4	191	199
12	Shuchi Singh, Mayank Agarwal, Aditya Bhat, Arun Goyal and Vijayan and S. Moholkar	Ultrasound enhanced enzymatic hydrolysis of *Parthenium hysterophorus*: A mechanistic investigation.	Bioresource Technology	2015	192		636	645
13	Damini Kothari, Jagan Mohan Rao Tingirikari and Arun Goyal	*In vitro* analysis of dextran from *Leuconostoc mesenteroides* NRRL B-1426 for functional food application.	Bioactive Carbohydrates and Dietary Fibre	2015	15		55	61
14	Damini Kothari, Cédric	Bioactive isomalto-oligosaccharides synthesized from *Leuconostoc*	International Journal of Food and Nutritional	2016	4	4	37	46

	Delattre and Arun Goyal	*mesenteroides* NRRL B-1426 dextransucrase with colon cancer cells inhibiting and functional food additive properties.	Sciences					
15	Soumya deep Chakra borty, Kedar Sharma, Joyita Mukher jee, Munish war N.Gupt a and Arun Goyal	Structural modelling, substrate binding and stability studies of endo-pectate lyase (PL1B) of family 1 polysaccharide lyase from *Clostridium thermocellum.*	Protein and Peptide Letters	2015	22	6	557	568
16	Datta, B. K., Thiyagaraja n, D., Ramesh, A.* and Das, G.*	A sole multi-analyte receptor responds with three distinct fluorescence signals: Traffic signal like sensing of Al^{3+}, Zn^{2+} and F^{-}	Dalton Transaction s	2015	44	29	1309 3	1309 9
17	Gogoi, A., Mukherjee, S., Ramesh, A.* and Das, G.*	Aggregation-induced emission active metal-free chemosensing platform for highly selective turn-ON sensing and bioimaging of pyrophosphate anion	Analytical Chemistry	2015	87	13	6974	6979
18	Datta, B. K., Thiyagaraja n, D., Kar, C., Ramesh, A.* and Das, G.*	A near-infrared emissive Al^{3+} sensing platform for specific detection in solution, cells and probing DNase activity	Analytica Chimica Acta	2015	882	Not Applicable	76	82
19	Gogoi, A., Mukherjee, S., Ramesh,	Nanomolar Zn(II) sensing and subsequent PPi detection in	RSC Advances	2015	5	78	6363 4	6364 0

	A.* and Das, G.*	physiological medium and live cells with a benzothiazole functionalized chemosensor						
20	Goswami, S., Thiyagarajan, D., Samanta, S., Das, G.* and Ramesh, A.*	A zinc complex of a neutral pyridine-based amphiphile: a highly efficient and potentially therapeutic bactericidal material	Journal of Materials Chemistry B	2015	3	35	7068	7078
21	Samanta, S., Goswami, S., Ramesh, A.* and Das, G.*	A new chemodosimetric probe for the selective detection of trivalent cations in aqueous medium and live cells	Journal of Photochemistry and Photobiology A: Chemistry	2015	310	Not Applicable	45	51
22	Mukherjee, S. and Ramesh, A.*	Bacteriocin-producing strains of *Lactobacillus plantarum* inhibit adhesion of *Staphylococcus aureus* to extracellular matrix: Quantitative insight and implications in antibacterial therapy	Journal of Medical Microbiology	2015	64	12	1514	1526
23	Manjegowda MC, Deb G, Kumar N, **Limaye AM**	Expression profiling of genes modulated by estrogen, EGCG or both in MCF-7 breast cancer cells	**Genom Data**.	2015	5	-	210	212
24	Reddy Tadi SR, E V R A, **Limaye AM**, Sivaprakasam S	Enhanced production of optically pure D (-) lactic acid from nutritionally rich Borassus flabellifer sugar and whey protein hydrolysate based fermentation medium	**Biotechnol Appl Biochem**	**2015**		Epub ahead of print PMID: 26671214		
25	Deb G, Batra S, **Limaye AM**	Data in support of the negative influence of divalent cations on (-)-epigallocatechin-3-	**Data Brief**	**2015**	6	-	461	465

		gallate (EGCG)-mediated inhibition of matrix metalloproteinase-2 (MMP-2).						
26	G. K. Mothe, K. Pakshirajan and G. Das	Heavy metal removal from multicomponent system by sulfate reducing bacteria: mechanism and cell surface characterization	Journal of Hazardous Materials	2016	In press			
27	A. Daverey and K. Pakshirajan	Treatment of dairy wastewater containing high amount of fats and oils using a yeast bioreactor system under batch, fed-batch and continuous operation	Desalination and Water Treatment	2016	57	12	5473	5479
28	E.J. Espinosa-Ortiz, E.R. Rene, K. Pakshirajan, E.D. van Hullebusch and P.N. Lens	Fungal pelleted reactors in wastewater treatment: Applications and perspectives.	Chemical Engineering Journal	2016	283	-	553	571
29	S. Kumar, N. Gupta and K. Pakshirajan	Simultaneous lipid production and dairy wastewater treatment using *Rhodococcusopacus* in a batch bioreactor for potential biodiesel application	Journal of Environmental Chemical Engineering	2015	3	3	1630	1636
30	K. Pakshirajan, E.R. Rene and A. Ramesh	Biotechnology in environmental monitoring and pollution abatement 2015	BioMed Research International	2015	2015	Article number 963803		
31	D.K. Villa-	Effect of process	Biodegradat	2015	26	4	299	311

	Gomez, K. Pakshirajan, R. Maestro, S. Mushiand P.N.L. Lens	variables on the sulfate reduction process in bioreactors treating metal-containing wastewaters: factorial design and response surface analyses	ion					
32	A. Sinharoy, N.A. Manikandan and K. Pakshirajan	A novel biological sulfate reduction method using hydrogenogeniccarboxydotrophicmesophilic bacteria	Bioresource Technology	2015	192	-	494	500
33	V. Sinha, K. Pakshirajan and R. Chaturvedi	Evaluation of Cr (VI) Exposed and Unexposed Plant Parts of *Tradescantia pallida* (Rose) DR Hunt. for Cr Removal from Wastewater by Biosorption	International Journal of Phytoremediation	2015	17	2	1204	1211
34	M. GopiKiran, K. Pakshirajan and G. Das	Heavy Metal Removal Using Sulfate-Reducing Biomass Obtained from a Lab-Scale Upflow Anaerobic-Packed Bed Reactor	Journal of Environmental Engineering	2015	C4015010			
35	N.K. Sahoo, K. Pakshirajan and P.K. Ghosh	Treatment of refinery wastewater using *Arthrobacter chlorophenolicus* A6 in an upflow packed bed reactor	Desalination and Water Treatment	2015	55	7	1762	1770
36	J. Hazarika, K. Pakshirajan, A. Sinharoy and M.B. Syiem	Bioremoval of Cu (II), Zn (II), Pb (II) and Cd (II) by *Nostoc muscorum* isolated from a coal mining site	Journal of Applied Phycology	2015	27	4	1525	1534

37	E.R. Rene, S. Kar, J. Krishnan, K. Pakshirajan, M.E. Lopez, D.V.Murthy and T. Swaminathan	Start-up, performance and optimization of a compost biofilter treating gas-phase mixture of benzene and toluene	Bioresource Technology	2015	190	-	529	535
38	A.S. Roy, N.A. Manikandan, J. Hazarika, K. Pakshirajan and M.B. Syiem	Heavy metal removal from multicomponent system by the cyanobacteria *Nostocmuscorum*: kinetics and interaction study	Applied Biochemistry and Biotechnology	2015	175	8	3863	3874
39	P.J. Sarma, R. Kumar, N. Arul Manikandan and K. Pakshirajan	Cr(III) and Cr(VI) removal from aqueous solution by biosorption using agricultural waste materials: batch and continuous reactor study	Asian Journal of Chemistry	2015	27	9	3520	3430
40	S. Goswami, M.B. Syiemand K. Pakshirajan	Cadmium removal by *Anabaena doliolum* Ind1 isolated from a coal mining area in Meghalaya, India: associated structural and physiological alterations	Environmental Engineering Research	2015	20	1	41	50
41	S. Goswami, O. Diengdoh, M.B. Syiem, K. Pakshirajan and M.G. Kiran	Zn(II) and Cu(II) removal by *Nostoc muscorum*: a cyanobacterium isolated from a coal mining pit in Chiehruphi, Meghalaya, India	Canadian Journal of Microbiology	2015	61	3	209	215
42	P.J. Sarma,	Batch and continuous	Journal of	2015	9	2	635	648

	R. Kumar and K. Pakshirajan	removal of copper and lead from aqueous solution using cheaply available agricultural waste materials, International	Environmental Research					
43	S Mitra, P Singh, S Manzoor, P Bhattacharya, T Bera, AK Patra, **L Rangan**, P Boraha	Can rice and wheat biochar amendment protect the carbon loss from tropical soils-an experimental study	Environmental Progress & Sustainable Energy	2016	35		183	188
44	A. Mehra, Gaurav Jerath, Ramakrishnan, V and Trivedi, V	**Characterization of ICAM-1 Biophore to design cyto-adherence blocking peptides.**	*J of molecular graphics and modeling*,	2015	57C:	57C	27	35
45	Balaji, SN., Jawed, AM*., Singh, SJ and Trivedi, V	**Synthesis and antimalarial potentials of curcumin analogues containing heterocyclic rings.**	Arabian Journal of chemistry	2015	In press	In press	In press	In press
46	RanjanTamuli, RekhaDeka, Katherine A. Borkovich	Calcineurin Subunits A and B Interact to Regulate Growth and Asexual and Sexual Development in *Neurospora crassa*.	PLOS ONE	2016	11	3	e0151867	
47	VijyaLaxmi and RanjanTamuli	The *Neurospora crassa cmd*, *trm-9*, and *nca-2* Genes Play a Role in Growth, Development, and Survival in Stress conditions.	Genomics and Applied Biology	2015	6	7	1	8
48	Gogoi, P., Srivastava, A., Jayaprakash, P., Jeyakanthan, J. and	In silico analysis suggests that PH702 and PH0208 encode for methylthioribose-1-phosphate isomerase and ribose-1,5-bisphosphate	Gene	2016	575		118	126

	Kanaujia, S.P.	isomerase, respectively, rather than aIF2Bβ and aIF2Bδ						
49	Gogoi, P., Chandravanshi, M., Mandal, S.K., Srivastava, A. and Kanaujia, S.P	Heterogeneous behavior of metalloproteins towards metal ion binding and selectivity: insights from molecular dynamics studies	J. Biomol. Struct. Dyn	2015			1	16
50	Chinnapaka Somaiah, Atul Kumar, Darilang Mawrie, Amit Sharma, Suraj D Patil, Jina Bhattacharya, Rajaram Swaminathan, **Bithiah Grace Jaganathan**	Collagen Promotes Higher Adhesion, Survival and Proliferation of Mesenchymal Stem Cells.	Plos One	2015	10	12	e0145068	
51	Atul Kumar, Anshuman Bhanja, Jina Bhattacharya, **Bithiah Grace Jaganathan**	Multiple roles of CD90 in cancer	Tumor Biology	2016				
52	Bhuvan Dixit, Karukriti Kaushik Ghosh, Gary Fernandes, Pankaj Kumar, Prerana Gogoi, Manish Kumar	Dual Nuclease activity of a Cas2 protein in CRISPR- Cas subtype I-B of *Leptospira interrogans*	FEBS Letters	2016				

53	Kumar R, Barman NN, Khatoon E, Kumar S	Development of single dilution immunoassay to detect E2 protein specific classical swine fever virus antibody.	Vet Immunol Immunopathol	2016	172	10.1016/j.vetimm.2016.03.004	50	54
54	Morla S, Makhija A, Kumar S	Synonymous codon usage pattern in glycoprotein gene of rabies virus.	Gene	2016	584	1	1	6
55	Dahiya SS, Kumar S, Mehta SC, Narnaware SD, Singh R, Tuteja FC	Camelpox: A brief review on its epidemiology, current status and challenges.	Acta Trop	2016	158	doi: 10.1016/j.actatropica.2016.02.014	32	38
56	Morla S, Deka P, Kumar S	Isolation of novel variants of infectious bursal disease virus from different outbreaks in Northeast India.	Microb Pathog	2016	93		131	136
57	Mohamed MHA, Abdelaziz AM, Kumar S, Al-Habib MA, Megahed MA	Effect of phylogenetic diversity of velogenic Newcastle disease virus challenge on virus shedding post homologues and heterologues DNA vaccination in chickens.	Avian Pathol	2016		doi no http://dx.doi.org/10.1080/03079457.2016.1144870	1	22
58	Kumar S, Koul M	Newcastle disease virus: A constant threat to the poultry industry in India.	Vaccine	2016	34	5	597	598
	Nath B, Barman NN, Kumar S	Molecular characterization of Newcastle disease virus strains isolated from different outbreaks in Northeast India during 2014-15	Micro Pathog	2016	91	http://dx.doi.org/10.1016/j.micpath.2015.11.026	85	91
59	Das M, Kumar S	Recombinant phosphoprotein based single serum dilution ELISA for rapid serological detection of Newcastle disease	J Virol Methods	2015	225	http://dx.doi.org/10.1016/j.jviromet.2015.09.0	64	69

		virus				03		
60	Makhija A, Kumar S	Analysis of synonymous codon usage in spike protein gene of infectious bronchitis virus.	Can J Microbiol	2015	61	12	983	989
61	Rani S, Kumar S	Evaluation of infectious bursal disease virus stability at different conditions of temperature and pH.	Biologicals	2015	43	6	515	518
62	Kumar U, Kumar S	Molecular characterization of an apoptotic strain of Newcastle disease virus isolated from an outbreak in India	Cancer Gene Therapy	2015	22	8	402	409
	Kumar CS, Hazarika NMJ, Kumar S	Analysis of synonymous codon usage in VP2 protein gene of infectious bursal disease virus.	Arch Virol	2015	160	9	2359	2366
63	Gogoi P, Ganar K, Kumar S	Avian paramyxovirus:A brief review	Transbound Emerg Dis	2015		doi: 10.1111/tbed. 12355		
64	Kumar S	Newcastle disease virus outbreaks in India: Time to revisit the vaccine type and strategies.	Vaccine	2015	33	29	3268	3269
65	Kumar R, Barman NN, Khatoon E, Rajbongshi G, Deka N, Morla S, Kumar S	Molecular characterization of E2 glycoprotein of classical swine fever virus: adaptation and propagation in porcine kidney cells.	In Vitro Cell Dev Biol Anim	2015	51	5	441	446
66	Muenst B*, Thier MC*, Winnemoeller D*, Helfen M, Thummer RP#, Edenhofer	Nanog induces suppression of senescence through downregulation of p27KIP1 expression	J Cell Sci.	2016	129	5	912	920

	F# # Corresponding Author							
67	Ruchika Bhardwaj, Ritesh Kumar, Sanjeev Kumar Singh, Chandrabose Selvaraj and **Vikash Kumar Dubey*.**	Understanding the importance of conservative hypothetical protein LdBPK_070020 in *Leishmania donovani* and its role in subsistence of the parasite	Archives of Biochemistry and Biophysics	**2016**	596		10	21
68	Klionsky DJ, Abdelmohsen K, Abe A, Abedin MJ, Abeliovich H, Acevedo Arozena A, (…) **Vikash Kumar Dubey**,(……) Zughaier SM	Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition).	Autophagy	**2016**	12	1	1	222
69	Mousumi Das, Shalini Singh and **Vikash Kumar Dubey*.**	Novel inhibitors of ornithine decarboxylase of Leishmania parasite (LdODC): The parasite resists LdODC inhibition by over-expression of spermidine synthase.	Chem Biol Drug Design	**2016**	87	3	352	360
70	Anil K. Saikia, Sabera Sultana, Ngangbam Renubala Devi, Manash J. Deka,Kartikeya Tiwari, **Vikash K.**	Diastereoselective Synthesis of Substituted Hexahydrobenzo[de]isochromans and their Evaluation as Antileishmanial activity,	Organic & Biomolecular Chemistry	**2016**	14	3	970	976

	Dubey*							
71	Mousumi Das, Gundappa Saha and **Vikash Kumar Dubey*.**	Novel leads against miltefosine unresponsive *Leishmania donovani*	Antimicrobial Agents and Chemotherapy	**2015**	59	12	7826	7829
72	Shalini Singh, Sitrarasu Vijaya Prabhu, Venkatesan Suryanarayanan, Ruchika Bhardwaj, Sanjeev Kumar Singh and **Vikash Kumar Dubey*.**	Molecular docking and structure based virtual screening studies of CAAX prenyl protease I &II	Journal of Molecular Structure and Dynamics	**2016**	Jan 6	Epub ahead of print	1	20
73	Sushant Singh and **Vikash Kumar Dubey***	Multiwalled carbon nanotube-Superoxide dismutase conjugate towards alleviating induced oxidative stress	International Journal of Peptide Research and Therapeutics	**2016**		DOI 10.1007/s10989-015-9495-3	Epub ahead of print]	
74	Shalini Singh, Shyamali Sarma , Shashank P Katiyar , Mousumi Das , Ruchika Bhardwaj , Durai Sundar **Vikash Kumar Dubey***.	Probing molecular mechanism of hypericin induced parasitic death: An insight into role of spermidine beyond redox metabolism of Leishmania.	Antimicrobial Agents and Chemotherapy**,**	**2015**	59	1	15	24
75	Mousumi Das, Ritesh Kumar and	Ornithine decarboxylase of *Leishmania donovani*:	Protein and Peptide Letters	**2015**	22	2	130	136

	Vikash Kumar Dubey*.	Biochemical properties and possible role of N-terminal extension.						
76	Sett A, Gadewar M, Sharma P, Deka M, **Bora U**	Green synthesis of gold nanoparticles using aqueous extract of *Dillenia indica*	Advances in Natural Sciences: Nanoscience and Nanotechnology	2016 (Accepted)	7	2		
77	Ahirwar R, Tanwar S, **Bora U**, Nahar P	Microwave non-thermal effect reduces ELISA timing to less than 5 minutes	RSC Advances	2016	6	25	20850	20857
78	Das S, Sharma M, Saharia D, Sarma KK, Sarma MG, Borthakur BB, **Bora U**	Data in support of in vivo studies of silk based gold nano-composite conduits for functional peripheral nerve regeneration	Data in Brief	2015	4	--	315	321
79	Kumar A, Chetia H, Sharma S, Kabiraj D, Talukdar NC, **Bora U**	Curcumin Resource Database	Database: The Journal of Biological Databases and Curation	2015	2015, bav070	--	--	--
80	Das S, Sharma M, Saharia D, Sarma KK, Sarma MG, Borthakur BB, **Bora U**	In vivo studies of silk based gold nano-composite conduits for functional peripheral nerve regeneration	Biomaterials	2015	62	--	66	75
81	Prashanth GK, Prashanth PA, **Bora U**, Gadewar M, Nagabhushana BM, Ananda S, Krishnaiah GM, Sathyanand a HM	In vitro antibacterial and cytotoxicity studies of ZnO nanopowders prepared by combustion assisted facile green synthesis	International Journal of Modern Science	2015	1	2	67	77

82	Dutta D, Sahoo AK, Chattopadhyay A, ***Ghosh SS***	Bimetallic silver nanoparticle-gold nanocluster embedded composite nanoparticles for cancer theranostics	***Journal of Materials Chemistry B***	2016	4		793	800
83	Vanitha S.,Goswami U, Chaubey N, ***Ghosh SS*** and Sanpui P	Functional Characterization of Recombinant Human Granulocyte Colony StimulatingFactor (hGMCSF) Immobilized onto Silica Nanoparticles	***Biotechnology Letters***	2016	38(2)		243	249
84	Ghoshal A, Goswami U, Sahoo AK, Chattopadhyay A, ***Ghosh SS***	Targeting Wnt Canonical Signaling by Recombinant sFRP1 Bound Luminescent Au-Nanocluster Embedded Nanoparticles in Cancer Theranostics	***ACS Biomaterials Science & Engineering***	2015	1 (12)		1256	1266
85	Marvi DK, Sahoo AK, Goswami U, Prasad DS, Sahoo L, ***Ghosh SS***	Phytogenic "green synthesis" of silver nanoparticles with enhanced antibacterial and anticancer activity	***International J Pharm Bio Sci.***	2015	6, 4		482	493
	Raza A, Kohila V and ***Ghosh SS***	Redesigned E.coli cytosine deaminase: a new facet of suicide gene therapy	***The Journal of Gene Medicine***	2015	17, 6,-7		132	139
86	Md Palashuddin Sk, Goswami U,***Ghosh SS*** and Chattopadhyay A	Cu(2+)- embedded Carbon Nanoparticle as an Anticancer Agent	***Journal of Materials Chemistry B***	2015	3		5673	5677
87	Khandelia R, Bhandari S, Pan UN, ***Ghosh SS*** and Chattopadhyay A	Gold Nanocluster Embedded Albumin Nanoparticles for Two-Photon Imaging of Cancer Cells Accompanying Drug Delivery	***Small***	2015	11, 33		4075	4081

88	Subbi Rami Reddy Tadi, Arun E V R, Anil Mukund Limaye and **Senthilkumar Sivaprakasam**	Enhanced production of optically pure D (-) lactic acid from nutritionally rich Borassus flabellifer sugar and whey protein hydrolysate based fermentation medium	Biotechnology and Applied Biochemistry	2016	DOI: 10.1002/bab.1470			
89	Naresh Mohan, Rengesh Balakrishnan and Senthilkumar Sivaprakasam	Optimization and effect of dairy industrial waste as media components in the production of hyaluronic acid by Streptococcus thermophilus	Preparative Biochemistry and Biotechnology	2015	DOI:10.1080/10826068.2015.1128446			
90	AbsharHasan&Lalit M. Pandey	Review: Polymers, Surface-Modified Polymers, and Self Assembled Monolayers as Surface-Modifying Agents for Biomaterials	Polymer-Plastics Technology and Engineering	2015	54	13	1358	1378
91	Gromadzka, A.M., Steckelberg, A.L., Singh, K.K., Hofmann, K., Gehring, N.H.	A short conserved motif in ALYREF directs cap-and EJC-dependent assembly of export complexes on spliced mRNAs.	Nucleic Acid Res.	2016	44	5	2348	2361
92	Roy NK, Bordoloi D, Monisha J, Padmavathi G, Bordoloi D, Monisha J, Padmavathi G, Kotoky J, Golla R, **Kunnumakkara AB***	Specific Targeting of Akt Kinase Isoforms: Taking the Precise Path for Prevention and Treatment of Cancer.	Curr Drug Targets	2016		Epub ahead of print PMID: 26953242		
93	Choudhary B, Kandimalla	Anticancer activity of *Garcinia Morella* on T-cell murine	Front Pharmacol	2016	doi:10.3389-fphar.2016.00003			

	R, Bharali R, Monisha J, **Kunnumakkara AB*,** Kalita K, Kotoky J	lymphoma via apoptotic induction						
94	Monisha J, Roy NK, Bordoloi D, Kumar A, Golla R, Kotoky J, Padmavathi G, **Kunnumakkara AB***	Nuclear Factor Kappa B: A Potential Target to Persecute Head and Neck Cancer	Curr Drug Targets	2016		Epub ahead of printPMID: 26844566		
95	Padmavathi G, Rathnakaram SR, Monisha J, Bordoloi D, Roy NK, **Kunnumakkara AB***	Potential of butein, a tetrahydroxychalcone to obliterate cancer	Phytomedicine	2015	22	13	1163	1171
96	Bordoloi D, Roy NK, Monisha J, Padmavathi G, **Kunnumakkara AB***	Multi-Targeted Agents in Cancer Cell Chemosensitization: What We Learnt from Curcumin Thus Far	Recent Pat Anticancer Drug Discov	2016	11	1	67	97
97	Thomas D, Govindhan S, Baiju EC, Padmavathi G, **Kunnumakkara AB***, Padikkala J	Cyperus rotundus L. prevents non-steroidal anti-inflammatory drug-induced gastric mucosal damage by inhibiting oxidative stress.	J Basic Clin Physiol Pharmacol	2015	26	5	485	490
98	A. Mehra, GauravJerath, Vibin Ramakrishnan, Vishal Trivedi.	Characterization of ICAM-1 biophore to design cytoadherence blocking peptides	Journal of Molecular Graphics &Modelling .(2015) 57, 27–35	2015	57		27	35
99	P. Das, M. Das, S. R.	Recent advances on developing 3rd	***Biosensors and***	2016	79,	15	386	397

	Chinnadayyala, I. M. Singha, P. Goswami*	generation enzyme electrode for biosensor applications	***Bioelectronics***					
100	A. Kakoti, F. Siddiqui and P. Goswami*	Low cost design and fabrication method for developing a leak proof paper based microfluidic device with customized test zone	*Biomicrofluidics*	(2015).	9	026502	1	11
101	J. Bhasarkar A.J. Borah, P. Goswami, V. S. Moholkar	Mechanistic analysis of ultrasound assisted enzymatic desulfurization of liquid fuels using horseradish peroxidase.	*Bioresource Technology*	2015	196,	November	88	98
102	S. R. Chinnadayyala, M. Santhosh, N. K. Singh, P. Goswami	Alcohol oxidase protein mediated *in-situ* synthesized and stabilized gold nanoparticles for developing amperometric alcohol biosensor	*Biosensors and Bioelectronics*	2015	69	15	155	161
103	P. Vatsyayan, and P. Goswami	Highly Active and Stable Large Catalase Isolated from a Hydrocarbon Degrading *Aspergillus terreus* MTCC 6324	*Enzyme Research*	2016	2016	ID 4379403	1	8
104	Nadana Bhardwaj, Dipali Devi, Biman B. Mandal	Tissue engineered cartilage: the crossroads of biomaterials, cells and stimulating factors.	Macromolecular Bioscience	2015	15		153	182
105	Nandana Bhardwaj, Wan Ting Sow, Diplai Devi, Kee Woei Ng, Biman B. Mandal, Nam-Joon Cho.	Silk fibroin-keratin based 3D scaffolds as a dermal substitute for skin repair and regeneration.	Integrative Biology	2015	7		53	63
106	Samit K Nandi,	In Vitro and in vivo evaluation of natural	Integrative Biology	2015	7		250	262

	Biswanath Kundu, Arnab Mahato, Narsinh L Thakur, Siddhartha Joardar, Biman B. Mandal.	marine sponge skeleton as a bone mimicking biomaterial						
107	Satyabrat Gogoi, Manishekhar Kumar, Biman B. Mandal and Niranjan Karak	Renewable resource based carbon dot decorated hydroxyapatite nanohybrid and its fabrication with waterborne hyperbranched polyurethane for bone tissue engineering	RSC Advances	*2016*	*6*		*26066*	*26076*
108	Satyabrat Gogoi, Manishekhar Kumar, Biman B. Mandal and Niranjan Karak	High performance luminescent thermosetting waterborne hyperbranched _olyurethane/carbon quantum dot nanocomposite with in vitro cytocompatibility	Composites Science & Technology	2015	118		39	46
109	Supansa Yodmuang, Stephanie L. McNamara, Adam B. Nover, Biman B. Mandal, Monica Agarwal, Terri-Ann N. Kelly, Pen-hsiu Grace Chao, Clark Hung, David L. Kaplan, Gordana Vunjak-	Silk microfiber-reinforced silk hydrogel composite for functional cartilage tissue repair	Acta Biomaterialia	2015	11		27	36

	Novakovic.							
110	Prabhanshu Kumar, Subhash Chand, Pranjal Chandra, Pawan Kumar Maurya	Influence of Dietary Capsaicin on Redox Status in Red Blood Cells During Human Aging	Advanced Pharmaceutical Bulletin	2015	5	4	583	586
111	Pawan Kumar Maurya, Prabhanshu Kumar, Pranjal Chandra	Biomarkers of oxidative stress as a function of human age	World Journal of Methodology	2015	26	5	216	222
112	Pawan Kumar Maurya, Prabhanshu Kumar, Pranjal Chandra.	Age dependent detection of erythrocytes glucose-6-phosphate dehydrogenase and its correlation with oxidative stress	Archives of Physiology and Biochemistry	2016	-	27	1	6 (early online page number)
113	C. Somaiah, A. Kumar, D. Mawrie, A. Sharma, S. D. Patil, J. Bhattacharya, R. Swaminathan and B. G. Jaganathan	Collagen promoteshigher adhesion, survival and proliferation of mesenchymal stem cells	PLoS One	2015	10	12	e0145068	C. Somaiah, A. Kumar, D. Mawrie, A. Sharma, S. D. Patil, J. Bhattacharya, R. Swa

								mina than and B. G. Jaga nath an
114	Yuriko Kobayashi, Ayan Sadhukhan, Tanveer Tazib, Yuki Nakano, Kazutaka Kusunoki, Kamara Mohamed, Radhouane Chaffai, Satoshi Iuchi, **Lingaraj Sahoo**, Masatomo Kobayashi, Owen A. Hoekenga & Hiroyuki Koyama	Joint genetic and network analyses identify loci associated with root growth under NaCl stress in Arabidopsis thaliana	Plant Cell Environment	2016	39	4	918	934
115	Anjan Barman, **Lingaraj Sahoo** & Subhendra Kumar Ray	Some conspicuous traits in domesticated rice *Oryza sativa*, due to recessive alleles	Journal of Plant Science & Research	2016	3	1	143	149
116	Sudipta Shekhar Das Bhowmik, Adrija Basu & **Lingaraj Sahoo**	Direct Shoot Organogenesis from Rhizomes of Medicinal Zingiber *Alpinia calcarata* Rosc., and Evaluation of Genetic Stability by RAPD and ISSR Markers	Journal of Crop Science and Biotechnology	2016	(In press)			

117	Nitesh K. Mund, Debabrata Dash, Chitta R. Barik, Vaibhav V. Goud, **Lingaraj Sahoo**, Prasannajit Mishra & Nihar R. Nayak	Chemical composition, pretreatments and saccharification of *Senna siamea* (Lam.) H.S. Irwin & Barneby: An efficient biomass producing tree legume	Bioresource Technology	2016	207 (doi:10.1016/j.biortech.2016.01.118)		205	212
118	Mohitosh Dey, Sanjib Kumar Panda & **Lingaraj Sahoo**	Establishment of an Efficient Regeneration System Amenable to *Agrobacterium* Mediated Transformation of Two Elite Indica Rice Varieties of North East India	International Journal of Applied Sciences & Biotechnology	2016	3	4	680	686

Conference/Workshop/Seminar/Symposia

Total No. of papers published in Conference Proceedings: 113

Format for submission of papers published in Conference Proceedings

Sl. No.	Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year	Volume	Issue Number	Starting Page	Ending Page
1	Shuchi Singh, Arun Goyal and V.S. Moholkar	**Intensification of ethanol production from *Parthenium hysterophorus* by sonication: A mechanistic investigation.**	**7th ISEES International Workshop on Sustainable Energy, Environment & Safety with Railway Centric Theme,**	2015				
2	Priyanka	**Identification of**	**56th Internatio**	2015				

	Nath, Anil Kumar Verma, Arun Dhillon, Kedar Sharma and Arun Goyal	**promising functional residues capable of introducing endo-xylanase activity into an exo-acting arabinofuranosidase (*Ct*43Ara*f*) with enhanced activity: An *in silico* approach.**	**nal Annual Conference of Association of Microbiologists of India (AMI)**					
3	Kedar Sharma, Bibari Boro and Arun Goyal	***In silico* structure analysis of a family 12 polysaccharide lyase from *Pedobacter saltans* DSM12145.**	**56th Internatio nal Annual Conference of Association of Microbiologists of India (AMI)**	2015				
4	Ashutosh Gupta, Sumitha Banu J, Vijay S. Moholkar and Arun Goyal	**Bioethanol production from Kans grass (*Saccharum spontaneum*) by simultaneous saccharification and fermentation process.**	**56th Internatio nal Annual Conference of Association of Microbiologists of India (AMI)**	2015				
5	Arun Dhillon, Kedar Sharma, Vania O. Fernandes, Fernando M.V. Dias, José A.M. Prates, Luis M.A. Ferreira, Carlos M.G.A. Fontes, M.S.J. Centeno and Arun Goyal	**Biochemical characterization and deciphering the cleavage pattern of recombinant rhamnogalacturonan lyase (*Ct*RGL), a family 11 Polysaccharide Lyase (PL11) from *Clostridium thermocellum*.**	**56th Internatio nal Annual Conference of Association of Microbiologists of India (AMI)**	2015				
6	Arabinda Ghosh, Vânia	**Elucidation of multi-substrate specificity and *in***	**56th Internatio nal Annual Conference of**	2015				

	Cardoso, Vikky Rajulapatty, Kedar Sharma, Ashutosh Gupta, Krishan Kumar, Virgínia M. R. Pires, Carlos M.G.A. Fontes and Arun Goyal	***silico* 3-dimensional structure of a recombinant family 81 glycoside hydrolase from *Clostridium thermocellum.***	**Association of Microbiologists of India (AMI)**					
7	Kedar Sharma and Arun Goyal	***In silico* structural characterization of a family 10 glycoside hydrolase from *Pedobacter saltans* DSM12145.**	**56th International Annual Conference of Association of Microbiologists of India (AMI)**	2015				
8	Rwivoo Baruah, Barsha Deka and Arun Goyal	**Purification and characterization of dextransucrase from *Weissella cibaria* RBA12 and production of isomaltooligosaccharides.**	**56th International Annual Conference of Association of Microbiologists of India (AMI)**	2015				
9	Inês Lobo Antunes, Vikky Rajulapati, Kedar Sharma, Arun Goyal	**Cloning, expression and characeterization of a xylanase from family 10 glycoside hydrolase (GH10) from *Pedobacter Saltans* DSM12145.**	**56th International Annual Conference of Association of Microbiologists of India (AMI)**	2015				
10	Shweta Singh and Arun Goyal	**Isolation of bacterial strain efficiently hydrolyzing the cellulosic substrates.**	**56th International Annual Conference of Association of Microbiologists of India (AMI)**	2015				
11	Ashutosh Gupta,	**Saccharification of pretreated napier**	**56th International Annual**	2015				

	Shweta Singh, Debasish Das and Arun Goyal	**grass by recombinant cellulase and hemicellulase from *Clostridium thermocellum* for bioethanol production.**	**Conference of Association of Microbiologists of India (AMI)**					
12	Niharika Kashyap, Rwivoo Baruah, Vijay. S. Moholkar and Arun Goyal	**Production of dextran from sucrose containing industrial by-product using *Weissella cibaria* RBA12.**	**56th International Annual Conference of Association of Microbiologists of India (AMI)**	2015				
13	Arup Jyoti Borah, Shyamali Sarmah, Mayank Agarwal, Arun Goyal and Vijayanand S. Moholkar	**An evaluation of mixed feedstock of invasive and noxious weeds for bioethanol production**	**New Horizons in Biotechnology**	2015				
14	Arup Jyoti Borah, Mayank Agarwal, Manisha Poudyal, Arun Goyal and Vijayanand S.Moholkar	**Mechanistic investigation in ultrasound induced enhancement of enzymatic hydrolysis of invasive biomass species**	**New Horizons in Biotechnology**	2015				
15	Rwivoo Baruah and Arun Goyal	**Characterization of glucan from *Weissella cibaria* RBA12 as a potential food additive and hydrocolloid.**	**New Horizons in Biotechnology**	2015				
16	Ashutosh Gupta,	**Utilization of sugarcane leaves for**	**New Horizons in**	2015				

	Debasish Das and *Arun Goyal	**production of bioethanol involving saccharification by mixed recombinant *Clostridium thermocellum* enzymes**	**Biotechnology**					
17	Vikky Rajulapati and Arun Goyal	**Cloning, expression and purification of recombinant pectin methyl esterase (*Ct*PME) a family 8 Carbohydrate Esterase (CE8) from *Clostridium thermocellum.***	**14th FAOBMB Congress 84th Annual Meeting of SBC(I) on Current Excitements in Biochemistry & Molecular Biology for Agriculture and Medicine**	2015				
18	Anil Kumar Verma, Arun Goyal, Filipe Freire, Carlos M.G.A. Fontes and Shabir Najmudin	**Insights into the mechanism of glucuronoxylan hydrolysis revealed by the 3-dimensional crystal structures of glucuronoxylan-xylanohydrolase (*Ct*Xyn30A) from *Clostridium thermocellum***	**11th Carbohydrate Bioengineering Meeting**	2015				
19	Ashutosh Gupta, Debasish Das and Arun Goyal	**Enhanced saccharification and effective pretreatment of corn cob by utilizing recombinant cellulase and hemicellulase from *Clostridium thermocellum* for bioethanol production.**	**11th Carbohydrate Bioengineering Meeting**	2015				
20	Soumyadeep Chakraborty and Arun	**From waste to health care product: Pectic oligosaccharides**	**11th Carbohydrate Bioengineering Meeting**	2015				

	Goyal	**produced from citrus peels by treatment of endo-pectate lyase (PL1B) inhibiting colon cancer cells.**						
21	Kedar Sharma and Arun Goyal	**Molecular cloning, expression and characterization of novel endo-β-1,4-mannanase of family 10 glycoside hydrolase from *Pedobacter saltans* DSM 12145.**	**11th Carbohydrate Bioengineering Meeting**	2015				
22	Anil Kumar Verma , Pedro Bule, Teresa Ribeiro, Joana L. A. Brás, Joyeeta Mukherjee , Munishwar N. Gupta, Carlos M.G.A. Fontes and Arun Goyal	**Insight into structural, biochemical and *in silico* determinants of ligand binding specificity of family 6 carbohydrate binding module (*Ct*CBM6) from *Clostridium thermocellum.***	**11th Carbohydrate Bioengineering Meeting**	2015				
23	Aruna Rani, Joyeeta Mukherjee , Munishwar N. Gupta and *Arun Goyal	**Structural and biochemical characterization of endo-acting chondroitin AC lyase of a family 8 polysacharide lyase (*Ps*PL8a) from *Pedobacter saltans* DSM 12145.**	**11uu Carbohydrate Bioengineering Meeting**	2015				
24	A. Sinha Roy, N. A. Manikandan, K. Pakshirajan	Effect of headspace biogas composition and sulphate on biological sulphate reduction using CO	68th Annual Session of the Indian Institute of Chemical Engineering	2015				

		as the sole carbon source	Congress CHEMCON 2015, IIT Guwahati					
25	M. Gopikiran, K. Pakshirajan and G. Das	Sulfate reducing bacteria from a lab scale up flow anaerobic packed bed reactor for heavy metal removal and its characterization	National Conference on Challenges in Environmental Research NCOCER-2015, IIT Guwahati	2015				
26	M. Gopikiran, K. Pakshirajan and G. Das	Kinetics and mechanism of heavy metal removal by sulfate reducing bacteria obtained from a laboratory scale upflow anaerobic packed bed reactor	68th Annual Session of the Indian Institute of Chemical Engineering Congress CHEMCON 2015, IIT Guwahati	2015				
27	V. Sinha, K. Pakshirajan, R. Chaturvedi	Chromium removal from aqueous solution by *Tradescantia pallid*a: uptake mechanism	68th Annual Session of the Indian Institute of Chemical Engineering Congress CHEMCON 2015, IIT Guwahati	2015				
28	A. Sinharoy, N. A. Manikandan and K. Pakshirajan	Screening of indegeneous anaerobic microbial consortia for hydrogenogenic carbon monoxide conversion	TEQIP National Workshop, Department of Chemical Engineering, IIT Guwahati	2015				
29	L. Goswami, R.V. Kumar, K. Pakshirajan and G. Pugazhenthi	Anthracene biodegradation by oleaginous *Rhodococcus opacus* for potential biodiesel production	New Horizons in Biotechnology NHBT 2015, NIIST, Trivandrum	2015				
30	M.M. TejasNamboodiri and K. Pakshirajan	Chitosan production from domestic wastewater using *Aspergillus niger*	68th Annual Session of the Indian Institute of Chemical Engineering Congress	2015				

			CHEMCON 2015, IIT Guwahati					
31	N. Arul Manikandan, G. Pugazhenthi and K. Pakshirajan	Polyhydroxybutyrate production from waste lignocellulosic biomass as the cheap feedstock	4th Annual Chemical Engineering Symposium REFLUX 2016, IIT Guwahati	2016				
32	Rohit P James and K. Pakshirajan	Screening of fungal strains for chitosan production using paper and pulp mill wastewater as feedstock	4th Annual Chemical Engineering Symposium REFLUX 2016, IIT Guwahati	2016				
33	S. Arun and K. Pakshirajan	Algae based photo-activated sludge system for simultaneous CO_2 sequestration and nitrogen removal from ammonium rich wastewater	4th Annual Chemical Engineering Symposium REFLUX 2016, IIT Guwahati	2016				
34	**L Rangan*,** A Singh, RG Das, AM Shelke, R Ramesh, V Kesari, P Scott & P Gresshoff	New positives of biotech research in renewable energy resources- Success story of *Pongamia*.	In: Proceedings National Seminar on Biofuel A Search for New Fire SIBBR&D, Cochin	2015			22	*25*
	Mrinal Sharma*, Anuma Singh, LathaRangan and **Anil M. Limaye**.	**Estrogenic effect of karanjin on MCF-7 breast cancer cells.**	3rd International congress of the society for ethnopharmacology	2016		1	195	195
35	**Anil M. Limaye**	Mechanistic insights into the anticancer properties of the major green tea polyphenol (-)-epigallocatechin-3-gallate.	3rd International Conference on Herbal and Synthetic Drug Studies (HSDS)-2016	2016		-	12	12
36	Ajay Kumar*, Mohan C Manjegowda,	**Homeobox transcription factor HOXB2 mRNA is an estrogen target**	International conference on molecular signalling:	2015			61	61

	Dixcy Jaba Sheeba JM, Sachin Kumar and **Anil M. Limaye**.	**in MCF-7 breast cancer cells.**	Recent trends in biosciences					
37	Dixcy Jaba Sheeba JM*, Mohan C Manjegowda, Ajay Kumar and **Anil M. Limaye**	**Regulation of Cystatin A by estrogen in breast cancer cells**	International Conference of Cancer Research: New Horizons 2015	2015			77	77
38	Mohan C Manjegowda *, Paridhi Singhal and **Anil Mukund Limaye**	**Epigenetic component in expression of G-protein coupled estrogen receptor (GPR30) in breast cancer**	Recent development in medical biotechnology and structure based drug designing				32	32
39	Ajay Kumar*,Mohan C Manjegowda, DixcyJabaSheeba JM, Sachin Kumar and Anil M. Limaye	**Regulation of HOXB2 by estrogen in breast cancer**	Recent development in medical biotechnology and structure based drug designing				02	02
40	Barman.A , Nagar.M, Kumar.A and Tamuli.R	Calcium signaling and regulation of cell function in *Neurospora crassa*.	Research Conclave, Indian Institute of Technology Guwahati, India, 18-20 March.	2016	-	-	-	-
41	Gohain.D, Roy.A and Tamuli.R	*Neurospora crassa* as a model organism for the functional invstigation of neuronal calcium sensor-1(NCS-1) from higher eukaryotes.	Research Conclave, Indian Institute of Technology Guwahati, India, 18-20 March.	2016	-	-	-	-
42	Tiwari.A and Tamuli.R	Immortal fungal biomass for eco-friendly and scalable	Research Conclave, Indian Institute	2016	-	-	-	-

		nanofactories.	of Technology Guwahati, India, 18-20 March.					
43	Kumar A. and Tamuli R.	A novel approach to identify critical amino acid residues for calcinurin A of *Neurospora crassa*	9th International conference on Yeast Biology, December 9-12, Kolkata.	2015	-	-	57	57
44	Roy A. and Tamuli R.	Studies on the role of calcium signaling genes in regulating cytosolic free calcium concentration in *Neurospora crassa*.	9th International conference on Yeast Biology, December 9-12, Kolkata.	2015	-	-	66	66
45	Gohain D. and Tamuli R.	Involvemnet of rat NCS-1 in ultraviolet light induced DNA damage repair process.	9th International conference on Yeast Biology, December 9-12, Kolkata.	2015	-	-	70	70
46	Nagar M. and Tamuli R.	Phospholipase C genes play an important role in carotenoid accumulation and ultraviolet survival in *Neurospora crassa*.	9th International conference on Yeast Biology, December 9-12, Kolkata.	2015	-	-	80	80
47	Barman.A , Nagar.M, Kumar.A and Tamuli.R	Calcium signaling and regulation of cell function in *Neurospora crassa*.	Research Conclave, Indian Institute of Technology Guwahati,	2016	-	-	-	-

			India, 18-20 March.					
48	Prerana Gogoi and **Shankar Prasad Kanaujia**	*In silico* analysis suggests that PH0702 and PH0208 encode for methylthioribose-1-phosphate isomerase and ribose-1,5-bisphosphate isomerase, respectively, rather than aIF2Bβ and aIF2Bδ	NATIONAL CONFERENCE on "Recent Developments in Medical Biotechnology and Structure-Based Drug Designing [RDMBSBDD-2015]" Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati, December 6-7	2015				
49	Monika Chandravanshi and **Shankar Prasad Kanaujia**	Heterogeneous behaviour of metalloproteins toward metal ion binding and selectivity: insights from molecular dynamics studies	NATIONAL CONFERENCE on "Recent Developments in Medical Biotechnology and Structure-Based Drug Designing [RDMBSBDD-2015]", Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati, December 6-7, 2015.	2015				
50	Damaris Magdalene, Darilang Mawrie, Atul Kumar, Jina Bhattacharyy	Extraocular muscles and stem cells	Journal of the American Association for Pediatric Ophthalmology and Strabismus	2015	19	4	e14	e15

	a, **Bithiah Grace Jaganathan**							
51	**Bithiah Grace Jaganathan**, Atul Kumar, Jina Bhattacharyya.	CD90 expression in mesenchymal stem cells of the malignant niche.	Experimental Hematology	2015	43	9	S69	S69
52	Atul Kumar, Jina Bhattacharyya, **Bithiah Grace Jaganathan**.	Role of bone marrow microenvironment in myeloid leukemia progression.	Experimental Hematology	2015	43	9	S74	S74
53	Darilang Mawrie, Atul Kumar, Damaris Magdalene, Chinnapaka Somaiah, Jina Bhattacharyya, **Bithiah Grace Jaganathan.**	Human Extra Ocular Muscle derived Mesenchymal Stem Cell possess multi-lineage differentiation potential.	International conference on molecular signaling: Recent Trends in Biosciences. Conference proceedings	2015				
54	Karukriti Kaushik Ghosh and Manish Kumar	Characterization of Hypothesized Outer Membrane Protein of *Leptospira interrogans* Copenhageni	6th Indo Global Summit and Expo on Vaccines and Vaccination, in Hyderabad	2015	5	6	105	105
56	Bhuvan Dixit and Manish Kumar	Characterization of one of core Cas protein of CRISPR Cas subtype I-B in *Leptospira interrogans* Copenhageni strain Fiocruz L1-130	Innovative Research in Biotechnology, Biomedical Sciences, Bioinformatics and Stem Cell application in JNU, New Delhi	2016	3	1	68	68
57	Aman Prakash, Sourabh Mandal and Manish	Cloning and Expression of novel Lon Protease of *Leptospira interrogans*	Global Symposium on "Animal Health: Newer Technologies	2016			201	202

	Kumar	Copenhageni Strain Fiocruz L1-130	and their Applications" in Veterinary College Khanapara					
58	Karukriti Kaushik Ghosh, Prateek Shrivastav and Manish Kumar	In vitro expression analysis of selected outer membrane proteins of *Leptospira interrogans* Copenhageni strain Fiocruz L1-130 for diagnostics and vaccination	Global Symposium on "Animal Health: Newer Technologies and their Applications" in Veterinary College Khanapara	2016			12	12
59	Bhuvan Dixit and Manish Kumar	Characterization of Cas1 protein of CRISPR Cas subtype I-B *Leptospira interrogans* Copenhageni strain Fiocruz L1-130	Global Symposium on "Animal Health: Newer Technologies and their Applications" in Veterinary College Khanapara	2016			148	149
60	Anusua Dhara, Yogesh Baid, Aman Prakash and Manish Kumar	Leptospirosis: An underrated disease	IIT Guwahati Research Conclave 2016	2016				
62	Umesh Kumar and S Kumar	Molecular characterization of an apoptotic strain of Newcastle disease virus isolated from an outbreak in India.	14th FAOBMB congress and 84th anual meeting of SBC(I)	2015	22	8	402	409
63	Umesh Kumar and S Kumar	Molecular characterization of an apoptotic strain of Newcastle disease virus isolated from an outbreak in India.	6th International Symposium entitled Current Trends in Drug Discovery Research "CTDDR-2016"	2016	22	8	402	409
64	Polakshee Gogoi and S	Apoptotic potential of a newly isolated	XXIV National Conference	2015				

	Kumar	Newcastle disease virus in oral cancer cells	Virocon 2015 Transboundary viral diseases under one health: Perspectives and challenges					
65	Ketan Ganar and S Kumar	Partial sequence of PPMV-I isolate from India	XXIV National Conference Virocon 2015 Transboundary viral diseases under one health: Perspectives and challenges	2015				
66	Barnali Nath and S Kumar	Molecular characterization of Newcastle disease virus strains isolated from different outbreaks in Northeast India during 2014-15	XXIX Annual Convention, IAVMI & Global Conference:2015-16. College of Veterinary Sciences, AAU, Guwahati, Assam	2016	29		182	182
67	Moushumee Das and S Kumar	Recombinant phosphoprotein based single serum dilution elisa for rapid serological detection of newcastle disease virus	XXIX Annual Convention, IAVMI & Global Conference:2015-16. College of Veterinary Sciences, AAU, Guwahati, Assam	2016	29		155	155
68	Milind Singh & Moushumee Das and S Kumar	A new way of classifying newcastle disease virus: an insight on the requirement of minimum nucleotide length.	Research Conclave 2016 Indian Institute of Technology Guwahati	2016				
69	Aditi Makhija and S Kumar	Synonymous codon usage pattern in glycoprotein gene of rabies virus.	XXIX Annual Convention, IAVMI & Global Conference:201	2016	29		147	147

			5-16. College of Veterinary Sciences, AAU, Guwahati, Assam					
70	Nakul Yadav and S Kumar	Characterization of classical swine fever virus stability at extreme conditions of temperature, pH and salt concentrations	XXIX Annual Convention, IAVMI & Global Conference:2015-16. College of Veterinary Sciences, AAU, Guwahati, Assam	2016	29		193	193
71	Sambhavi, **Utpal Bora**	Animal cell culture and its applications	Proceedings of the National Seminar on Insect-Plant interaction	2015	NA	NA	70	77
72	Deepika Singh, Azizur Rahman Khan, **Utpal Bora**	Genetic manipulation in silkworms	Proceedings of the National Seminar on Modern Techniques in Sericulture	2015	NA	NA	11	17
73	Suradip Das, Swagata Sharma, Manoj Gadewar, **Utpal Bora**	Silk in biomedical applications	National Seminar on Problems & Prospects of Muga and Eri Silk Sectors	2016	NA	NA	117	117
74	Deepika Singh, Debajyoti Kabiraj, Hasnahana Chetia, **Utpal Bora**	SeriPort	National Seminar on Problems & Prospects of Muga and Eri Silk Sectors	2016	NA	NA	100	100
75	Srivastava Vartika and Chaturvedi Rakhi	Establishment of *in vitro* callus cultures for the analysis of essential phytochemical constituents from *Tinospora cordifolia* (Willd.) Miers ex	International Seminar on Prevention, Promotion, and Pacification: Ayurvedic Landscape, February 9 –	2016	-	-	85	85

		Hook. F. Thoms against challenging diseases	11, 2016, Science City Auditorium, Kolkata					
76	Srivastava Vartika and Chaturvedi Rakhi	Screening of two important alkaloids from cell suspension cultures of *Tinospora cordifolia* (Willd.) Miers ex Hook. F. & Thoms using high-throughput screening methods	22nd ISCB International Conference-2016- Recent trends in Affordable and Sustainable Drug Discovery and Developments, February 6 – 8, 2016, Uka Tarsadia University, Surat	2016	-	-	87	87
77	Verma Peeyushi and Chaturvedi Rakhi	Establishment of *in vitro* callus cultures for the enhancement of secondary metabolites from *Lantana camara* L. using high through-put screening methods.	A Bioprocessing India 2015: Innovative Bioprocesses with Engineered Cell Factories, December 17 – 19, IIT Madras, Chennai	2015	-	-	121	121
78	Pandey Sushma and Chaturvedi Rakhi	Strategies for the production of bioactive secondary metabolites from *Camellia sinensis* L.O. Kuntze.	A Bioprocessing India 2015: Innovative Bioprocesses with Engineered Cell Factories, December 17-19, 2015, IIT Madras, Chennai	2015	-	-	121	121
79	Naresh LM and Senthilkumar S	Development of heat flux biocalorimeter as a PAT (Process analytical technology) tool to investigate rapid metabolic	Bioprocessing India 2015	2015				

		changes in a bioprocess system						
80	AbsharHasan, Ajeet Singh, SakshiTiwari and Lalit M Pandey	Kinetics of formation of self-assembled monolayers of octyltriethoxysilane (OTS) on silica substrates.	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN) 2015	2015	--	--	--	--
81	Ajeet Singh, AbsharHasan, SakshiTiwari and **Lalit M Pandey.**	Thermodynamic and kinetic insight of Bovine serum albumin (BSA) aggregation	Recent Developments in Medical Biotechnology and Structure-Based Drug Designing (RDMBSBDD) 2015	2015	--	PP-62	--	--
82	SakshiTiwari, AbsharHasan, Ajeet Singh and LalitPandey	Remediation of Soils contaminated with heavy metals	68th Annual Session of Indian Institute of Chemical Engineers, Chemcon-2015	2015	--	--	193	193
83	PoulamiDatta, SakshiTiwari, Niteesh Kumar and LalitPandey	Enzymatic hydrolysis of waste bread by *Aspergillusniger* to produce glucose and subsequent production of bioethanol using *Saccharomyces cerevisiae*	International Conference on waste management, Recycle-2016	2016	--	ICWM-PP-35	153	153
84	Anindita Deka, Nandkishor Roy, Ganesan Padmavathi, Javadi Monisha, R. C.Rajkhowa, **Ajaikumar B. Kunnumakkara**	An investigation on the anticancer activities of "Indian trumpet flower" on colorectal cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			65	65

85	Kishore Banik, Harsha Choudhary, Devivasha Bordoloi, **Ajaikumar B. Kunnumakkara**	Investigation on the anticancer activity of *Dillinenia indica* on head and neck cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			117	117
86	Devivasha Bordoloi, Javadi Monisha, Ganesan Padmavathi, Mayengbam Shyamananda Singh, **Ajaikumar B. Kunnumakkara**	Therapeutic potential of Butein I head and neck cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			118	118
89	Harsha Choudhary, Kishore Banik, Nandkishor Roy, Amrita Khwairakpam, Devivasha Bordoloi, **Ajaikumar B. Kunnumakkara**	Green synthesis and characterization of gold nanoparticles (GNPs) from the leaf of *Dillinenia indica*	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			122	122
90	Javadi Monisha, Sajin Fransis K, Nandkishor Roy, Ganesan Padmavathi, Mangalam Nair, **Ajaikumar B. Kunnumakkara**	Anticancer potential of Azadiradione, isolated from neem, against triple negative breast cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			128	128

91	Amrita Devi Khwairakpam, Harsha Choudhary, Nandkishor Roy, Devivasha Bordoloi, **Ajaikumar B. Kunnumakkara**	Anticancer properties of *Persicaria odorata* on oral cancer cells	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			132	132
92	Ganesan Padmavathi, Simona Simon P, Nandkishor Roy, Devivasha Bordoloi, Javadi Monisha Jos Padikkala, **Ajaikumar B. Kunnumakkara**	Prevention of Azoxymethane induced colon carcinogenesis by the spice Carum copticum (Ajwain)	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			140	140
93	Nandkishor Roy, Javadi Monisha, Ganesan Padmavathi, Devivasha Bordoloi, **Ajaikumar B. Kunnumakkara**	Isoform specific action of Akt kinase inhibitors for better efficacy: An in silico approach	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			151	151
94	Bethsebie Lalduhsaki Sailo, Anindita Deka, Devivasha Bordoloi, **Ajaikumar B. Kunnumakkara**	Bitter Vine: A promising agent for the prevention and treatment of colorectal cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			154	154

95	Anindita Deka, Nandkishor Roy, Ganesan Padmavathi, Javadi Monisha, R. C.Rajkhowa, **Ajaikumar B. Kunnumakkara**	An investigation on the anticancer activities of "Indian trumpet flower" on colorectal cancer	6th Internatiomal Translational Cancer Research Conference " Prevention and Treatment of Cancer: Hypes and Hopes"	2016			65	65
96	Smita Das, Priyamvada Jain, Babina Chakma, Pranab Goswami	Paper Based Electrochemical Sensor for Species Specific Detection of Malaria	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015) held at IITG	December 2015		ABSTRACT ID: J1034		
97	Mallesh Santhosh and Pranab Goswami*	Dual fluorometric/colorimetric assay based on human serum albumin stabilized gold nanoclusters for the sensitive detection of bilirubin.	South Asian workshop on Optics and Photonics (SAWOP 15) organized by UNESCO New Delhi held at IITG, Assam, India.	2015				
98	Mrinal Kumar Sarma, M.G.Abdul Quadir, Pranab Goswami*	*Synechococcus pevalaki* BDU140432 as potential anodic biocatalyst for biofuel cell applications.	Indo-US Workshop on Cell Factories, IIT Bombay.	March 2016		Abstract book page no.45		
99	Sharbani Kaushik, Pranab Goswami	Development of cyanobacterial biofilm using chitosan as biofilm inducing material for biofuel cell applications	CHEMCON 2015, IIT Guwahati	December 2015		Paper ID BI 119,		
100	M. V. S. Kumar, A.	Crowding by specific size of dextran	10th European Biophysics	2015	Abstract # 927			

	Iyer, R. Swaminathan	switches the substrate specificity of Acetylcholinesterase enzyme	Congress, July 18th-22nd2015, Dresden, Germany					
101	S. Prasad, I. Mondal, A. Paul, B. Mandal, R. Venkatramani, R. Swaminathan	Investigation of novel spectroscopic features in the near ultraviolet region arising from non-aromatic amino acids in peptides and proteins	60th Annual Meeting of the Biophysical Society, 27 Feb-2 March 2016, Los Angeles, California, USA *published in*BIOPHYSICAL JOURNAL	2016	110	3 Suppl 1	489a	
102	Kumar S, Tanti B, Mukharjee SK & **Sahoo L**	Molecular characterization and infectivity of a cowpea isolate of Begomoviruses severely infecting cowpea and mungbean in India	IVS-XXIV National conference – VIROCON	2015				
103	Kumar S, Tanti B, Mukharjee SK & **Sahoo L**	RNAi – mediated geminivirus resistance in genetically engineered cowpea (*Vigna unguiculata*)	National seminar on plant genomics and biotechnology, challenges and opportunities in 21st centuary	2016				
104	Muthuvel J, Srivastava R, Kumar S & **Sahoo L**	Overexpression of Arabidopsis PYL9 in indian mustard enhances drought and salinity tolerance by modulating ABA signalling	National seminar on plant genomics and biotechnology, challenges and opportunities in 21st centuary	2016				
105	Kumar P., Chaturvedi Rakhi, Sundar D. and Bisaria V. S.	*Piriformospora indica* enhances the production of pentacyclic triterpenoids in *Lantana camara* L. suspension cultures.	Plant Cell Tissue and Organ Culture	2016	125	1	23	29
106	Archita Ghoshal and	8th Euro Biotechnology	Frankfurt, Germany	August 18-20,	Internatio nal			

	Siddhartha Sankar Ghosh	congress		2015				
107	Archita Ghoshal, Upashi Goswami, Arun Chattopadhyay and Siddhartha Sankar Ghosh	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015)	Guwahati, India	Dec 8-11, 2015	International			
108	Sharmila Narayanan, Lingaraj Sahoo and Siddhartha Sankar Ghosh	International Conference on Cancer. Research: New Horizons	Pune, Maharashtra	19-21st November, 2015	International			
109	Sharmila Narayanan, Lingaraj Sahoo and Siddhartha Sankar Ghosh	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015)	Guwahati, India	Dec 8-11, 2015	International			
110	Md Asif Raza and Siddhartha Sankar Ghosh	Global Cancer Summit	Bangalore, Karnataka	18-20th November, 2015	International			
111	Archita Ghoshal, Upashi Goswami, and Siddhartha Sankar Ghosh	3rd International Conference on Biotechnology and Bioinformatics (ICBB-2016)	Pune, Maharashtra	February 5-7, 2016	International			
112	Deepanjalee Dutta,Amaresh kumar Sahoo, Arun Chattopadhyay and Siddhartha Sankar Ghosh	8th India Bangalore Nano	Bangalore, Karnataka	3rd -4th March 2016	International			
113	Sunil kumar Sailapu, Deepanjalee	Reflux 2016	Guwahati, India	25th - 27th March	National			

	Dutta, Amaresh kumar Sahoo, Siddhartha Sankar Ghosh, and Arun Chattopadhyay			2016				

Book, Book Chapter, etc.

Total No. of Books published: 1

Total No. of Book Chapters published: 10

Format for submission of Book

Sl. No.	Name of Author/s	Name of Book	Publisher	Volume and Issue No. (If any)	Total Page No.	ISBN	Year of Publication
1	Pranjal Chandra (Edited book)	Nanobiosensors for personalized and onsite biomedical diagnosis.	The Institution of Engineering and Technology, Michael Faraday House, Stevenage, United Kingdom		> 400	978-1-84919-950-6	2016

Format for submission of Book Chapter, etc.

Sl. No.	**Name of Author/s**	**Name of Paper**	**Name of Book**	**Publisher**	**Volume and Issue No. (If any)**	**Page No.**	**ISBN**	**Year and Date of Publication**
1	R. Vinoth Kumar, K. Pakshirajan and G. Pugazhenthi	Petroleum versus biorefinery based platform chemicals	Platform Chemical Biorefinery: Future Green Industry	Elsevier	In press	-	978-0-12-802980-0	2016
2	R. Vinoth Kumar, K. Pakshirajan and G. Pugazhenthi	Malic and succinic acid – potential C4 platform chemicals for polymer and biodegradable plastic production	Platform Chemical Biorefinery: Future Green Industry	Elsevier	In press	-	978-0-12-802980-0	2016

3	N. Arul Manikandan, R. Vinoth Kumar, G. Pugazhenthi and K. Pakshirajan	Biorefinery and possible deforestation	Platform Chemical Biorefinery: Future Green Industry	Elsevier	In press	-	978-0-12-802980-0	2016
4	A.Sinha Roy, A.Chingkheihunba and K. Pakshirajan	An overview of production, properties and uses of biodiesel from vegetable oil	Green Fuels Technology	Springer	In press	-	978-3-319-30205-8	2016
5	RekhaDeka, Arit Ghosh, RanjanTamuli, Katherine A. Borkovich	Heterotrimeric G Proteins	The Mycota III Biochemistry and Molecular Biology, 3rd Edition,	Springer International Publishing Switzerland	3rd Edition	119-144	978-3-319-27790-5	2016, 22.02.2016
6	Ritesh Kumar, Shalini Singh and Vikash Kumar Dubey,	Bioinformatics Tools to Analyze Proteome and Genome Data, In: Advances in the Understanding of Biological Sciences Using Next Generation Sequencing (NGS) Approaches	Advances in the Understanding of Biological Sciences Using Next Generation Sequencing (NGS) Approaches	Springer		179-194	ISBN 978-3-319-17157-9	
7	Radhika R. and **Chaturvedi Rakhi**	Plant Cell Cultures: A Promising Biometabolite Reservoir	Biotechnology Trends and Applications	Studium Press LLC, USA		49-77		2016
8	Kusum K. Singh	Regulation of alternative splice site	Scholars' Press	-	89	978-3-639-5147		22.07.2015

		selection				6-6		
9	CS Krishna Murthy and Biman B. Mandal.	Biomaterials based on natural and synthetic polymer fibers.	Trends in biomaterials	Pan Stanford Publishing, Singapore		121-157	978-981-4613-98-9	2016
10	Sagarika Mishra, Sanjeev Kumar, Bedabrata Saha, Jayprakash Awasthi, Mohitosh Dey, Sanjib Kumar Panda & **Lingaraj Sahoo**	Crosstalk between Salt, Drought, and Cold Stress in Plants: Toward Genetic Engineering for Stress Tolerance	Abiotic Stress Response in Plants	John Wiley & Sons		55-86	9783527694594	2016

11. Conferences/Workshops/Symposia Attended: International, National

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Prof. Arun Goyal	11th Carbohydrate Bioengineering Meeting	Espoo, Finland	May 10-13, 2015	International
Prof. Arun Goyal	1st Biomass to Biovalue Summit (BBS-I), Center for Innovative and Applied Bioprocessing	Mohali, Punjab	Feb 11-12, 2016	National
Prof. Arun Goyal	56th International Annual Conference of Association of Microbiologists of India (AMI)	Jawaher Lal Nehru University, New Delhi	December 7-10, 2015	National
Kannan Pakshirajan	68th Annual Session of the Indian Institute of Chemical Engineering Congress CHEMCON 2015	IIT Guwahati	December 27-30, 2015	National
Kannan Pakshirajan	Non Conventional Sources of Energy : Prospects and Challenges NCSE-2016	Royal Group of Institutions, Guwahati	30th January, 2016	National
Kannan	4th Annual Chemical	IIT Guwahati	March 25-27,	National

Pakshirajan	Engineering Symposium REFLUX 2016		2016	
L Rangan	22nd ISCB International Conference	Uka Tarsadia University, Surat, Gujrat	6-8 February 2016	International
L Rangan	3rd International Congress of the Society for Ethanopharmacology (SFEC 2016)	Ravishankar University, Raipur.	18-21 Feb 2016	International
L Rangan	3rd International Congress of the Society for Ethanopharmacology (SFEC 2016)	Ravishankar University, Raipur	18-21 Feb 2016	International
L Rangan	International Conference on New Horizons in Biotechnology: 12th Annual Convention of The Biotech Research Society, India.	Trivandrum, India	22th- 25th Nov 2015	International
Anil M. Limaye	3rd International conference on Herbal and Synthetic Drug Studies (HSDS-2016)	Pune	7-9th Jan, 2015	International
Dr. RanjanTamuli	BIRAC Innovators Meet 2015	Manesar, Gurgaon, Haryana.	15th – 16thSeptember, 2015	National
Dr. Manish Kumar	9th International Leptospirosis Society Scientific Meeting, 2015	Semarang, Indonesia	7-10th October 2015	International
Dr. Manish Kumar	Global Symposium on “Animal Health: Newer Technologies and their Applications” in Veterinary College Khanapara	Khanapara, Assam	12-14th February 2016	International
Dr. Manish Kumar	Global Biotechnology Summit, New Delhi 2016	Vigyan Bhawan, New Delhi	5-6th February 2016	International
Sachin Kumar	National conference on new avenues in microbiology and	WBSU, Barasat, West Bengal	18th-19th March, 2016	National

	biotechnology challenges and prospects			
Sachin Kumar	XXIX annual convention of Indian association of veterinary microbiologists, immunologist and specialist in infectious diseases	AAU Khanapara and NRCP Rani, Guwahati	12-14th Feb, 2016	International
Sachin Kumar	VIROCON, XXIV National Conference of Indian Virological Society	NEIGRIHMS, Shillong Meghalaya	8th- 10th Oct, 2015	National
Dr. Shirisha Nagotu	9th International conference on Yeast Cell Biology Invited talk – Peroxisome biogenesis in yeast	Kolkata, India	9-12-2015 to 12-12-2015	International
Prof. Utpal Bora	"Fogarty Annual Symposium 2016" organized by Department of Psychiatry Guwahati Medical College Hospital, Guwahati	Hotel Lily, Guwahati	25th-28th January 2016	International
Prof. Utpal Bora	"National Seminar on Problems & Prospects of Muga and Eri Silk Sectors" organized by CMER&TI, Lahdoigarh, Jorhat, Assam	IIE, Lalmati, Guwahati	25th-26th February 2016	National
B. ANAND	RNA-2015	University of Wisconsin-Madison, USA	May 26- 31, 2015	International
B. ANAND	MCB-75	Indian Institute of Science, Bangalore	December 11-14, 2015	International
B. ANAND	81st Annual Meeting of Indian Academy of Sciences	IISER, Pune	November 6-8, 2015	National
B. ANAND	Annual Meeting of Indian National Science Academy	IISER, Bhopal	December 28-30, 2015	National
Rakhi Chaturvedi	22nd ISCB International Conference – Recent Trends in Affordable	Surat	Feb 6-8, 2016	International

	Sustainable Drug Discovery and Development			
Rakhi Chaturvedi	A Bioprocessing India 2015: Innovative Bioprocesses with Engineered Cell Factories	IIT Madras	Dec 17-19, 2015	International
LalitPandey	UNESCO SAARC Workshop on Optics & Photonics "SAWOP 2015"	IIT Guwahati	November 17–18, 2015	International
LalitPandey	Recent Developments in Medical Biotechnology and Structure-Based Drug Designing (RDMBSBDD) 2015, IIT Guwahati	IIT Guwahati	December 6-7, 2015.	National
Kusum K. Singh	08th RNA Meeting	CSIR-Centre for Cellular and Molecular Biology, Hyderabad	8-10 January	National
Prof. Pranab Goswami	Elsevier Editors' conference	Beijing, China	22-25th October 2015.	International
Dr. Biman B Mandal	TERMIS World Congress	Boston, USA	8-11 September, 2015	International
Pranjal Chandra	National Conference on Function Materials during March	DeenDayalUpadhyay Gorakhpur University	10-12, 2016	National
R. Swaminathan	10th European Biophysics Congress (EBSA 2015)	Dresden, Germany	18th-22nd July2015	International
R. Swaminathan	Optics within Life Sciences (OWLS 2016)	Tata Institute of Fundamental Research, Mumbai	16-19 March, 2016	International
L. Sahoo	UGSAS-GU 12 Round Table and Symposium 2015	United Graduate School of Agricultural Science, Gifu -Shizouka University, Japan	25-26 August 2015	International
Yasufumi Kobayashi	Techniques in Basic Biotechnology and Bioinformatics	Gauhati University	18/03/2016	National

12. Invited Lectures Of Faculty: In India, Abroad (Please do not repeat entries from Sl. No. 14)

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Prof. Arun Goyal	Recombinant	Center for Innovative and	Mohali,	Feb 11-12,

	carbohydrate active enzymes and their applications in conversion of biomass to biovalued products or processes.	Applied Bioprocessing (CIAB)	Chandigarh Punjab	2016
Prof. Arun Goyal	Recombinant pectate lyase (CtPL1B) from *Clostridium thermocellum*: Characterization and applications in bioscouring and inhibition of cancer cells.	Jawaher Lal Nehru University	New Delhi	December 7-10, 2015
Kannan Pakshirajan	Bioprocess Engineering	Department of Molecular Biology and Biotechnology, Tezpur University	Tezpur, Assam	21-22 November 2015
Kannan Pakshirajan	Fungal pelleted bioreactor for wastewater treatment	Department of Chemical Engineering, IIT Guwahati	IIT Guwahati, Assam	28th December, 2015
Kannan Pakshirajan	Biohydrogen - prospects and potential	Department of Chemical Engineering, IIT Guwahati	IIT Guwahati, Assam	7th March 2016
Kannan Pakshirajan	Biorenewables and Biofuels: prospects and challenges	Royal School of Engineering and Technology	Guwahati, Assam	30Th January 2016
KannanPakshirajan	Sophorolipids: production, characterization and properties	Center for the Environment, IIT Guwahati	IIT Guwahati, Assam	21st January 2016
Kannan Pakshirajan	Industrial wastewater treatment using surfactants	Center for the Environment, IIT Guwahati	IIT Guwahati, Assam	21st January 2016
Kannan Pakshirajan	Bioremediation of contaminated soils using biosurfactants	Center for the Environment, IIT Guwahati	IIT Guwahati, Assam	22nd January 2016
L Rangan	Flow mining-Application and Progress in Plant Science, 17th Indo-US Workshop on Flow Cytometry	IISC Bangaluru	IISC	14-18 March 2016
L Rangan	New positives of biotech research in	SIBBR&D, Cochin	Cochin	18 Dec 2015

	renewable energy resources- Success story of Pongamia, National Seminar on Biofuel A Search for New Fire			
L Rangan	Morphological, biochemical and genomic studies in *Pongamia*	Central University Hyderabad	Hyderabad	26 Aug 2015
Anil M. Limaye	Molecular insights into the chemopreventive or chemotherapeutic potential of the green tea polyphenol Epigallocatechin-3-gallate.	NIRRH	Mumbai, India	2nd July, 2015
Anil M. Limaye	Mechanistic insights into the anticancer properties of the major green tea polyphenol (-)-epigallocatechin-3-gallate	NIPER (Invited as a resource person in a workshop)	Guwahati India	30th Mar, 2016
Anil M. Limaye	Principles of hypothesis testing: z-test, t-test and ANOVA	NIPER (Invited as a resource person in a workshop)	Guwahati India	30th Mar, 2016
Shankar Prasad Kanaujia	Structural Bioinformatics: Tips and Tools	Tezpur University	Tezpur, Assam	March 5, 2016
Shankar Prasad Kanaujia	Computational methods for functional annotation of membrane proteins	IIT Guwahati	Guwahati, Assam	June 25, 2015
Dr. Manish Kumar	"Gene Cloning and Expression as a tool for development of novel diagnostics and vaccines"	Veterinary College, Khanapara	Khanapara	12.03.16
Rakhi Chaturvedi	Exploring Plant Improvements using Plant Tissue Culture Techniques	National Seminar on conservation of RET plants, Department of Botany, Gauhati University,	Guwahati	March 21, 2016

Rakhi Chaturvedi	Exploring Plant Improvements and Bioaccumulation Capabilities of Plant Cells using Plant Tissue Culture Techniques	37th Annual meeting of Plant Tissue Culture Association, CSIR-NBRI	Lucknow	February 25 – 27, 2016
Rakhi Chaturvedi	Screening and isolation of natural products from plant tissue cultures for the development of a new lead drug agent from the genus *Spilanthes*	ISCB, Lucknow and Uka Tarsadia University, Surat	Surat	February 7, 2016
Rakhi Chaturvedi	In vitro plant cell differentiation from somatic tissues and its applicability for the production of secondary metabolites	IIT Madras	Madras	December 17-19, 2015
Rakhi Chaturvedi	Plant Tissue Culture and its Applicability for Bioresource Recovery	Assam Biotechnology Conclave-2015 organized by Guwahati Biotech Park	Guwahati	November 20 – 21, 2015
Dr.Senthilkumar Sivaprakasam	Biocalorimetry: State of Art and Potential Application as PAT Process Analyzer for Bioprocess Monitoring and Control	Indian Institute of Technology Madras	Chennai	Dec 2015
Dr. Vikash Kumar Dubey	Recent development in Leishmania research: Promising drug candidates in pipeline. 8 th National symposia cum workshop on Recent Trends in Structural Bioinformatics and Computer Aided Drug Design	Algappa University, Karaikudi	Karaikudi	February 16-19, 2016
Ajaikumar B.	Fruits, Vegetables	Proceedings of the 8th	San	Nov 6-8,

Kunnumakkara	and their Components in Cancer Preventions: What we learned thus far? (Keynote Lecture)	International Aroma Therapy Conference	Fransisco	2015
Prof. Pranab Goswami	Biofuel cell	NEQIP organized by Electrical Engineering Department, Assam Engineering college	Guwahati	March 10, 2016.
Prof. Pranab Goswami	Biosensors - an Effective Tool for Disease Diagnosis	Short-term Training programme “Nucleic acid Amplification Techniques in Life Science Research” organized by the State Biotech Hub	Assam Agricultural University, Khanapara, Guwahati	January 06, 2016
Dr. Biman B Mandal	Challenges in Tissue Engineering	IIT Guwahati	CIF, Guwahati	March 30, 2016
Dr. Biman B Mandal	Making Human Tissues	IIT Guwahati	Research Conclave, Guwahati	March 19, 2016
Dr. Biman B Mandal	Human Tissue Engineering	IIT Guwahati	Ishan Vikas, Guwahati	December 09, 2015
Dr. Biman B Mandal	Human stem cells for tissue engineering	BIT Mesra	Ranchi, India	November 16, 2015
Pranjal Chandra	Biophysicochemical sensing systems for biomedical diagnostics and therapeutics	DeenDayalUpadhyay Gorakhpur University	Gorakhpur.	12/03/2016
R. Swaminathan	Aggregation of hen lysozyme protein at alkaline pH: Mechanisms, Inhibition and Applications	FOM Institute AMOLF,	Amsterdam, Netherlands	13 July 2015
R. Swaminathan	Crowding by specific dextran switches the substrate specificity of acetylcholinesterase enzyme	FOM Institute AMOLF,	Amsterdam, Netherlands	14 July 2015
R. Swaminathan	Aggregation of hen lysozyme protein at alkaline pH: Mechanisms, Inhibition and Applications	CEMCA-UMR CNRS 6521, University of Brest-France	Brest, France	16 July 2015

Lingaraj Sahoo	Applications of Molecular Tools in Plant Improvement	Tezpur University	Tezpur	November 13, 2015
Lingaraj Sahoo	Functional Genomics for Discovery of Novel Plant Genes	Tezpur University	Tezpur	November 14, 2015
Lingaraj Sahoo	Genetic Improvement of Orphan Grain Legumes	Tripura University	Agartala	March 31, 2016
Lingaraj Sahoo	Biotechnology for Crop Improvement	Nagaland University	Lumami	April 1, 2015
Dr. RanjanTamuli	Biotechnology, scientist, and society	JawaharNavodayaVidyalaya	Nalbari	24.11.2015
Yasufumi Kobayashi	Aluminum and Low-pH tolerance connected by STOP1-related signaling pathway	Tezpur University	Tezpur	13/11/2015-14/11/2015
Yasufumi Kobayashi	Multiple acid-soil stress tolerance mechanisms in plants	Tripura University	Tripura	30/03/2016-01/04/2016
Prof. S. S. Ghosh	MALDI-TOF /TOF For Potential Therapeutic Nanomaterials	SCIEX Seminar On Mass spectrometry By AB SCIEX	Guwahati	22nd September 2015
Prof. S. S. Ghosh	Nanotheranostics for imaging and targeted drug delivery	BioX-Academia Industry Conclave -2015	IIT Mandi	6-7th November 2015
Prof. S. S. Ghosh	Strategies for Recombinant Protein Therapy using Nanocarriers	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015)	IIT Guwahati	8-11th December 2015
Prof. S. S. Ghosh	Session Chair	4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015)	IIT Guwahati	8-11th December 2015
Prof. S. S. Ghosh	Cloning, Purification and MALDI-TOF Analysis of Recombinant Proteins to Explore Therapeutic Potentials	"Advances in Proteomics workshop" at Institute of Advance Study in Science and Technology (IASST), Guwahati	Guwahati	21st January 2016
Prof. S. S. Ghosh	Recombinant	International Winter School	IIT Roorkee	13th Februaray

	Proteins in Nanotheranostics	and Hands on Training programme on "Nano-Biotechniques" (I WiSH NanoBio: 2016)		2016
Prof. S. S. Ghosh	Applications of TEM in Nanotheranostics	National workshop on "Advanced Probing Techniques in TEM"	IIT Guwahati	16th February 2016
Prof. S. S. Ghosh	Cancer Nanomedicine Smartens up	Second National workshop on NEMS/MEMS and Theranostic Devices, 2016, IIT Guwahati	IIT Guwahati	21st march 2016
Prof. S. S. Ghosh	Theranostic Cancer Nanomedicine	Hands on Training Workshop on "Synthesis and characterization of nanomaterials for Biotechnological application"	School of Technology at North Eastern Hill University, Shillong	28th March 2016

13. Visitors From Other Institutes / Universities / Organisations / Invited Lectures
(**Only distinguished visitors invited by appropriate authority**)

Name	**Name of Inst./Univ./Org.**	**Purpose/ Name of Lecture**	**Date**	**Remarks**
Dr William G. Telford	NIH, Washington, USA	Institute Lecture	20 Oct 2015	Dr Telford is world renowned cytometrist and authority in the Laser and its application in Flow particularly as it relates to clinical and diagnostic testing.
Dr. Patrick Shaw Stewart	Douglas Instruments Ltd. Douglas House, East Garston, Hungerford, Berkshire, RG17 7HD, UK	Random microseeding and multivariate experimental designs for successful protein crystallization	December 09, 2015	Biotalk
Dr. Monica Schmidt	University of Arizona, School of Plant Sciences, BIO5 Institute, 1657 E.Helen St, Tucson, Arizona, USA	Functional Foods: Using Biotechnology to Make Foods Better for Consumers	February 24, 2016	Biotalk

Dr Junpei Takano	Lab. Molecular Biology, Research Faculty of Agriculture, Hokkaido University Agriculture Building W503	Boron Transport in Plants - Alleviating Boron Deficiency in Crops	January 25, 2016	Classroom lecture
Prof. Tsutomu Matsui	Faculty of Applied Biological Sciences, Gifu University, Japan	Heat Induced Floret Sterility in Rice	November 30, 2016	Lab lecture
Prof. Yoshiharu Yamamoto	Faculty of Applied Biological Sciences, Gifu University, Japan	Prediction-oriented promoter analysis to study environmental response of higher plants	September 17, 2015	Biotalk
Mr. Kazutaka Kusunoki	Faculty of Applied Biological Sciences, Gifu University, Japan	Transcriptomics of Tree species for Understanding Stress Response	September 15, 2015	Classroom Lecture
Prof. Takahisa Nishizu	Faculty of Applied Biological Sciences, Gifu University, Japan	Thermodynamically-Based Evaluation Method of Whipped Cream Texture	August 11, 2015	Biotalk
Prof. Jeffrey L. Bennetzen	Department of Genetics, University of Georgia, USA	Analysis of Cereal Genome Structure and Evolution	05/05/2015	Biotalk
Dr. Krishanu Ray	Department of Biological Sciences, Tata Institute of Fundamental Research, Mumbai	Nano-size Motors and Meter-Long Journeys	18/05/2015	Biotalk
Dr. Gopal Kundu	Laboratory of Tumor Biology, Angiogenesis and Nanomedicine Research, National Centre for Cell Science, Pune	Osteopontin, a Chemokine like Protein acts as Novel Therapeutic Target Covering all Hallmarks of Cancer	29/05/2015	Biotalk
Prof. Kasturi Datta	School of Environmental Science and Special Centre for Molecular Medicine, Jawaharlal Nehru University, New Delhi	Differential Response of Overexpression of Hyaluronan Binding Protein 1 (HABP1), A Multifaceted Protein in Diverse Cell Lines: Implications in Cancer Progression	08/06/2015	Biotalk
Prof.	Gifu University, 1-1	Thermodynamically-	11/08/2015	Biotalk

Takahisa Nishizu	Yanagido, Gifu 501-1193, Japan	Based Evaluation Method of Whipped Cream Texture		
Dr. Sarala Balachandran	Chief Scientist, CSIR and Project Director. Open Source Drug Discovery unit	Drug Discovery and Development in Tuberculosis with an Aim to Benefit the Masses	04/11/2015	Biotalk
Dr. Shabir Najmudin	Faculty of Veterinary, Medicine, University of Lisbon, Portugal	A Multi-faceted approach to understanding the assembly and function of the CELLULOSOME: a Mega-Dalton, Multi-Enzyme Complex involved in the deconstruction of Complex Plant Cell Wall Carbohydrates	06/11/2015	Biotalk
Prof. Jonathan C. Knowles	Prof. of Biomaterials Science, Head of Division of Biomaterials and Tissue Engineering, UCL Eastman Dental Institute, University College London, 256 Gray's Inn Road, London WCIX 8LD, UK	Phosphate Based Glasses and their Development as Biomaterials for Tissue Engineering	13/11/2015	Biotalk
Prof. Chandrabhas Narayana	Chemistry and Physics of Materials Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	Raman Spectroscopy in Nano- Biotechnology	18/11/2015	Biotalk

14. Seminars/Workshops/Conferences/Short-Term Courses Organised

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	Dr. Vikash Kumar Dubey Dr. Sankar P Kanaujia	Recent Developments in Medical Biotechnology and Structure-Based Drug Designing [RDMBSBDD 2015	DBT, DST, ICMR, CSIR etc	December 6^{tn} to 7^{tn}, 2015	International	250

2	Dr. Vikash Kumar Dubey Dr. Ranjan Tamuli	Conference on Bioinformatics and Computer Aided Drug Design [CBCADD 2015]	DBT-BIF	December 7th, 2015	National	60
3	Dr. Vikash Kumar Dubey Dr. Ranjan Tamuli	Symposium cum Workshop on "Advances in Computational Biology and Computer Aided Drug Design"	DBT-BIF	24th to 26th June, 2015	National	120
4	Prof. Pranab Goswami	KIC-TEQIP Short-Term Course On Recent Trends in Fuel Cell Technology (Orgainzed under Centre for Energy, IITG)	World bank assisted national level project of MHRD, GOI	28th – 29th December 2015	Natrional	27

A brief report on the major NATIONAL and INTERNATIONAL events with photographs may also be given separately in addition to the format given above.

15. Patents:

No. of Patents Applied with details: 7 No.

of Patents Granted with details: NIL

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	**Bora U** and Das S	Silk based electrically conductive nerve conduit and the method for preparing the same	02.07.2015	721/Kol/2015	
2	Vibin Ramakrishnan, SajithaSasidharan, Nitin Chaudhary and GauravPandey		31.03.2016	201631011471, dated. Indian Patent office Kolkota	
3	Pranab Goswami, Ankana Kakoti	DNA aptamers specifically binding to human heart	December 2015	Application no.1287/KOL/2015	

		type fatty acid binding protein (FABP3).			
4	Biman B Mandal and Sween Gilotra	Electrospun sericin/PVA mat as a prospective wound dressing material		638/KOL/2015	
5	Biman B Mandal and Prerak Gupta	. Patterned silk film based vascular grafts and it use thereof		1246/KOL/2015	
6	Biman B Mandal.	Indian silk based injectable hydrogel and its use thereof		31008502	
7	K S Shripad, H B Nemade, R. Swaminathan	Cost effective, portable optoelectronic instrument to measure steady state fluorescence and its set up.	7 Nov 2015	REF: 1136/KOL/2015	Patent filed

16. Awards and honours (Only awards/honours at national/international level from reputed organisations)

Prof Arun Goyal: 2016

1. Invited as "Member Expert Committee" of NER Twinning RnD program of NERBPMC, DBT, Govt. of India Mar 11, 2016.

2. Invited as External Examiner, Doctoral thesis, Department of Biotechnology, IIT Hyderabad, March 10, 2016.

3. Invited as "Member of Screening Committee" of NER Twinning RnD program of NERBPMC, DBT, Govt. of India to review the project proposals, Feb 2, 2016.

4. Invited as an "Expert member for Selection Committee" for recruitment of Associate Professor at Department of Forestry, North Eastern Regional Institute of Science and Technology, Jan 29, 2016.

5. Invited as an "Expert member for Selection Committee" for recruitment of Associate Professor at Department of Human Physiology, Agartala University, Tripura, Jan 15, 2016.

Prof Arun Goyal: 2015

6. Member, Scientific Advisory Committee, Cancer Research Foundation, India.

7. Invited to Co-chair a session during 56th International Annual Conference of Association of Microbiologists of India (AMI), December 7-10, 2015, Jawaharlal Nehru University, New Delhi.

8. Invited as member "National Jury" for India Innovation Initiative a National-level competition organized jointly by CII with DST, Government of India and All India Council for Technical Education (AICTE).

9. Invited as Expert, member selection committee for faculty members at Department of Molecular Biology & Genetic Engineering, GB Pant University of Agriculture & Technology, Uttarakhand, Oct 31, 2015.

10. Invited as an "Expert member for selection committee" for recruitment of Professor at Department of Molecular Biology and Bioinformatics, Agartala University, Tripura, October 9, 2015.

11. Invited to Chair a session in "Update on Advances in Cancer Rsearch", September 10, 2015, B. Barooah Cancer Institute, Guwahati, Assam, India.

12. Nominated as member, Scientific Advisory committee, Cancer Research Foundation, India.

13. Invited to Chair the session in National Conference on Challenges in Environmental Research, 4-6 June, 2015, IIT Guwahati, Guwahati, Assam, India.

14. Invited to Chair 2 sessions in 2nd North Eastern Regional Conference on Head and Neck Oncology, May 22-23, 2015, B. Barooah Cancer Institute, Guwahati, Assam, India.

Prof K. Pakshirajan

(a) Outstanding Reviewer 2015 Award of the Journal of Hazardous Materials, Elsevier , Amsterdam, The Netherlands

(b) Lead Guest Editor of the special issue 'Biotechnology in Environmental Monitoring and Pollution Abatement 2015' published in BioMed Research International, a peer-reviewed, open access journal (impact factor = 2.436) by Hindawi Publishing Corporation.

(c) Co-editor of the book Platform Chemical Biorefinery: Future Green Industry by Elsevier Publications.

Prof. Vikash Kumar Dubey:

1. Dr. P.N. Raju Oration Award by Indian Council for Medical Research, Government of India (Award received during January 2016).

2. Invited and participated as an "Expert member for Selection Committee" for recruitment of Faculty members at IIT Banaras Hindu University.

3. Invited and participated as an "Expert member for Selection Committee" for recruitment of Faculty members at NIT-Arunachalpradesh.

4. Invited for several projects reviews from SERB,Govt. of India

5. Invited for several projects reviews from Ministry of Health, Govt. of Italy

6. Appointed as Member, Institutional Biosafety Committee, Pig Research Institute, Rani, Guwahati (2015 onwards).

7. Invited as External Examiner, Doctoral thesis, from many institutes including IIT Hyderabad, JNU, CDRI, NII, JNTU, NIPER-Mohali etc.

Prof. Utpal Bora:

1. Appointed as Member, Programme Advisory Committee, National Science and Technology Management Information System (NSTMIS), Department of Science and Technology, Government of India (2015-2018)
2. Appointed as Member, Institutional Biosafety Committee, College of Veterinary Sciences, Khanapara, Assam Agricultural University (2015 onwards)
3. Appointed as Member, Scientific Advisory Committee meeting of Muga Silkworm Seed Organization, Central Silk Board, Ministry of Textiles, Government of India (2014-2016)
4. Appointed as Expert Member, Board of Studies in Biotechnology, Mizoram University (2015)
5. Appointed as Member, Programme Advisory Committee, National Science and Technology Management Information System (NSTMIS), Department of Science and Technology, Government of India (2015-2018).

Dr. B. Anand:

1. INSA medal for Young Scientists.

2. Associate, Indian Academy of Sciences, Bangalore

3. DBT-Innovative Young Biotechnologist Award

Dr Kusum K Singh:

2016 Albert's Global Researcher Reunion Award

Prof. P. Goswami:

(i) Prof. Pranab Goswami has received Certificate of Outstanding Contribution in Reviewing for the quality of the journal *Biosensors and Bioelectronics (Elsevier, Amsterdam, The Netherlands)* awarded in June 2015.

(ii) Prof. Pranab Goswami has been awarded full sponsorship by Elsevier, UK to participate *Editor's conference* held at Beijing, China during 22-25th October 2015.

(iii) Prof. Pranab Goswami has been appointed as Co-Chairman of the screening committee of the NER Twinning R&D programmes for the year 2015-2016 by Department of Biotechnology, Government of India.

(iv) Prof. Pranab Goswami has been appointed as member of a selection committee held on 23rd February 2016 for promotion of Professor I to Professor II in IASST, Guwahati.

(v) Prof. Pranab Goswami has been appointed as member of a screening committee of applications held on 23rd February 2016 for promotion of faculty members in IASST, Guwahati.

(vi) Prof. Pranab Goswami has been appointed as member of a selection committee meeting held on 6th June 2015 for the faculty position in the centre for energy, IIT Guwahati.

(vii) Prof. Pranab Goswami was appointed as viva-voce examiner of a student for PhD degree at Department of Chemistry, Gauhati University during May 2015.

(viii) Prof. Pranab Goswami has been Selected as editorial board member of the international journal, *Biocatalysis and Agricultural Biotechnology* (Elsevier, ISSN:1878-8181**)**

Dr. Biman B Mandal:

INSA-Medal for Young Scientists 2015 by Indian National Science Academy, India. Citation and cash award.

Dr. P. Chandra:

Selected for the award of **RAMANUJAN FELLOWSHIP** from the Ministry of Science and Technology, Department of Science and Technology, Government of India.

Prof Lingaraj Sahoo:

1. Appointed as Guest Professor at Gifu University, Japan.
2. Nominated as Member of Board of Governers (BOG) of Univesrsity of Science & Technology, Meghalaya.
3. Invited as an "Expert member for Selection Committee" for recruitment of Associate Professor at Department of Botany, Nagaland University, February 2, 2016.
4. Invited as an "Expert member for Selection Committee" for recruitment of Professor, Associate Professor and Assistant Professor at Department of Biotechnology, Cotton University, Assam, July, 2015.
5. Invited as an "Expert member for Selection Committee" for recruitment of Professor, Associate Professor and Assistant Professor at Department of Life Sciences, Sambalpur University, Orissa, December 11-12, 2015.

Dr Rakhi Chaturvedi

1. **Associate Editor** of the Journal - In Vitro Cellular & Developmental Biology- Plant [Publisher: Springer]
2. **Member**, International Society for In Vitro Biology (SIVB), USA

3. **Member** of National Academy of Sciences, India (NASI)
4. **Selected Member** of the prestigious society - Plant Tissue Culture Association (India) (PTCA-I)
5. **National Jury Member**, India Innovation Initiative (i-3) a national level competition jointly organized by, AICTE, CII and DST with an aim to expend and strengthen entrepreneurial ecosystem of the country.

17. Students' Achievements:

1. Mr. Rwivoo Baruah, PhD student working under Prof. Arun Goyal won the Best Poster Award for "Characterization of glucan from *Weissella cibaria* RBA12 as a potential food additive and hydrocolloid" in the Food and Agricultural Biotechnology category in the International conference on New Horizons in Biotechnology (NHBT-2015) held at CSIR-National Institute for Inter-disciplinary Science and Technology, Thiruvananthapuram during November 22-25, 2015.

2. Ms Priyanka Nath, PhD student working under Prof. Arun Goyal won the Best poster award for "Identification of promising functional residues capable of introducing endo-xylanase activity into an exo-acting arabinofuranosidase (*Ct*43Araf) with enhanced activity: An in silico approach" presented at 56th International Annual Conference of Association of Microbiologists of India (AMI), held at Jawaharlal Nehru University, New Delhi during December 7-10, 2015.

3. Rohit P. James, an M Tech project (MTP) student working under Prof. Kannan Pakshirajan, was awarded with the Best Poster for his MTP work 'Screening of fungal strains for chitosan production using paper and pulp mill wastewater as feedstock' in the 4th Annual Chemical Engineering Symposium REFLUX2016, held at IIT Guwahati during March 25-27, 2016.
4. Poster presented by Ananya Barman, Manju Nagar, and Ajeet Kumar were among the three best posters from the Department of Biosciences and Bioengineering, and finally won second runner-up, during theResearch Conclave, Indian Institute of Technology Guwahati, India, 18-20 March, 2016.

5. Atul Kumar, Ph D student under Dr. Bithiah Grace Jaganathan was selected for EMBO travel award to attend the EMBO | EMBL Symposium: Tumour Microenvironment and Signalling at Heidelberg, Germany to be held 3-6 April 2016.

6. Karukriti Kaushik Ghosh, a PhD student under supervision of Dr. Manish Kumar won "Best Poster Award" entitled "Characterization of Hypothesized Outer Membrane Protein of *Leptospira interrogans* Copenhageni" in the International conference on "6th Indo Global Summit and Expo on Vaccines and Vaccination" organized at Hyderabad International Convention Centre, Hyderabad in November, 2015.

7. Bhuvan Dixit, a PhD student under supervision of Dr. Manish Kumar won "Best Poster Award" entitled "Characterization of one of core Cas protein of CRISPR Cas subtype I-B in *Leptospira interrogans* Copenhageni strain Fiocruz L1-130" in the International conference on "Innovative Research in Biotechnology, Biomedical Sciences, Bioinformatics and Stem Cell application" organized at Jawaharlal Nehru University, Delhi in January, 2016.

8. Ketan Ganar was awarded consolation prize for poster presentation in VIROCON, XXIV National Conference of Indian Virological Society held in NEIGRIHMS, Shillong Meghalaya from 8th-10th October, 2015.

9. Barnali Nath was awarded consolation prize for poster presentation in XXIX annual convention of Indian association of veterinary microbiologists, immunologist and specialist in infectious diseases held in AAU Khanapara and NRCP Rani, Guwahati from 12-14th Feb, 2016.

10. Moushumee Das was awarded appreciation prize for poster presentation in XXIX annual convention of Indian association of veterinary microbiologists, immunologist and specialist in infectious diseases held in AAU Khanapara and NRCP Rani, Guwahati from 12-14th Feb, 2016.
11. Prakash Saudagar, best poster award at International Conference on Infectious Diseases and Nanomedicine-2015 (ICIDN-2015), Kathmandu for following work:- Prakash Saudagar, and Vikash Kumar Dubey. "Betulin attached to functionalized carbon nanotubes showed better efficacy against Leishmania parasite". 2nd International Conference on Infectious Diseases and Nanomedicine-2015 (ICIDN-2015), Kathmandu, Nepal,December 15-18, 2015.[**Best poster Award**
]
12. 2nd Best Paper Award to Vartika Srivastava for 'Establishment of *in vitro* callus cultures for the analysis of essential phytochemical constituents from *Tinospora cordifolia* (Willd.) Miers ex Hook. F. Thoms against challenging diseases' at International Seminar on Prevention, Promotion and Pacification of Ayurvedic Landscape, Feb 9-11, 2016, Science City Auditorium, Kolkata.
13. Ganesan Padmavathi, a PhD student under supervision of Dr. Ajaikumar B. Kunnumakkara won'Best Poster Award' for 'Prevention of Azoxymethane induced colon carcinogenesis by the spice *Carum copticum* (Ajwain)' at 6th Internatiomal Translational Cancer Research Conference "Prevention and Treatment of Cancer: Hypes and Hopes", Feb 4-7, 2016, Hyatt Residency, Ahmedabad.
14. Young Scientist Award to Anindita Deka, a summer trainee undersupervision of Ajaikumar B. Kunnumakkara for 'An investigation on the anticancer activities of "Indian trumpet flower" on colorectal cancer' at 6th Internatiomal Translational Cancer Research Conference "Prevention and Treatment of Cancer: Hypes and Hopes", Feb 4-7, 2016, Hyatt Residency, Ahmedabad.

15. Mr. Mallesh Santhosh, PhD student working under the supervision of Prof. Pranab Goswami has received 2nd best student paper award in contributory research category in the *South Asian workshop on Optics and Photonics* (SAWOP 15) organized by UNESCO New Delhi held during 17-18 November, 2015 at IITG, Assam, India.

16. Sharmila Narayanan won the "Best Poster award" in the 4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015)
17. Archita Ghoshal won the "Best Poster award" in the 3rd International Conference on Biotechnology and Bioinformatics (ICBB-2016)
18. Archita Ghoshal and Neha Arora were invited as the "Instructors" to conduct "Advances in Proteomics workshop" organized by the Bioinformatics Centre, Institute of Advanced Study in Science and Technology, Guwahati

18. Any Other (Special Mention)

Prof. Arun Goyal:

Jun 2015 - Jul 2015 Visiting Professor, Department of Animal Production, Faculty of Veterinary Medicine (FMV), University of Lisbon, Lisbon, Portugal.

May 2015- May 2015 Visiting Professor, Department of Food and Environmental Science, University of Helsinki, Finland

Prof K Pakshirajan:

Expert Member of the Board of Research Studies at the Assam downtown University, Guwahati, since August 2015.

19. Faculty Members (In alphabetical order according to surname)

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest	Date of joining (Not Internal Promotion) for the faculty members who joined during the reporting year
1	Anand B., Ph.D.	IIT Kanpur, Kanpur, India (2010)	Assistant Professor	Structural Biology, Bioinformatics & Computational Biology, RNA Biology, Molecular Evolution	
2	Bora U., Ph. D.	Institute of Genomics and Integrative Biology, Delhi (degree awarded by GGS Indraprastha University, Delhi)	Professor	Biomaterials, Nanotechnology, Drug Delivery and Tissue Engineering	
3	Bose B., Ph. D.	AIIMS	Associate Professor	Cell Signaling, Computational Biology, Recombinant Proteins	
4	Chandra Pranjal, Ph.D	Pusan National University, Busan, South Korea	Assistant Professor	• Clinical Diagnostics (Cancer cells, DNA, RNA, bio-markers) using electroanalytical methods such as cyclic voltammetry, chronoamperometry, impedance spectroscopy. • Nano-biosensors (*Aptamer, antibody,*	

				enzyme) based biological phenomenon investigation. • Porous silicon based label free self reporting optical nanosensors. • Microfluidics and Nanomachines.	
5	Chaturvedi R., Ph. D.	University of Delhi, Delhi, India	Professor	Plant Cell, Tissue & Organ Culture, Protoplast Isolation and Regeneration, Isolation, Purification and Characterization of Plant Secondary Metabolites	
6	Chaudhary N., Ph. D.	Centre for Cellular and Molecular Biology: CSIR Hyderabad, India	Assistant Professor	Peptide self-assembly and amyloid aggregates, Peptide-membrane interactions, Curvature inducing proteins	
7	Das D., Ph. D.	Biochemical engineering, 2007, IIT Bombay, Mumbai, India	Associate Professor	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel	
8	Dasu V. V., Ph. D.	Department of Chemical Engineering, Indian Institute of Technology (IIT) Madras, Chennai, India, 2000	Professor	Bioprocess Development (upstream to downstream), Metabolic Engineering, Bioenergy	On deputation as Director in Rajiv Gandhi University of Knowledge Technologies, Nuzvid, AP
9	Dubey V. K., Ph. D.	Banaras Hindu University	Professor	Biochemical Parasitology, Drug Discovery, Protein Biochemistry	
10	Ghosh S. S., Ph. D.	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Gene Therapy, Expression Cloning (Mammalian Systems), Nanobiotechnology	
11	Goswami P., Ph. D.	NEIST CSIR Jorhat	Professor	Biocatalysis, Biosensor, Enzymatic Biofuel cell, and Biotransformation	
12	Goyal A., Ph. D.	Indian Institute of Technology Kanpur,	Professor	Molecular Biology, Protein Engineering,	

		Kanpur, India.		Structural and Functional Proteomics of Carbohydrate active enzymes and other industrial microbial enzymes	
13	Jaganathan B.G., Ph. D.	Johann Wolfgang Goethe University, Frankfurt, Germany	Associate Professor	Stem Cells, Cancer and cell therapy	
14	Kanaujia S. P., Ph.D.	Indian Institute of Science Bangalore, Karnataka, India.	Assistant Professor	Structural and Computational Biology	
15	Kumar M., Ph.D.	University of Maryland, College Park, USA, Molecular Microbiology and immunology	Assistant Professor	Molecular interaction of host-pathogen-vector of infectious diseases, Vector borne diseases of Zoonotic importance.	
16	Kumar S., Ph.D.	University of Maryland, Molecular Virology	Assistant Professor	Identification of molecular determinants of avian paramyxovirus virulence, Reverse genetics study of avian paramyxoviruses: Newcastle disease virus as a model, Vaccine development against avian paramyxoviruses using reverse genetics system, Viral vector study- Avian paramyxoviruses and adenoviruses.	
17	Kunnumakkara A.B., Ph.D.	Biochemistry, University of Calicut, Kerala, India	Associate Professor	Role of inflammatory pathways in cancer development, Identification of novel biomarkers for cancer diagnosis and prognosis, Cancer drug discovery, Development of transgenic and gene knockout mouse models for biomedical research	
18	Limaye A. M., Ph. D.	Department of Molecular Reproduction Development and Genetics Indian Institute of Science, Bangalore, India	Associate Professor	Molecular endocrinology, Cancer biology, Gene expression and regulation in Eukaryotic and Prokaryotic systems	
19	Maiti S. K., Ph.D	Chemical Engineering, IIT Bombay	Assistant Professor	Biochemical Engg, Biofuel, Bioprocess	

				modeling	
20	Mandal B. B., Ph.D.	Indian Institute of Technology Kharagpur, India	Associate Professor	Cell based tissue engineering, Biomaterials, Stem cells, Drug delivery systems	
21	Nagotu Shirisha, PhD	University of Groningen, Groningen, the Netherlands	Assistant Professor	• Organelle biology and Inter-organelle communication • Cellular Ageing • Membrane fission and fusion.	
22	Pakshirajan K., Ph. D.	Department of Chemical Engineering, IIT Madras, Chennai	Professor	(i) Bioenvironmental Engineering, and (ii) Biofuels and Biorefineries	
23	Pandey L., Ph.D	Chemical Engineering from Indian Institute of Technology, Delhi	Assistant Professor	Surface and interfacial science, Protein's adsorption and aggregation, Environmental Biotechnology	
24	Patra S., Ph. D.	Central Food Technological Research Institute, Mysore	Associate Professor	Enzymes - applications in pharma and food industry	
25	Ramakrishnan V., Ph.D.	Indian Institute of Technology, Bombay	Associate Professor	Computational Biology, Bioinformatics, Biophysics, Bio-Organic Chemistry, Bionanotechnology	
26	Ramesh A., Ph. D.	CFTRI, Mysore	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors	
27	Rangan L., Ph. D.	University of Madras (Research work carried at IRRI, Manila)	Professor	Molecular systematics, Biofuel, IPR	
28	Sahoo L., Ph. D.	Department of Biosciences, MDU, Rohtak, India	Professor	Genetic engineering and functional genomics of plants	
29	Saini G. K., Ph. D.	Andhra University, Visakhapatnam	Associate Professor	Fungal Biotechnology, Biological Control, DNA fingerprinting and Transformation studies, Studies on extracellular enzymes and toxic metabolite production, Development of a potent	

				biopesticide	
30	Satpati Priyadarshi, Ph.D	Indian Institute of Science (IISc), Bangalore, India	Assistant Professor	Classical molecular dynamics (MD) free energy simulation, Electronic Structure calculations that predict the structure, properties, reactivity, bonding etc	
31	Singh Kusum K., Ph.D.	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Post-transcriptional gene regulation	13. July. 2015
32	Sivaprakasam S., Ph.D.	Central Leather Research Institute, Chennai, India	Assistant Professor	Bioprocess Analytical Technology (BioPAT), Biocalorimetry, Bioprocess Monitoring and Control Environmental Bioprocess Sytems	
33	Sukumar P., Ph.D.	University of Leeds, Leeds UK	Assistant Professor	Smooth muscle and endothelial cell function, Cardiovascular diseases, Diabetes, Obesity	
34	Swaminathan R., Ph. D.	Tata Institute of Fundamental Research, Mumbai (Mumbai University)	Professor	Protein Structure, Function and Dynamics; Fluorescence Spectroscopy	
35	Tamuli R., Ph. D.	Centre for Cellular and Molecular Biology, Hyderabad, Degree Awarded by Jawaharlal Nehru University, New Delhi.	Associate Professor	Calcium signaling and genetics of *Neurospora crassa*	
36	Trivedi V., Ph. D.	Jawahar Lal Nehru University, New Delhi, India. (Research performed at Central drug Research Institute, Lucknow, India)	Associate Professor	Intracellular Signaling in *Plasmodium falciparum*.	
37	Thummer Rajkumar P.	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Biology and Regenerative Medicine	23/07/2016
38	Yasufumi Kobayashi Ph.D.	The United Graduate School of Agriculture, Gifu University, Japan	Visiting Assistant Professor		