

# ANNUAL REPORT

## Department of Biosciences and Bioengineering

(PERIOD: 1<sup>st</sup> APRIL 2018 – 31<sup>st</sup> MARCH 2019)

1. **Year of Establishment of the Department /Centre:** 2002
2. **Academic Programmes Offered:** B. Tech., M. Tech., PhD
3. **No. of Laboratories with brief introduction: (Total No: 41)**
  - i. **MAB (Mechanistic Approaches to Biology) Lab (Dr. B. Anand):** The laboratory employs a combination of approaches encompassing Bioinformatics & Computational Biology, Biochemical and Biophysical approaches and X-ray crystallography. The current research interest of the lab pertains to RNA Biology and Molecular Evolution.
  - ii. **BERL (Bioengineering Research Laboratory) (Prof. Utpal Bora):** The research interests of this laboratory include Biomedical Engineering, Seri-biodiversity, Seri-bioinformatics and Bio-entrepreneurship.
  - iii. **Molecular Networks and Recombinant Therapeutics (Dr. Biplab Bose):** The lab is interested in understanding the inter-connected cellular communication systems. Particularly, the lab is interested to know the effect of architecture, kinetics and integration of the molecular pathways on vital cellular processes. The lab uses experimental as well as theoretical tools to understand how information is carried and processed in such signaling networks. The lab is also involved in developing molecules that can target particular signal transduction pathway. Such a molecule can be used to modulate an aberrant pathway involved in a particular disease.
  - iv. **Dr. Pranjal Chandra lab:** The lab is interested to combine biotechnology, nanotechnology, material science, and electroanalytical chemistry, approaches to address problems of biomedical significance, human health, and environmental monitoring. Specifically, the lab is interested to develop novel and commercially viable bioanalytical methods for diagnostics applications. The major research work is focused on: (i) Clinical Diagnostics (Cancer cells, DNA, RNA, bio-markers) using electroanalytical methods such as cyclic voltammetry, chronoamperometry, impedance spectroscopy, (ii) Nano-biosensors (*Aptamer*, *antibody*, *enzyme*) based biological phenomenon investigation, (iii) Porous silicon based label free self reporting optical nanosensors, (iv) Microfluidics and Nanomachines.
  - v. **Plant Tissue Culture & Secondary Metabolite Production Lab (Prof. Rakhi Chaturvedi):** The tree species with long generation cycle are mostly highly heterozygous in nature due to strict cross pollination and are considered to be recalcitrant (difficult to regenerate in vitro). The genetic improvement of these plants and development of homozygous lines (pure) is either very challenging or impossible using the conventional methods, because the cross pollination is a rule. This limitation has completely been overcome by the research group of Dr Chaturvedi while working on two complex tree species, Neem (*Azadirachta indica*) and Tea (*Camellia species*). Prof. Chaturvedi's laboratory has also involved in developing Plant Cell Culture Technology as an alternative to whole plant extraction for the production of secondary metabolites of medicinal and commercial values. Although these compounds can also be isolated from naturally grown whole plants, continued destruction of plants for the purpose may pose a major threat to species getting extinct. Her research group is able to identify, purify and isolate three main categories of bioactive metabolites: essential oils, coumarins and alkylamides, from in vitro elite cell lines of medicinal plants. Some of these compounds are complex triterpenoids which are difficult to synthesize chemically. The focused research work in the laboratory are: (i) Mass multiplication by micropropagation/clonal propagation of medicinally and economically valuable plants, (ii) In vitro haploid and doubled haploid plant production to generate homozygous (pure) lines to produce hybrid vigour for improved plant yield, (iii) Triploid plant production to develop seedless variety, (iv) Somatic embryogenesis for synthetic seed production, (v) Protoplast isolation and regeneration for single cell cloning and isolation of mutants, (vi) Cytological and Histological studies of in vitro raised cultures to understand their ploidy, development and origin (vii) Cell biomass production in shake-flask for screening, characterization and quantification of medicinally and commercially useful plant metabolites and their scale-up in photo-bioreactors
  - vi. **Biophysical Chemistry Lab (Dr. Nitin Chaudhary):** The laboratory focuses on understanding the molecular self-assembly and amyloid diseases, protein/peptide membrane interactions, and developing peptide based antibiotics.

- vii. **Bioprocess Development Lab (Dr. Debasish Das):** Bioprocess Development Lab majorly focuses on developing and demonstrating sustainable technologies towards renewable fuels. We are currently working on developing sustainable technologies towards biocrude production from microalgal isolates, butanol production from *Clostridium* sp, ethanol fermentation from adapted *Z. mobilis* strains. We have ventured towards plant tissue culture and demonstration on a pilot scale facility with industrial collaboration.
- viii. **Prof. V. V. Dasu lab:** The laboratory focuses on Bioprocess development (upstream to downstream), metabolic engineering, and bioenergy.
- ix. **Laboratory of Protein Biochemistry & Biochemical Parasitology (Prof. Vikash Kumar Dubey):** The laboratory focuses on understanding protein structure and function, molecular aspects of parasitology, and drug discovery. The lab has been recognized as “Unit of excellence in Molecular and Biochemical Parasitology” by Department of Biotechnology, Government of India.
- x. **Prof. Siddhartha Sankar Ghosh lab:** The laboratory focuses on development of new generation gene therapy vectors. This mainly includes development of suicide gene therapy for cancer. The lab has also set up infrastructure facilities for interdisciplinary collaborative research in the field of nanoscience and nanotechnology supported by extramural funding at the Centre for Nanotechnology, IIT Guwahati. The major area is to develop new nanoparticles, nanocomposites and nanocarriers and evaluate their antimicrobial and anticancer activities. The lab is pursuing research to understand molecular mechanisms of nanoparticle mediated cell cytotoxicity. Other areas, such as, bioimaging using C-dots, metal nanoclusters, gene delivery using quantum dot embedded nanocarriers are also being pursued. The lab is also interested in understanding the molecular pathways involving drug resistance.
- xi. **Biosensor and Biofuel Cell Research Lab (Prof. Pranab Goswami):** The lab is involved in the development of novel bio-recognition systems and their applications for developing biosensors and biofuel cells. DNA aptamers, catalytic as well as non-catalytic proteins have been investigated as biorecognition elements for some clinical applications targeting to operate in point-of-care and resource limited environments. Focus has been given on the rapid detection of acute myocardial infarction (AMI), cholesterol, alcohol, bilirubin and malaria due to their obvious importance in diagnostic sector.
- xii. **Prof. Arun Goyal Lab:** The lab research interests include Microbial Biotechnology, Molecular Biology, Protein Engineering, Structural & Functional studies of carbohydrate enzymes.
- xiii. **Neural Engineering Lab (Dr. Cota Navin Gupta):** Broadly the research lab’s current focus is in the areas of brain computer interfaces, imaging genetics for psychiatric disorders, multimodal/multivariate algorithm development and designing wearable medical solutions for patient mobility.
- xiv. **Stem Cell and Cancer Biology Group (Dr. Bithiah Grace Jaganathan):** Stem cell and cancer biology group focuses on the identification of factors affecting the differentiation of mesenchymal stem cells and the role of cancer microenvironment in cancer chemoresistance.
- xv. **Structural and Computational Biology Laboratory (Dr. Shankar Prasad Kanaujia):** The lab uses the knowledge of various techniques such as molecular biology, structural biology (X-ray Crystallography) and biophysical and biochemical studies to understand the mechanism of different biological functions. In addition, the lab applies the molecular dynamics simulations to further corroborate the results obtained from various experiments. Currently, the lab is focusing on investigating into the mechanisms involved in protein translation initiation, ABC transporters and their role in multidrug resistance.
- xvi. **Molecular Microbiology Laboratory (Dr. Manish Kumar):** The research interests of the lab include (i) Molecular interaction of host-pathogen-vector of infectious diseases, (ii) Gene expression analysis of Spirochete, *Leptospira interrogans* and *Borrelia burgdorferi*, (iii) Development of vaccine against outer membrane protein of *Leptospira interrogans* and *Borrelia burgdorferi*, and (iv) Vector borne diseases of Zoonotic importance.
- xvii. **Viral Immunology lab (Dr. Sachin Kumar):** The paramyxoviruses include viruses that are isolated from many species of terrestrial, avian and aquatic animals. The group includes many important pathogens of humans such as measles virus, human respiratory syncytial virus, human parainfluenza viruses, Nipah virus and Hendra virus and animals such as canine distemper virus and Newcastle disease virus. Newcastle disease virus (NDV) is the prototype member of this family and is a leading cause of respiratory disease in avian species. It leads to huge economic losses to the poultry industry in India. The laboratory focuses mainly on understanding the biology of avian paramyxovirus and development of vaccine against them using reverse genetics system.

- xviii. Cancer Biology Laboratory (Dr. Ajaikumar B. Kunnumakkara):** The research interests of the lab include (i) Role of inflammatory pathways in cancer development, (ii) Identification of novel biomarkers for cancer diagnosis and prognosis, (iii) Cancer drug discovery, and (iv) Development of transgenic and gene knockout mouse models for biomedical research
- xix. The Molecular Endocrinology lab (Dr. Anil Mukund Limaye):** The laboratory focuses on the following research themes: (i) Hormone regulation of gene expression, (ii) Role of estrogen in breast tumor invasion and metastasis, (iii) Regulation of cystatin A expression and its role in breast cancer, (iv) HoxB2 in breast cancer, (v) GPR30/GPER-1 biology, (vi) Mechanisms of anticancer activity of EGCG, (vii) Karanjin and its biological effects
- xx. Dr. Soumen Kumar Maiti Laboratory:** The research interests of the lab include Biochemical Engineering, Biofuel, Bioprocess modeling, control, optimization, Metabolic engineering, Downstream processing, Membrane separation, Bioremediation
- xxi. Biomaterial and Tissue Engineering laboratory (Dr. Biman B. Mandal):** Tissue engineering has emerged as a potential way to treat tissue damage or organ failure as a result of injury or disease. Our laboratory “Biomaterials and Tissue Engineering Laboratory”, a DBT-Unit of Excellence, majorly focus on developing affordable lab grown tissue/organ replacements for human transplantation. The lab focus on the following areas of importance i.e. Cell Based Tissue Engineering of Grafts and Implants, Human Stem Cell Based Regenerative Medicine, Biomaterials, 3D Bioprinting, Drug Delivery Systems, 3D Disease Tissue Models, Bioinstrumentation
- xxii. Organelle Biology and Cellular Ageing Lab (Dr. Shirisha Nagotu):** The lab focusses on understanding the biogenesis of organelles and the inter-organelle communication within a cell. The lab tries to understand the effect of ageing on organelle biology and the role of organelles in cellular ageing.
- xxiii. Prof. Kannan Pakshirajan’s laboratory:** The research interests of the lab are Environmental Biotechnology, Biological removal and recovery of inorganic compounds from wastewaters, Biofuels and other Biotechnological Products: production, process design, kinetics and environmental applications.
- xxiv. Bio-interface & Environmental Engineering Lab (Dr. Lalit Mohan Pandey):** The laboratory focuses on the following research aspects: (i) Surface and interfacial science particularly in the area of Bio-interfaces and Biomaterials (Design of Biocompatible surfaces): The surfaces are modified using various Self-Assembled Monolayers (SAMs) and their interactions with water, bio macromolecules i.e. polymers, proteins and cells are studied, (ii) Protein’s adsorption and aggregation: The lab investigates the adsorption behavior and properties of various adsorbed proteins on surfaces with different wettabilities by forming mono, mixed and hybrid SAMs. The role of surface chemistry at the nanometer scale on aggregation of various therapeutic proteins is studied, (iii) Environmental Biotechnology: The lab focuses on 3Rs. Reduce waste generation, recycle the treated waste and reuse waste as by-product or recover energy from the waste.
- xxv. Dr. Sanjukta Patra laboratory:** The research interests of the lab include enzyme applications, biotransformation, and biosensors.
- xxvi. Prof. Aiyagari Ramesh laboratory:** The research interests of the lab include Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors
- xxvii. Molecular Informatics and Design Group (Dr. Vibin Ramakrishnan):** Molecular Informatics and Design Group integrates diverse disciplines of science and engineering in the design and development of advanced materials. The lab’s approach to a research problem is ‘idea centric’ with a clear emphasis on the design phase, adopting modeling and informatics tools. The lab experiments a reductionist approach in understanding the interaction between molecules resulting in assembled architectures at nano and micro scale, and further employ it in the design of future materials. An information based modeling approach has been employed in the design and generation of tumor homing and cell penetrating molecules to test their efficacy as future drug delivery vehicles.
- xxviii. Applied Biodiversity Laboratory (Prof. Latha Rangan):** The group tries to address the research questions in areas of Applied Biodiversity with special reference to bioresources of Northeast India using an integrative approach. .
- xxix. Translational Crop Research Laboratory (Prof. Lingaraj Sahoo):** Pathogens, insects and abiotic stresses cause major losses in yield and quality of crops. The discoveries in basic plant research play a vital role in meeting these challenges by developing technologies to improve agriculture by introducing important traits to crop of interest. The lab employs integrated approaches to identify genes with significant agronomic impact in both model (Arabidopsis)

and crops (grain legumes and oil seeds), understand the mechanism by which they function and using this knowledge, develop designer crops for diverse plant abiotic (drought, salinity and nutrient deficiency or toxicity) and biotic (viral and insect) stress conditions, useful for growers, industry and consumers. Besides, the lab is working on biofortification in Asiatic grain legumes for healthcare applications and manipulation of key oil biosynthesis genes yield in *Jatropha*, a tropical perennial biofuel crop to improve oil quality and oil.

- xxx. Prof. Gurvinder Kaur Saini laboratory:** The laboratory works in fungal biotechnology. The various aspects that are studied include (i) secondary metabolite production, (ii) development of hyper virulent strains of *Metarhizium anisopliae* and *Beauveria bassiana* using scorpion and spider neurotoxins, (iii) gene stacking in entomopathogenic fungi.
- xxxi. Computational Structural Biology laboratory (Dr. Priyadarshi Satpati):** Working in the area of biomolecular interactions using computational methods (e.g, Molecular Dynamics, Electronic Structure Calculations). We are mainly interested in understanding accuracy in biological processes, including ligand binding (MTB selective drug design), protein-protein (DJ-1 dimerization and Parkinson's disease), protein-DNA (DNA recognition by spo0A during transcription) and Protein-RNA (release factor binding to mRNA), RNA-RNA (Group II introns) interactions, viral RNA recognition by RIG-I etc.
- xxxii. Bio Process Analytical Technology (BioPAT) Laboratory (Dr. Senthilkumar Sivaprakasam):** The lab develops PAT technology for recombinant therapeutic proteins and value added compounds such as biopolymers, organic acids etc. PAT is defined as 'System for designing (process development), analysing and controlling manufacturing process, based on timely measurements of critical quality and performance attributes of raw material, in process materials and processes with the goal of ensuring final product quality'. PAT methodology envisages the identification of Critical Process Parameters (CPPs) and Critical Quality Attributes (CQAs) for every process. The CPPs are the indication of the overall reliability that a process proceed in the desired direction. Therefore, their monitoring and control establishes the uniform product quality. 'Quality by design' in the PAT emphasizes that monitoring to be accomplished not only during the process, but should begin from raw material characterization, its processing, upstream process, product recovery, downstream process and till the polishing step. Therefore, this reduces the much effort emphasized by regulatory authorities on ensuring quality.
- xxxiii. Dr. Kusum Kumari Singh's Laboratory:** The laboratory focuses on the RNA-binding proteins that are involved in the splicing machinery. During splicing of premature mRNA, the spliceosome deposits a multiprotein complex termed exon-junction complex (EJC) onto the mRNAs. The subunits that form the core EJC are eukaryotic translation initiation factor 4A3 (eIF4A3), Y14, MAGOH and barentsz (BTZ, CASC3, and MLN51). Many proteins interact with the core EJC and our focus of study is a protein complex termed as Apoptosis- and Splicing-Associated Protein (ASAP). Components of both ASAP and EJC have been found to function in a wide range of activities pertaining to RNA metabolism including splicing, translation, nonsense-mediated mRNA decay (NMD) and apoptosis. We are currently focusing on the following research areas: Understanding the functions of ASAP with respect to EJC in mRNA metabolism. Elucidating the molecular involvement of RNA-binding proteins (RBPs) in various human diseases such as cancers, neurodevelopmental disorders. Exploring the post-transcriptional gene regulations of different RBPs.
- xxxiv. Protein Biophysics Lab (Prof. R. Swaminathan):** The main research focus in this lab is to investigate the structure, function and dynamics of proteins using spectroscopic techniques like UV-Visible spectroscopy and Fluorescence spectroscopy. Protein charge transfer spectra in the 250---800 nm region arising from charged amino acids like Lys and Glu is of special interest.
- xxxv. Neurospora Research Group (Dr. Ranjan Tamuli):** The lab is interested to understand the molecular mechanism of calcium signaling pathway using the model filamentous fungus *Neurospora crassa*. Calcium ion is a universal second messenger molecule that impacts almost all cell processes in eukaryotes. The lab hopes to extend its research to understand the role of calcium signaling in memory, learning, and other related areas in future.
- xxxvi. Laboratory for Stem Cell Engineering and Regenerative Medicine (Dr. Rajkumar P. Thummer):** Autologous cell-based therapy is a promising alternative to achieve repair or regenerate damaged cells and/or tissue without any immune rejection. Our laboratory "Stem Cell Engineering and Regenerative Medicine", mainly focuses on generation of human cells using safe, integration-free reprogramming approaches to derive clinical-grade cells for transplantation. The outcome of our research will bring patient-specific cell therapy closer to clinic for treatment of various debilitating.

- xxxvii. **Malaria Research Group (Dr. Vishal Trivedi):** The research interests of the lab include Anti-malarial Drug Discovery, Immunotoxicity studies in Macrophages, Regulation of Innate Immune Response, Endothelial Cells-RBC cytoadherence during Cerebral Malaria, Designing immunostimulatory and Anticancer agents.
- xxxviii. **Dr. Selvaraju Narayanasamy Lab:** The research interest of the lab include Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering.
- xxxix. **Biomechanics and Simulations lab (Dr. Souptick Chanda):** The Lab is primarily engaged in design and optimization of various orthopaedic implants based on in vitro and in silico biomechanical testing/validations. Simulations for surgery and patient examinations training are also being envisaged at this laboratory.
- xl. **Computational lab:** The computational lab is used for carrying out the Bioinformatics and Computational Biology Lab, a lab course of the B. Tech. curriculum.
- xli. **Experimental Teaching laboratory:** The laboratory is used to conduct the experimental course of the B. Tech. and M.Tech. curricula.

#### 4. Major Equipment and Facilities acquired during 1<sup>st</sup> April 2018 – 31<sup>st</sup> March 2019:

Electroencephalogram setup for Brain Computer Interfaces; Gas Chromatography (Thermo Scientific); FTIR (Fourier-transform infrared spectroscopy); HPLC; Atomic Emission Spectrometer; Circular Dichroism (CD) Polarimeter.

#### 5. Major Areas of Research and Development:

Cell signaling, Systems Biology, Protein Biochemistry, Molecular Biology, Immuno Parasitology, Biofuel, Biochemical Engineering, Tissue Engineering and Biomaterials, Stem Cell Biology, Cell Therapy & Regenerative Medicine, Organelle Biology, Inter-organelle Communications, Cellular Ageing, Bio-interfaces and Biomaterials, Environmental Biotechnology, Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors, Stem cell engineering and regenerative medicine, Molecular Parasitology, Computational Biology, Plant Biotechnology, RNA Biology, Structural Biology, Fungal Biotechnology, Molecular Endocrinology, Systems Biology, Bioprocess Engineering, Cancer Biology, Bio/Physio Sensors and Nanobioengineering, Biosensors and bio-fuel cells, Neural Engineering.

#### 6. Major initiatives and breakthrough in Research and Development during 1<sup>st</sup> April 2018 – 31<sup>st</sup> March 2019:

- i. Dr. Biplab Bose: We have identified a novel network motif in a well established cell signaling network that helps cells to discriminate different input signals. We have also developed methods to perform phenotypic lineage identification from cellular imaging and have used that to understand the dynamics of phenotypic change during Epithelial to Mesenchymal transition.
- ii. Dr. Pranjal Chandra: Biosensing approaches are now a major area of research worldwide due to its simple yet tremendous potential to detect analyte at many fold below nano-molar concentrations. In our “Laboratory of Bio/Physio Sensors and Nanobioengineering”, we mainly work on development of novel materials for diverse applications in nano-biotechnology, electrochemical/optical biosensing approaches to detect wide range of molecules, starting from free radicals to pathological proteins and organisms, which has a direct application in clinical, food safety as well as other industrial areas. The successful completion of our works would lead to simple methods, prototypes, or products to be used by an ordinary man to help in his day-to-day life.
- iii. Prof. Debasish Das: Development of a pilot scale facility for the ONGC Pan-IIT Centre for Bioenergy and the DBT-Unit of Excellence in Bioenergy. This pilot scale facility is a demonstration of biofuel production from microalgal Biomass in 100 L parallel plate photobioreactor, 1000 L photovoltaic airlift photobioreactor and open ponds (scaling up from 500 L to 1000 and 2000 L).
- iv. Prof. Pranab Goswami: (a) A portable kit was developed for onsite determination of formaldehyde in aqueous sample (b) An instrument free aptamers based kit for detection of pan malaria and *Plasmodium falciparum* malaria has been developed.
- v. Prof. Arun Goyal: A bifunctional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and  $\beta$ -1,4-glucosidase (CtGH1) from *Clostridium thermocellum* with enhanced activity and structural integrity was developed.

- vi. Dr.Cota Navin Gupta: A real-time Brain Computer Interface system was implemented wherein a person can spell a letter using electroencephalogram (i.e brain signals). Three demo sessions were conducted and the spelling device was displayed at IIT Guwahati Research Conclave 2019 (On Institute open day).
- vii. Dr. Selvaraju Narayanasamy: We have successfully prepared biosorbents which can potentially sequester heavy metals such as Chromium, Copper and Cobalt and various cationic and anionic dyes.
- viii. Dr. Kunnumakkara's Laboratory which was inaugurated as DAILAB (DBT-AIST International Laboratory for Advanced Biomedicine) on May 8<sup>th</sup> 2017 was upgraded to DAICENTER on July 26<sup>th</sup> 2018 by DBT, Govt. of India and AIST, Govt. of Japan due to the excellent performance and productivity of the lab.
- (b) Dr. Kunnumakkara's laboratory discovered a new protein (NGAL) that is downregulated in oral cancer which leads to its development and also discovered a drug that restores its expression in this cancer.
- (c) Dr. Kunnumakkara's laboratory discovered a new target for oral cancer which is FDA approved.

## 7. Research Projects:

### a) New Sponsored Projects (Total No: 28)

S.No	Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration
1	Dr. Pranjal Chandra as N-PDF Mentor	Paper based point-of-care biomedical device prototype for pathogenic microorganism detection	DST	6.00	-	2018-2020
2	Dr. Nitin Chaudhary	Mechanistic insights into IAPP self-assembly – targeting early intermediates for therapeutics	SERB	47.85	Dr. Sachin Kumar	2018-2021
3	Prof. Debasish Das	Plant Tissue Culture	Himalaya Drug Company	3.40	-	2018-2019
4	Prof. S.S. Ghosh	Modulation of Connexin-43 and Histone Deacetylase to Comprehend Cancer Therapy	DBT	57.02	Prof. Arun Chattopadhyay	2018-2021
5	Prof. Arun Goyal	Efficient utilization of sugarcane top for production of cellulosic ethanol and other value added products	DBT	47.2 ACIRD, Yamuna Nagar 24.95 (IITG)	Prof. V. S. Moholkar	2018-2021
6	Prof. Arun Goyal	Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products	DBT Twinning	120 IITB and AIIMS 72 (IITG)	Dr. S. Kumar and Dr P. Satpati	2018-2021
7	Dr .Cota Navin Gupta	Data driven neuro-behavioural clusters in adults who were born very preterm using multivariate analysis	SPARC	44.44	Dr. Souptick Chanda	2019-2021
8	Dr. Shankar Prasad Kanaujia	Structural and functional characterizatin of an ABC transporter involved in the maintenance of lipid asymmetry in Escherichia coli and Shigella flexneri: structure-based drug-designining	SERB	27.50	-	2019-2022
9	Dr. Manish Kumar	Elucidating the role of Cas6, Cas7, and Cas8 in spirochetes CRISPR adaptive immunity against alien genetic elements	DBT	68.75	Dr. Shankar Prasad Kanaujia	2018-2021
10	Dr. Sachin Kumar	Molecular platform for epidemiology, disease mapping and development of diagnostics	NER-BPMC	210.61	-	2018-2021

		for economically important disease of ducks				
11	Dr. Biman B. Mandal	NIRMAAN 3D” - Novel minimally invasive Implants for Reconstructive surgery using Materials providing mechanical instruction and prepared by 3D printing	DBT	174.52	Dr. R. P. Thummer	2018-2021
12	Dr. Biman B. Mandal	Development of minimally invasive novel injectable hydrogel and nano-carrier hybrid system for localized targeted cancer therapy.	DHR	120.97	Dr. M. Kumar	2018-2021
13	Dr. Biman B. Mandal	Bioengineered 3D constructs for cartilage repair, osteochondral regeneration and high throughput drug screening towards osteoarthritis management	DST	46.81	-	2018-2021
14	Dr. Biman B Mandal	Fabrication of Biocompatible scaffolds for delivery of stem cells in myocardial infarct model: In search of an ideal cardiac patch	DBT	67.10	Dr. R. P. Thummer	2018-2021
15	Dr. Rajiv Bora (Inspire Faculty)	Development of hybrid electroactive materials for peripheral nerve regeneration	DST (INSPIRE)	110.00	Dr. Biman B. Mandal	2018-2023
16	Dr. Biman B. Mandal	Production and development of silk gel and powder as a material for the development of haemostatic and other formulations	DRDO	9.87	N/A	2018-2019
17	Dr. Shirisha Nagotu	Investigating the role of peroxisomes in Parkinson’s disease	DBT	74.40 (47.73 IITG + 26.67 JNCASR)	Dr. Ravi Manjithaya JNCASR & Dr. Rajkumar Thummer, IITG	2018-2021
18	Prof. Sanjukta Patra	Study of in-depth genetic heterogeneity with respect to resistome and compensatory adaption of MDR Mtb clinical strains inside BM- Mesenchymal stem cells circulating in the North-East Region for therapeutic implications	DBT	300.00	Dr. Shankar Kanaujia	2019-2022
19	Dr. Senthilkumar Sivaprakasam	Continuous Fermentative Production of D (-) Lactic Acid Using Whey as a Feedstock in Automated Membrane Integrated Bioreactor	DBT	74.00	Dr. Vimal Katiyar	2018-2021
20	Prof. Ranjan Tamuli and Dr. Mandar V. Deshmukh (CCMB)	Understanding molecular mechanism of calcium signaling in <i>Neurospora crassa</i>	DBT, NE-Twinning	84.53 (56.412 for IITG, 28.118 for CCMB)	Dr. Manabendra Sarma (IITG)	2018-2021

21	Prof. Vishal Trivedi	Re-purposing of FDA Approved Drugs for TB treatments	DBT	410.79	Dr. Vibin Ramakrishnan	2018-2021
22	Prof. Vishal Trivedi	Chemical Biology Approches to Exploit FIKK kinase (s) from Plasmodium Falciparum to develop potent Anti-Malarials	DST-SERB	51.20	Professor T Punniyamurthy	2018-2021
23	Prof. Rakhi Chaturvedi	To impact quality education to girls in realm of science and engineering to inculcate scientific temperament	DST, New Delhi, India	16.579	-	2018 - 2019
24	Dr. Ajaikumar B Kunnumakkara	DAICENTER	DBT, Govt of India; AIST, Japan	98.46	--	2018-2021
25	Dr. Ajaikumar B Kunnumakkara	Placental oxidative stress in gestational diabetes mellitus	ICMR	20.00	--	2018-2021
26	Dr. Ajaikumar B Kunnumakkara	Deciphering the Role of Different Isoforms of AKT in the Development of Human Oral Squamous Cell Carcinoma	ICMR	99.72 (59 for IITG)	Dr. H. Lalhrualtuanga, Mizoram University	2018-2021
27	Dr. Souptick Chanda	Investigation on the Influence of Ferromagnetic Coating on Bone Ingrowth in Hip Stems Made of Composite Titanium-Tantalum (Ti-Ta) Foam	SPARC	14.40	Dr. Rajkumar Thummer, Prof. Debabrata Chakraborty	2019-2021
28	Abiala Moses Akindede	Deciphering molecular mechanisms of halo-rhizobacteria influence on salt tolerance in cowpea	DBT-TWAS Post Doctorate fellowship	5.4968	Prof. L. Sahoo (Mentor)	2018-2019

**b) Ongoing Sponsored Projects (Total No: 63)**

S.No	Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration
1	Dr. B. Anand	Mapping the hierarchical participation of assembly factors during ribosome assembly	DBT	97.96	-	2016-2019
2	Dr. Biplab Bose	Design Principles in the Molecular Network of an Oncofetal Protein	DBT	84.23	Dr. S. S. Ghosh	2016 -2021
3	Dr. Pranjal Chandra	Development of electrochemical genosensor for detection of biological warfare agents	IIT Guwahati	5.00	-	2016-2018 (Ongoing)
4	Dr. Pranjal Chandra	Development of bi-functional electrochemical	DST	38.00	-	2016-2020



		nanobiosensor for bacterial exotoxin producing bacterial isolates				
5	Dr. Pranjal Chandra	Development of electrochemical sensor integrated microfluidic system for label free multiplex detection of neurotransmitters in neuronal cell line	DBT	96.50	-	2016-2019
6	Dr. Pranjal Chandra	Nonenzymatic aptamer based electrocatalytic biomedical device prototype for diagnostic and therapeutic applications	DST	47.14	-	2016-2019
7	Dr. Nitin Chaudhary	Investigations into structural organization and curvature-dependent membrane binding of alpha synuclein	DBT	63.23 to IITG (Project in collaboration with RCB Gurgaon and RCU, Belagavi)	Dr. Vibin Ramakrishnan	2017-2020
8	Prof. Debasish Das	DBT Pan-IIT Centre for Bioenergy	DBT	171.16	Prof. Arun Goyal	2014-2019
9	Prof. Debasish Das	ONGC Pan-IIT Centre for Bioenergy	ONGC	181.723	Dr. Soumen Kr. Maiti	2016-2020
10	Prof. Debasish Das	DBT, Unit of Excellence U-Excel (Bioenergy)	DBT	107.62	-	2016-2019
11	Dr. Bithiah Grace Jaganathan	Study of RhoA Signaling in Bone Metastasis of Breast Cancer	SERB	40.55	-	2016-2019
12	Dr. Bithiah Grace Jaganathan	Study of Cancer Promoting Role of CD90/THY1 in Leukemia Associated Stroma	DBT	25	Dr. Anil M Limaye	2016-2019
13	Prof. S.S. Ghosh (Project coordinator)	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 grants)	Prof. P. Goswami; Prof. L. Sahoo; Dr. B. Bose; Prof. A. Ramesh	2016 -2021
14	Prof. Siddhartha Sankar Ghosh (PI)	Novel nanoscale materials targeted towards antimicrobial and anticancer activities	DBT	145.86	Prof. Arun Chattopadhyay; Dr. Biplab Bose	2016-2019
15	Prof. Pranab Goswami	Studies and Application of Redox Enzymes for Bioelectronics Devices	DBT India	145.34	Prof. S. S. Ghosh	2016-2021
16	Prof. Arun Goyal	Cloning, expression, biochemical and <i>in vitro</i> analysis of therapeutic chondroitin lyase and	CSIR	19.70	Dr. A.B. Kunnumakkara	2016-2019

		oligosaccharides from <i>Pedobacter saltans</i>				
17	Prof. Debasish Das	DBT-PAN-IIT Center for Bioenergy 1. Improvement of hydrolytic enzymes by protein engineering for higher activity and SSF of plant carbohydrates to ethanol (PI) 2. Development of <i>Clostridium</i> sp. as a cell factory for butanol production: Metabolic & biochemical engineering approach. (Co-PI)	DBT	92.08	Prof. Arun Goyal	2014-2019
18	Dr. Shankar Prasad Kanaujia	Structural and functional investigation of mammalian cell entry (MCE) proteins from human pathogens: development of structure-based lead molecules	SERB	42.10	-	2018-2021
19	Dr. Shankar Prasad Kanaujia	Structural investigation of sugar ABC transporters in Mycobacterium tuberculosis and thermophiles: application to the development of drug carriers and biosensors	DBT	126.384	-	2017-2020
20	Dr. Shankar Prasad Kanaujia	Understanding the mechanism of ABC-type metal sequestering proteins: structure-based novel drug development against human pathogens	DBT	73.55 (IITG – 51.23)	Dr. Shailza Singh (NCCS Pune)	2017-2020
21	Dr. Manish Kumar	Study on the Caseinolytic proteases of <i>Leptospira interrogans</i> , a promising target for treating bacterial infection	SERB, DST	70.18	Dr. Shankar Prasad Kanaujia	2016-2019
22	Dr. Manish Kumar	Characterization of predicted novel extracellular proteins of pathogenic <i>Leptospira interrogans</i>	ICMR	37.96	Dr. Sachin Kumar	2017-2020
23	Dr. Sachin Kumar	Development of reverse genetic based recombinant Newcastle disease virus model for understanding immune response in patients infected with Hepatitis C virus	DBT	105.90	-	2017-2020
24	Dr. Sachin Kumar	Improved classical swine fever virus vaccine and its diagnostics using Newcastle disease virus as a vector	DBT	84.08	-	2017-2020
25	Dr. Anil M. Limaye	Investigations into estrogen regulation of tumor cell derived ECM remodeling genes and the	DBT (Twinning)	54.82 (IITG component)	Dr. Ashish Anand	2017-2020

		role of key transcription factors				
26	Dr. Anil M. Limaye	Investigations into estrogen regulation of Cystatin A expression in breast cancer cells and its role in proliferation and migration	DBT (Pilot project in cancer biology)	25.85	Dr. Sachin Kumar	2015-2018 (under one year extension)
27	Dr. Biman B. Mandal	North East silk biomaterials based injectable hydrogels for drug delivery and tissue engineering	DBT	134.052	--	2016-2020
28	Dr. Biman B. Mandal	Functional collagen nanoparticle impregnated silk nano-ceramic composite 3D matrices for flat bone regeneration	DBT	87.70	Dr. R. P. Thummer	2018-2021
29	Dr. Biman B. Mandal	North east silk based bioengineered vascular conduits	DBT	72.04	Dr. P. Sukumar	2017-2020
30	Dr. Biman B. Mandal	Bioartificial Pancreas to Treat Diabetes	DST-INSPIRE	35.00	-	2013-2020
31	Dr. Biman B. Mandal	Use of silk from northeast India for culture and transplantation of corneal endothelial cells	DBT	43.65	Dr. P. Sukumar	2017-2019
32	Dr. Shirisha Nagotu	Organelle dynamics and cellular ageing in yeast	DBT	86.00 (56-IITG and 30-CEBS)	Dr. Avinash Kale – CEBS, Mumbai & Dr. Rajkumar Thummer, IITG	2017-2020
33	Dr. Shirisha Nagotu	Peroxisome and inter-organelle communication in yeast	DST-SERB	32.00	Dr. Rajkumar Thummer	2016-2019
34	Prof. Kannan Pakshirajan	The development and implementation of sensors and treatment technologies for freshwater systems in India	DBT	54.71	Prof. G. Pugazhenth, Chemical Engineering Department	2018-2021
35	Prof. Kannan Pakshirajan	A novel membrane assisted bioprocess for heavy metal removal and recovery as nano powders from acid mine drainage	CSIR	22.46	Prof. G. Pugazhenth, Chemical Engineering Department	2017-2020
36	Prof. Kannan Pakshirajan	Novel biological treatment process for water recycle-reuse and energy conservation in refinery industry	DST	42.75	Prof. G. Pugazhenth, Chemical Engineering Department and Prof. Ajaikumar B. Kunnumakkara, BSBE Department	2017-2020
37	Prof. Kannan Pakshirajan	Hydrogenogenic carbon monoxide conversion under mesophilic condition using anaerobic granular	DBT	38.70	Prof. G. Pugazhenth, Chemical Engineering Department	2017-2020

		sludge biomass for biodesulphurization				
38	Dr. Lalit M. Pandey	Mechanistic insight of shear induced aggregation of proteins and the effect of transition metal ions	SERB	46.32	-	2016-2019
39	Dr. Lalit M. Pandey	Thermodynamics of protein aggregation in bulk solution and in the presence of surfaces	INSPIRE Program, DST	35.00	-	2015-2020
40	Dr. Lalit M. Pandey	An advanced integrated process for the treatment of sewage plant effluent using Bio-based antimicrobial metal bio-sorbents and photocatalytic nanocomposite materials	DST-UKIERI	11.86	Dr. Animes K Golder	2018-2020
41	Dr. Vibin Ramakrishnan	Design, Synthesis and Characterization of Metal Impregnating Nano-assemblies using Peptide Model Systems; Applications in heavy metal entrapment in North-East Region.	DBT	154.892	NA-	2017-2020
42	Dr. Vibin Ramakrishnan	Peptide Based Molecular Constructs for Tumor Homing and Small Molecule Delivery	BRNS	31.3375	Nitin Chaudhary	2017-2020
43	Prof. L Rangan (Coordinator)	Genome and transcriptome sequencing of aromatic rices from North Eastern region	DBT	90.05 (it includes the entire project containing three R&D grants- IITG Approx 68.34)	Gayatri Venkataraman, MSSRF Chennai Sudip Mitra, IITG Swarup Parida, New Delhi	2017-2020
44	Prof. L Rangan	Genome and transcriptome sequencing of aromatic rices from North Eastern region	DBT	50.21(IITG)	Swarup Parida, New Delhi Sudip Mitra, IITG	2017-2020
45	Dr. Senthilkumar Sivaprakasam	Metabolic engineering of <i>Bacillus megaterium</i> for enhanced production D (-) pantothenic acid and its application for the development of functional foods	DBT	61.16	Dr. Anil Mukund Limaye	2016-2019
46	Dr. Kusum Kumari Singh	To investigate how ASAP complex interface with splicing and connects EJC	SERB-DST	42.96	Shankar Prasad Kanaujia	2016-2019
47	Dr. Kusum Kumari Singh	Top-Up on Start-Up Grant	IIT Guwahati	10.00	-	2018-2019
48	Dr. Anand Tiwari	Functional characterization and role of TMSF2, a NRAMP family member, in the life cycle of <i>Neurospora crassa</i>	DST-SERB	31.50	(Mentor: Prof. Ranjan Tamuli)	2016-2019

49	Dr. Rajkumar P. Thummer	Direct reprogramming of human fibroblasts to functional cardiomyocytes for cell therapy	DST-SERB	40.12	Dr. Shirisha Nagotu	2016-2019
50	Dr. Rajkumar P. Thummer	Generation of transgene-free human induced pluripotent stem cells using non-genetic approaches for cell therapeutic applications	DBT	85.28 (51.31 for IITG & 33.97 for NCCS)	Dr. Shirisha Nagotu; Dr. Nibedita Lenka (NCCS, Pune)	2016-2019
51	Prof. Rakhi Chaturvedi	Seedless Plant Production and Mass Scale Propagation of <i>Musa Balbisiana</i> (Bhimkol) of NER Region using In-vitro Approaches.	Department of Biotechnology (DBT), Govt. of India.	45.62	-	2018-2021
52	Prof. Rakhi Chaturvedi	Mapping Yellow Mosaic Virus (YMV) tolerance trait loci in <i>Vigna radiata</i> (L.) Wilczek using doubled haploids.	Department of Biotechnology (DBT), Govt. of India.	42.23	-	2017-2020
53	Dr. Ajaikumar B Kunnumakkara	A comparative study of the population chronically exposed to arsenic in two different demographic regions of Eastern India: Identification of responsible genes and susceptible population	DBT	52.99	Dr.Madumita Roy, CNCI	2017-2020
54	Dr. Ajaikumar B Kunnumakkara	Development of Novel Akt/mTOR Inhibitors for Oral Cancer Prevention and Treatment	DBT	149.5	--	2017-2010
55	Prof. Lingaraj Sahoo	Development of Abiotic Stress Resilient Tropical Pulses Through Tailoring of ABA Receptor Genes	DBT	155.62	Dr. B. Bose IIT Guwahati	2016-2021
56	Prof. Lingaraj Sahoo	Functional validation of yield related genes in scented rice of Northeast India	DBT	56.50	Prof. M. V. Rajam, Delhi University South Campus, New Delhi	2016-2019
57	Prof. Lingaraj Sahoo	Development of transgenic chilli cv. Bhut Jolokia for resistance to viruses causing leaf curl disease using RNA interference (RNAi)	DBT	81.36 (48.73 for IITG)	Prof. S Chakraborty JNU, New Delhi	2016-2019
58	Dr. Avishek Dey	Generation of aphid ( <i>Lipaphis erysimi</i> Kalt.) resistant marker-free Mustard ( <i>Brassica juncea</i> L.) through RNAi-mediated gene silencing.	DST ISPIRE Faculty	60.00	Prof. L. Sahoo (Mentor)	2017-2022
59	Prof. Lingaraj Sahoo	Integrated biorefinery approach towards production of sustainable fuel and chemicals from Algal biobased systems	DBT Indo-Brazil project	76.41	--	2016-2019
60	Dr. Sanjeev Kumar	Identification of novel and conserved microRNAs involved in drought stress regulation in mungbean	DST-SERB NPDF, New Delhi	6.00	Prof. L Sahoo (Mentor)	2018-2020

61	Prof. Utpal Bora	Establishment of Institutional Biotech Hub	Department of Biotechnology (DBT)	38.67	--	2010-2018 (ongoing)
62	Prof. Utpal Bora	Exploration and Characterization of Seribiobioresources of North East India for Potential Textile and Non-textile Applications	Department of Biotechnology (DBT)	154.25	--	2014-2019
63	Prof. Utpal Bora	Whole genome sequencing and functional genomics of the golden silk moth, <i>Antheraea assamensis</i>	Central Silk Board (CSB) (Collaborative Project with CMERTI & SBRL)	3.30	--	2015-2018 (ongoing)

**c) Completed Sponsored Projects (Total No: 13)**

S.No	Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration
1	Dr. B. Anand	Mechanistic Insights into the Functional Landscape of Sensory and Regulatory RNAs	DST-SERB	29.96	-	2015-2018
2	Dr. B. Anand	Mechanistic Insights into the Adaptation Stage of CRISPR-Cas Immune System	DBT	43.23	-	2015-2018
3	Dr. Biplab Bose	Investigation to Understand Cell Signaling in Noisy Environment	ICMR	36.67	Dr. S. S. Ghosh	2016-2019
4	Dr. Biplab Bose	Diphtheria toxin derived proteins for possible therapeutic uses	SERB (DST)	47.38	Dr. Bhubaneswar Mandal	2016-2019
5	Dr. 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 approaches	DBT(Twinning)	39.95 (IITG component)	Dr. Sachin Kumar	2014-2018
6	Dr. Vimal Katiyar, Chemical Engineering	Centre of Excellence for Sustainable Polymers (CoE-SuSPOL)	Ministry of Chemicals and Fertilizers	600.00	Dr. Biman B. Mandal (member)	2012-2018 (6 years)
7	Dr. S. Pan, Chemistry, IIT Guwahati	Asymmetric organocatalytic benzylic C-H activation. Application to the synthesis of sugiol and its derivatives with biological studies	SERB, DST	49.50	Dr. Biman B. Mandal	2015-2018 (3 years)

8	Dr. Priyadarshi Satpati	Energetic basis of accuracy for RIG-I immune response to pathogens	IIT Guwahati Top Up Grant	10.00	-	2018-2019
9	Dr. Priyadarshi Satpati	Structural and thermodynamic basis of translational fidelity in prokaryotic cells – A Structure based computational study.	DST-SERB	19.62	-	2015-2018
10	Dr. Ajaikumar B Kunnumakkara	Liposome Encapsulated Azadiradione for Triple Negative Breast Cancer Treatment	DST	6.30	Prof. Fariod Badria, Mansoura University, Egypt	2016-2018
11	Prof. G J N Rao	Biotechnological interventions for crop improvement	DBT Visiting Research Professorship Programme in NER	17.90	Prof. Lingaraj Sahoo (Host)	2017-2018
12	Prof. Lingaraj Sahoo	Development of transgenic cowpea for insect resistance through RNA interference technology	DBT	78.70 (45.23 IITG)	Prof. M. V. Rajam, Delhi University South Campus, New Delhi	2015-2018
13	Prof. Lingaraj Sahoo	Exploring the binding space to develop an optimal transcriptional control system for abiotic stress tolerance in crops	DBT	111.42	Dr. Biblab Bose IIT Guwahati	2014-2018

#### 8. Consultancy (Total No:4)

S.No	Principal Investigator	Name of Project	Sponsoring Agency	Amount Sanctioned (Rs. in Lakh)	Co-Investigator	Duration
1	Prof. Rakhi Chaturvedi	Mass propagation of Stevia plantation using in vitro and in vivo means and imparting knowledge on their cultivation among farmers and entrepreneurs	M/s NE GreenRev	5.00	-	September-March 2018
2	Prof. Rakhi Chaturvedi	Consultancy services to establish elite neem tissue culture plants at GNFC Tissue Culture laboratory	Gujarat Narmada Valley Fertilizers and Chemicals Limited (GNFC)	1.80	-	April 2018-June 2019
3	Dr. Souptick Chanda	Biomechanical Testing of Hip Implants.	Orthotech, Valsad, India	6.50		2018-2022
4	Dr. Selvaraju Narayanasamy	Removal of Arsenic from aqueous solutions using poly-electrolytes in membrane based systems	Aqua Solution	2.36	Dr. Senthilmurugan S.	March 2019-August 2019

#### 9. Research Publications

**International and National Journals (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**

**Total No. of International Journal: 235**

**Total No. of National Journal: 01**

**Format for submission of Research Publications/Journals**

S.No	Authors	Paper Title	Journal Name	Year	Volume	Issue Number (If any)	Starting Page	Ending Page
1	Kuldeep Mahato, and Pranjali Chandra	Paper-Based Miniaturized Immunosensor for Naked Eye Alp Detection Based on Digital Image Colorimetry Integrated with Smartphone	Biosensors and Bioelectronics	2019	128		9	16
2	Kuldeep Mahato, Sahil Nagpal, Mahero Ayesha Shah, Ananya Srivastava, Pawan Kumar Maurya, Shounak Roy, Amit Jaiswal, Renu Singh, and Pranjali Chandra	Gold Nanoparticle Surface Engineering Strategies and Their Applications in Biomedicine and Diagnostics	3 Biotech	2019	9		1	19
3	Sachin Kadian, Brahm Dutt Arya, Sumit Kumar, Shailesh N Sharma, Rishi Pal Chauhan, Ananya Srivastava, Pranjali Chandra, Surinder P Singh	Synthesis and Application of PHT-TiO <sub>2</sub> Nanohybrid for Amperometric Glucose Detection in Human Saliva Sample	Electroanalysis	2018	30	11	2793	2802
4	Mahmood H Akhtar, Khalil K Hussain, NG Gurudatt, Pranjali Chandra, Yoon-Bo Shim	Ultrasensitive dual probe immunosensor for the monitoring of nicotine induced-brain derived neurotrophic factor released from cancer cells	Biosensors and Bioelectronics	2018	116		108	115
5	Anupriya Baranwal, Pranjali Chandra	Clinical implications and electrochemical biosensing of monoamine neurotransmitters in body fluids, in vitro, in vivo, and ex vivo models	Biosensors and Bioelectronics	2018	121		137	152
6	Vivek Kumar Bajpaia, Madhu Kamle, Shruti Shukla, Dipendra Kumar Mahato, Pranjali Chandra, Seung Kyu Hwang, Pradeep Kumar, Yun Suk Huh, Young-Kyu Han	Prospects of using nanotechnology for food preservation, safety, and security	Journal of Food and Drug Analysis	2018	26	4	1201	1214
7	Riddhipratim Mandal, Anupriya Baranwal, Ananya Srivastava, Pranjali Chandra	Evolving trends in bio/chemical sensors fabrication incorporating bimetallic nanoparticles	Biosensors and Bioelectronics	2018	117		546	561
8	Anupriya Baranwal, Adarsh Kumar Chiranjivi, Ashutosh Kumar, Vikash Kumar Dubey, Pranjali Chandra	Design of commercially comparable nanotherapeutic agent against human disease-causing parasite, Leishmania	Scientific Reports	2018	8	1	1	10
9	Ira Bhatnagar, Kuldeep Mahato, Kranthi Kiran Reddy Ealla, Amit Asthana, and Pranjali Chandra	Chitosan stabilized gold nanoparticle mediated self-assembled glip Nanobiosensor for diagnosis of invasive aspergillosis	International Journal of Biological Macromolecules	2018	110		449	456



10	Kuldeep Mahato, Pranjali Chandra	A disposable biosensing device for naked-eye Detection of milk pasteurization indicator	Science Trends	2019			<a href="http://doi.org/10.31988/SciTrends.47118">http://doi.org/10.31988/SciTrends.47118</a>	--
11	Ashutosh Kumar, Swati Sharma, Lalit Mohan Pandey, Pranjali Chandra	Nanoengineered material based biosensing electrodes for enzymatic biofuel cells applications	Materials Science For Energy Technologies	2018	1	1	38	48
12	Anupriya Baranwal, Ashutosh Kumar, A Priyadarshini, Gopi Suresh Oggu, Ira Bhatnagar, Ananya Srivastava, Pranjali Chandra	Chitosan: an undisputed bio-fabrication material for tissue engineering and bio-sensing applications	International Journal of Biological Macromolecules	2018	110		110	123
13	Karabi Saikia and Nitin Chaudhary	Antimicrobial peptides from C-terminal amphipathic region of E. coli FtsA	BBA Biomembranes	2018	1860	12	2506	2514
14	Debika Datta, Adicherla Harikrishna, Ramakrishnan Nagaraj, Nitin Chaudhary	Self-assembly of $\beta$ -turn motif-connected tandem repeats of A $\beta$ <sub>16-22</sub> and its aromatic analogs	Peptide Science	2018			e24099	
15	Debika Datta, Vishnu Kumar, Sachin Kumar, Ramakrishnan Nagaraj, and Nitin Chaudhary	Hydrogel formation by an aromatic analogue of a $\beta$ -amyloid fragment, A $\beta$ <sub>16-22</sub> : a scaffold for 3D cell culture	ACS Omega	2019	4		620	627
16	Ashish, A. P., Ravi, G., Biju, B., Naik, D. N. and Venkata Dasu, V.	Development of high biomass and lipid yielding medium for newly isolated <i>Rhodotorula mucilaginosa</i> .	Fuel	2019	239		874	885
17	Jayachandran, D., Chityala, S., Prabhu, A. A. and Venkata Dasu, V.	Cationic reverse micellar based purification of recombinant glutaminase free L-asparaginase II of Bacillus subtilis WB800N from fermentation media	Protein Expression and Purification	2019	157		1	8
18	Silpa, U., Ashish, A. P., Pande, R., Hande, R. and Venkata Dasu, V.	Artificial neural network-genetic algorithm (ANN-GA) based medium optimization for the production of human interferon gamma (hIFN- $\gamma$ ) in <i>Kluyveromyces lactis</i> cell factory.	The Canadian Journal of Chemical Engineering	2019	97	4	843	858
19	Pandey, R., Kumar, N., Monteiro, G. A., Venkata Dasu, V. and Prazeres, D.M.F.	Re-engineering of an Escherichia coli K-12 strain for the efficient production of recombinant human Interferon Gamma.	Enzyme and Microbial Technology.	2018	117		23	31
20	Naik, D. N., Mahanta, S., Goud V. V., Venkata Dasu, V. and Rao, S..	Chemical composition analysis of various genetically	Journal of Environmental	2018	6	4	5625	5634

		modified sorghum traits: Pretreatment process optimization and bioethanol production from hemicellulosic hydrolyzates without detoxification.	Chemical Engineering,						
21	Ashish, A. P. and Venkata Dasu, V.	Metabolic engineering of <i>Pichia pastoris</i> GS115 for enhanced pentose phosphate pathway (PPP) flux toward recombinant human interferon gamma (hIFN- $\gamma$ ) production	Molecular Biology Reports	2018	45	5	961	972	
22	Mohan, M., Naik, D. N., Banerjee T., Vaibhav, V G. and Venkata Dasu, V.	Ionic Liquid and Sulfuric Acid-Based Pretreatment of Bamboo: Biomass Delignification and Enzymatic Hydrolysis for the Production of Reducing Sugars.	Industrial and Engineering Chemistry Research	2018	57	31	10105	10117	
23	Kumar, N., Pandey, R., Prabhu, A. A. and Venkata Dasu, V.	Genetic and substrate-level modulation of <i>Bacillus subtilis</i> physiology for enhanced extracellular human interferon gamma production.	Preparative Biochemistry and Biotechnology	2018	48	5	391	401	
24	Prabhu, A. A., Bharali, B., Singh, A. K., Allaka, M., Sukumar, P. and Venkata Dasu, V.	Engineering folding mechanism through Hsp70 and Hsp40 chaperones for enhancing the production of recombinant human interferon gamma (rhIFN- $\gamma$ ) in <i>Pichia pastoris</i> cell factory	Chemical Engineering Science,	2018	181		58	67	
25	Pandey, R., Kumar, N., Prabhu, A. A. and Venkata Dasu, V.	Application of medium optimization tools for improving recombinant human interferon gamma production from <i>Kluyveromyces lactis</i>	Preparative Biochemistry and Biotechnology	2018	48	3	279	287	
26	Pandey, R., Prabhu, A. A. and Venkata Dasu, V.	Purification of recombinant human interferon gamma from fermentation broth using reverse micellar extraction: A process optimization study.	Separation Science and Technology	2018	53	3	487	495	
27	Pandey, R. and Venkata Dasu, V.	Optimizing secretory expression of recombinant human interferon gamma from <i>Kluyveromyces lactis</i> .	Preparative Biochemistry and Biotechnology	2018	48	2	202	212	
28	Prabhu, A.A, Purkayastha, A., Mandal, B., Kumar, J.P., Mandal, B. B. and Venkata Dasu, V.	A novel reverse micellar purification strategy for histidine tagged human interferon gamma (hIFN- $\gamma$ ) protein from <i>Pichia pastoris</i> .	International journal of biological macromolecules,	2018	107		2512	2524	

29	Bidhu Bhusan Makut, Debasish Das, Gargi Goswami	Production of microbial biomass feedstock via co-cultivation of microalgae-bacteria consortium coupled with effective wastewater treatment: A sustainable approach	Algal Research	2019	37		228	239
30	Saumya Ahlawat, Mehak Kaushal, B. Palabhanvi, M. Muthuraj, Gargi Goswami, Debasish Das	Nutrient modulation based process engineering strategy for improved butanol production from <i>Clostridium acetobutylicum</i>	Biotechnology Progress	2018		<a href="https://doi.org/10.1002/btpr.2771">https://doi.org/10.1002/btpr.2771</a>		
31	Muthusivaramapandian Muthuraj, Baskar Selvaraj, Basavaraj Palabhanvi, Vikram Kumar, Debasish Das	Enhanced lipid content in <i>Chlorella</i> sp. FC2 IITG via high energy irradiation mutagenesis	Korean Journal of Chemical Engineering	2019	36	1	63	70
32	Bidkar A, Sanpui P, Siddhartha Shankar Ghosh	Combination Therapy with MAPK-Pathway Specific Inhibitor and Folic Acid Receptor Targeted Selenium Nanoparticles Induces Synergistic Anti-proliferative Response in BRAF-mutant Cancer Cells.	ACS Biomaterials Science & Engineering	2019		DOI:10.1021/acs.biomaterials.9b00112	-	-
33	Simon AT, Dutta S, Chattopadhyay A, Siddhartha Shankar Ghosh	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications	ACS Omega	2019	4	3	4697	4706
34	Ghosh S, Pal S, Suresh Rajamanickam S, Shome R, Mohanta PR, Siddhartha Shankar Ghosh and Patel BK	Access to Multifunctional AEEgens via Ru(II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	ACS Omega	2019	4	3	5565	5577
35	Nath B, Raza A, Sethi V, Dalal A, Siddhartha Shankar Ghosh, Biswas G	Understanding flow dynamics, viability and metastatic potency of cervical cancer (HeLa) cells through constricted microchannel	Scientific Reports	2018	8	DOI:10.1038/s41598-018-35646-3	17357	
36	Raza A, Siddhartha Shankar Ghosh	Connexin-43 Enhances the Redesigned Cytosine Deaminase Activity for Suicide Gene Therapy in Human Breast Cancer Cells	Biochemistry Insights	2018		DOI: 10.1177/1178626418818182	-	-
37	Das M, Goswami U, Siddhartha Shankar Ghosh, Chattopadhyay A	Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration	ACS Applied Bio Materials	2018	1	6	2153	2166

38	Goswami U, Raghuram K, Kalita S, Chattopadhyay A, Siddhartha Shankar Ghosh	Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate	ACS Omega	2018	3	9	1150	1151
39	Goswami U, Sahoo A, Chattopadhyay A, Siddhartha Shankar Ghosh	In Situ Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria.	ACS Omega	2018	3	6	6113	6119
40	Gogoi D, Arora N, Kalita B., Sarma R, Islam T, Siddhartha Shankar Ghosh, Devi R, Mukherjee, A. K.	Anticoagulant mechanism, pharmacological activity, and assessment of preclinical safety of a novel fibrin(ogen)olytic serine protease from leaves of <i>Leucas indica</i>	Scientific Reports	2018	8	1	6210	-
41	N. Zehra, D. Dutta, A. H. Malik, Siddhartha Shankar Ghosh and P. K. Iyer	Fluorescence resonance energy transfer-based wash-free bacterial imaging and antibacterial application using a cationic conjugated polyelectrolyte	ACS Applied Materials & Interfaces	2018	10	33	27603	27611
42	Naveen Kumar Singh, Priyamvada Jain, Smita Das and Pranab Goswami	Dye coupled aptamer-captured enzyme catalysed reaction for detection of pan malaria and <i>P.falciparum</i> species in laboratory settings and instrument-free paper based platform	Analytical Chemistry	2019	91	6	4213	4221
43	Naveen Kumar Singh, Phurpa Dema Thungon, Pedro Esterla and Pranab Goswami	Development of an aptamer-based field effect transistor biosensor for quantitative detection of <i>Plasmodium falciparum</i> glutamate dehydrogenase in serum samples	Biosensors and Bioelectronics	2019	123	-	30	35
44	Lightson Ngashangva, Vinay Bachu and Pranab Goswami	Development of new methods for determination of Bilirubin	Journal of Pharmaceutical and Biomedical Analysis	2019	162		272	285
45	Naveen Kumar Singh, Babina Chakma, Priyamvada Jain and Pranab Goswami	Protein-Induced Fluorescence Enhancement Based Detection of <i>Plasmodium falciparum</i> Glutamate dehydrogenase using carbon dot coupled specific aptamer	ACS Combinatorial Science	2018	20	6	350	357

46	Naveen Kumar Singh, Sunil K Arya, Pedro Estrela and Pranab Goswami	Capacitive malaria aptasensor using <i>Plasmodium falciparum</i> glutamate dehydrogenase as target antigen in undiluted human serum	Biosensors and Bioelectronics	2018	117	-	246	252
47	Babina Chakma, Priyamvada Jain, Naveen Kumar Singh and Pranab Goswami	Development of Electrochemical Impedance Spectroscopy Based Malaria Aptasensor using HRP-II as target biomarker	Electroanalysis	2018	30	-	1847	1854
48	Priyanka Nath, Arun Dhillon, Krishan Kumar, Kedar Sharma, Sumitha Banu Jamaldeen, Vijayanand Suryakant Moholkar and Arun Goyal	Development of bi-functional chimeric enzyme (CtGH1-L1-CtGH5-F194A) from endoglucanase (CtGH5) mutant F194A and $\beta$ -1,4-glucosidase (CtGH1) from <i>Clostridium thermocellum</i> with enhanced activity and structural integrity	Bioresource Technology	2019	282		494	501
49	Ritesh S. Malani, Sachin B. Umriwad, Arun Goyal and Vijayanand S. Moholkar	Ultrasound-assisted enzymatic biodiesel production using blended feedstock of non-edible oils: Kinetic analysis	Energy Conversion and Management	2019	188		142	150
50	Aruna Rani, Vikky Rajulapat and Arun Goyal	Antitumor effect of chondroitin AC lyase (PsPL8A) from <i>Pedobacter saltans</i> on melanoma and fibrosarcoma cell lines by in vitro analysis	Pharmacological Reports	2019	71		167	174
51	Arup Jyoti Borah, Mayank Agarwal, Arun Goyal and Vijayanand S. Moholkar	Physical insights of ultrasound-assisted ethanol production from composite feedstock of invasive weeds.	Ultrasonics Sonochemistry	2019	51		378	385
52	Arup Jyoti Borah, Kuldeep Roy, Arun Goyal and Vijayanand S. Moholkar	Mechanistic investigations in biobutanol synthesis via ultrasound-assisted ABE fermentation using mixed feedstock of invasive weeds	Bioresource Technology	2019	272		389	397
53	Arun Dhillon, Vikky Rajulapati and Arun Goyal	Bio-scouring of cotton fabric and enzymatic degumming of jute fibres by a thermo-alkaline recombinant rhamnogalacturonan lyase, CtRGLf from <i>Clostridium thermocellum</i> .	The Canadian Journal of Chemical Engineering	2018	9999	doi:10.1002/cjce.23342	1	5

54	Ritesh S. Malani, Vivek Shinde, Sumedh Ayachit, Arun Goyal and Vijayanand S. Moholkar	Physical insight into Ultrasound-assisted biodiesel production using heterogeneous base catalyst and mixed non-edible oils	Ultrasonics Sonochemistry	2018		doi.org/10.1016/j.ultrsonch.2018.11.021		
55	Aruna Rani, Rwivoo Baruah and Arun Goyal	Prebiotic Chondroitin Sulfate Disaccharide Isolated from Chicken Keel Bone Exhibiting Anticancer Potential Against Human Colon Cancer Cells	Nutrition and cancer	2018		doi.org/10.1080/01635581.2018.1521446		
56	Krishan Kumar, Priyanka Nath and Arun Goyal	Structure characterization of an endo $\beta$ -1,3-glucanase of family 81 glycoside hydrolase (CtLam81A) from <i>Clostridium thermocellum</i>	Journal of Proteins and Proteomics	2018	9	3	137	148
57	Ritesh S. Malani, Harshad Sardar, Yash Malviya, Arun Goyal and Vijayanand S. Moholkar	Ultrasound-Intensified Biodiesel Production from Mixed Nonedible Oil Feedstock Using Heterogeneous Acid Catalyst Supported on Rubber De-oiled Cake	ACS Industrial and Engineering Chemistry Research	2018	57		14926	14938
58	Sumitha Banu Jamaldeen, Kedar Sharma, Vijay S. Moholkar and Arun Goyal	Comparative analysis of pretreatment methods on Sorghum ( <i>Sorghum durra</i> ) stalk agrowaste for holocellulose content	Preparative Biochemistry and Biotechnology	2018	48	6	457	464
59	S.M. Khade, S.K. Srivastava, Krishan Kumar, Kedar Sharma, Arun Goyal and A.D. Tripathi	Optimization of clinical uricase production by <i>Bacillus cereus</i> under submerged fermentation, its purification and structure characterization. Process	Process Biochemistry	2018	75		49	58
60	Arun Dhillon, Kedar Sharma, Vikky Rajulapati and Arun Goyal	The multi-ligand binding first family 35 Carbohydrate Binding Module (CBM35) of <i>Clostridium thermocellum</i> targets rhamnogalacturonan I	Archives of Biochemistry and Biophysics	2018	654		194	208
61	Karthika B., Kedar Sharma, Aruna Rani, R. Vikky and Arun Goyal	Deciphering the mode of action, structural and biochemical analysis of recombinant heparinase II/III (PsPL12a) a new member of family 12 polysaccharide lyase from <i>Pseudopedobacter saltans</i>	Annals of Microbiology	2018	68		409	418
62	Krishan Kumar, Márcia Correia, Virginia R. Pires, Arun Dhillon, Kedar Sharma, Vikky Rajulapati, Carlos	Novel insights into the degradation of $\beta$ -1,3-glucans by the cellulosome of <i>Clostridium thermocellum</i>	International Journal of Biological Macromolecules	2018	117		890	901

	M.G.A. Fontes, Ana Luísa Carvalho and Arun Goyal	revealed by structure and function studies of a family 81 glycoside hydrolase.							
63	Prerana Gogoi and Shankar Prasad Kanaujia	Role of structural features in oligomerization, active-site integrity and ligand binding of ribose-1,5-bisphosphate isomerase	Computational and Structural Biotechnology Journal	2019	17			333	344
64	Monika Chandravanshi, Anjaney Sharma, Pratik Dasgupta, Suraj Kumar Mandal and Shankar Prasad Kanaujia	Identification and characterization of ABC transporters for carbohydrate uptake in <i>Thermus thermophilus</i> HB8	Gene	2019	696			135	148
65	Ankit Kumar Sinha, Angshu Dutta, Monika Chandravanshi and Shankar Prasad Kanaujia	An insight into bacterial phospholipase C classification and their translocation through Tat and Sec pathways: A data mining study	Meta Gene	2019	20	100547			
66	Suraj Kumar Mandal, Rahi Adhikari, Anjaney Sharma, Monika Chandravanshi, Prerana Gogoi and Shankar Prasad Kanaujia	Designating ligand specificities to metal uptake ABC transporters in <i>Thermus thermophilus</i> HB8	Metallomics – Royal Society of Chemistry	2019	11			597	612
67	Prerana Gogoi, Prerana Mordina and Shankar Prasad Kanaujia	Structural insights into the catalytic mechanism of 5-methylthioribose 1-phosphate isomerase.	Journal of Structural Biology	2019	205	1	67	77	
68	Prerana Gogoi and Shankar Prasad Kanaujia	Archaeal and eukaryal translation initiation factor 1 differ in their RNA interacting loops.	FEBS Letters	2018	592	9	1602	1610	
69	Ghosh KK, Prakash A, Shrivastav P, Balamurugan V, Kumar M	Evaluation of a novel outer membrane surface-exposed protein, LIC13341 of <i>Leptospira</i> , as an adhesin and serodiagnostic candidate marker for leptospirosis	Microbiology	2018	164	8	1023	1037	
70	Kumar P, Barari SK, Tripathi MK, Kumari RK, Kumar M	Foot and Mouth Disease: An Economically Devastating Disease of the livestock	Journal of Veterinary Sciences	2018	4	1	9	12	
71	Kumar P, Dey A, Kumar A, Ray PK, Chandran PC, Kumari RK, Kumar M	The effect of PPR on the reproductive health of Black Bengal goats and the possible role played by oxidative stress	Tropical Animal Health and Production	2018	50	7	1441	1447	
72	Meher N, Panda S, Kumar S and Iyer PK	Aldehyde group driven aggregation-induced enhanced emission in naphthalimides and its application for ultradetection of	Chemical Science	2018	9		3978	3985	

		hydrazine on multiple platforms							
73	Kumar S	Investigation of the sexual transmission of Zika virus: More to explore.	The Lancet Global Health	2018	6	6	e24	E25	
74	Jakhesara SJ, Nath B, Pal JK, Joshi CG, Kumar S	Emergence of a genotype I variant of avian infectious bronchitis virus from Northern part of India.	Acta Tropica	2018	183		57	60	
75	Das M, Kumar S	Analysis of codon usage pattern of infectious laryngotracheitis virus immunogenic glycoproteins and its biological implications	Infection, Genetics and Evolution	2018	62		53	59	
76	Patwa R, Soundararajan N, Mulchandani N, Bhasney SM, Shah M, Kumar S, Kumar A, Katiyar V	Silk Nano-Discs: A Natural Material for Cancer Therapy.	Biopolymers	2018	109	11	e23231		
77	Barman NN, Nath B, Kumar V, Sen A, Dutta TK, Dutta B, Rahman T, Kumar S	The emergence of porcine circovirus 2 infections in the Northeastern part of India: A retrospective study from 2011 to 2017	Transboundary and Emerging Diseases	2018	65	6	1959	1967	
78	Kumar S	Reduction in antimicrobial resistance by the way of extensive vaccination.	Human Vaccines & Immunotherapeutics	2018	14	12	2955	2956	
79	Akhtar N, Shah A, Kumar V, Pradhan N, Panda S, Morla S, Kumar S and Manna D	Diphenylethylenediamine-Based Potent Anionophores: Transmembrane Chloride Ion Transport and Apoptosis Inducing Activities	ACS Applied Materials & Interfaces.	2018	10	40	33803	33813	
80	Kumar A, Manjegowda MC, John Mary DJS, Pal U, Kumar S, Limaye AM	Estrogen receptor-Alpha is a determinant of protocadherin-8 expression in breast cancer cells	Gene Reports	2018	14		6	11	
81	Das M, Baro S, Kumar S	Evaluation of imidazole and its derivative against Newcastle disease virus infection in chicken: A drug repurposing approach.	Virus Research	2018	260		114	122	
82	Datta D, Kumar V, Kumar S, Nagaraj R, Chaudhary N	Hydrogel formation by an aromatic analog of A Beta-amyloid fragment, A Beta16-22- a scaffold for 3-D cell culture	ACS Omega	2019	4	1	620	627	
83	Pandey G, Morla S, Nemade HB, Kumar S, Ramakrishnan V	Modulation of aggregation with Electric Field; Potential non-invasive therapy for tauopathies.	RSC Advances	2019		9	4744	4750	



84	Khatoun E, Barman NN, Deka M, Hussain MI, Borah P, Kumar S	Cytokine responses in pigs after natural infection with classical swine fever virus.	Acta Virologica	2019	63	1	60	69
85	Dave U, Srivathsan A, Kumar S	Analysis of codon usage pattern in the viral proteins of chicken anemia virus and its possible biological relevance.	Infection, Genetics and Evolution	2019	69		93	106
86	Buhrmann C, Yazdi M, Popper B, Kunnumakkara AB, Aggarwal BB, Shakibaei M	Induction of the Epithelial-to-Mesenchymal Transition of Human Colorectal Cancer by Human TNF- $\beta$ (Lymphotoxin) and its Reversal by Resveratrol.	Nutrients	2019	11	3	E704	
87	Sailo BL, Banik K, Girisa S, Bordoloi D, Fan L, Halim CE, Wang H, Kumar AP, Zheng D, Mao X, Sethi G, Kunnumakkara AB	FBXW7 in Cancer: What Has Been Unraveled Thus Far?	Cancers (Basel)	2019	11	2	E246	
88	Girisa S, Shabnam B, Monisha J, Fan L, Halim CE, Arfuso F, Ahn KS, Sethi G, Kunnumakkara AB.	Potential of Zerumbone as an Anti-Cancer Agent	Molecules	2019	24	4	E734	
89	Singh YP, Sosmitha G, Banik K, Ghosh S, Swathi P, Deka M, Padmavathi G, Kotoky J, Sethi G, Fan L, Mao X, Halim CE, Arfuso F, Kunnumakkara AB	Potential application of zerumbone in the prevention and therapy of chronic human diseases	J Funct Foods.	2019	53		248	258
90	Nair A, Amalraj A, Jacob J, Kunnumakkara AB, Gopi S	Non-Curcuminoids from Turmeric and Their Potential in Cancer Therapy and Anticancer Drug Delivery Formulations	Biomolecules	2019	9	1	E13	
91	Maruthanila VL, Elancheran R, Roy NK, Bhattacharya A, Kunnumakkara AB, Kabilan S, Kotoky J	In silico Molecular Modelling of Selected Natural Ligands and their Binding Features with Estrogen Receptor Alpha.	Curr Comput Aided Drug Des.	2019	15	1	89	96
92	Banerjee K, Padmavathi G, Bhattacharjee D, Saha S, Kunnumakkara AB, Bhabak KP	Potent anti-proliferative activities of organochalcogenocyanates towards breast cancer	Org Biomol Chem	2018	16	45	8769	8782
93	Haque MA, Sailo BL, Padmavathi G, Kunnumakkara AB, Jana CK	Nature-inspired development of unnatural meroterpenoids as the non-toxic anti-colon cancer agents	Eur J Med Chem	2018	160		256	265
94	Gupta SC, Kunnumakkara AB, Aggarwal S, Aggarwal BB	Inflammation, a Double-Edge Sword for Cancer and Other Age-Related Diseases	Front Immunol	2018	9		2160	

95	Bordoloi D, Banik K, Shabnam B, Padmavathi G, Monisha J, Arfuso F, Dharmarajan A, Mao X, Lim LHK, Wang L, Fan L, Hui KM, Kumar AP, Sethi G, Kunnumakkara AB	TIPE Family of Proteins and Its Implications in Different Chronic Diseases	Int J Mol Sci.	2018	19	10	E2974	
96	Jude S, Amalraj A, Kunnumakkara AB, Divya C, Löffler BM, Gopi S	Development of Validated Methods and Quantification of Curcuminoids and Curcumin Metabolites and Their Pharmacokinetic Study of Oral Administration of Complete Natural Turmeric Formulation (Cureit™) in Human Plasma via UPLC/ESI-Q-TOF-MS Spectrometry.	Molecules	2018	23	10	E2415	
97	Shabnam B, Padmavathi G, Banik K, Girisa S, Monisha J, Sethi G, Fan L, Wang L, Mao X, Kunnumakkara AB.	Sorcina a Potential Molecular Target for Cancer Therapy.	Transl Oncol.	2018	11	6	1379	1389
98	Kunnumakkara AB, Banik K, Bordoloi D, Harsha C, Sailo BL, Padmavathi G, Roy NK, Gupta SC, Aggarwal BB.	Googling the Guggul (Commiphora and Boswellia) for Prevention of Chronic Diseases.	Front Pharmacol.	2018	9		686	
99	Ranaware AM, Banik K, Deshpande V, Padmavathi G, Roy NK, Sethi G, Fan L, Kumar AP, Kunnumakkara AB	Magnolol: A Neolignan from the Magnolia Family for the Prevention and Treatment of Cancer	Int J Mol Sci	2018	19	8	E2362	
100	Monisha J, Roy NK, Padmavathi G, Banik K, Bordoloi D, Khwairakpam AD, Arfuso F, Chinnathambi A, Alahmadi TA, Alharbi SA, Sethi G, Kumar AP, Kunnumakkara AB.	NGAL is Downregulated in Oral Squamous Cell Carcinoma and Leads to Increased Survival, Proliferation, Migration and Chemoresistance	Cancer Lett.	2018	432		260	271
101	Khwairakpam AD, Bordoloi D, Thakur KK, Monisha J, Arfuso F, Sethi G, Mishra S, Kumar AP, Kunnumakkara AB	Possible use of Punica granatum (Pomegranate) in cancer therapy	Pharmacol Res.	2018	133		53	64
102	Sailo BL, Banik K, Padmavathi G, Javadi M, Bordoloi D, Kunnumakkara AB	Tocotrienols: The promising analogues of vitamin E for cancer therapeutics	Pharmacol Res.	2018	130		259	271
103	Ajay Kumar, Mohan C. Manjegowda, Dixcy Jaba Sheeba John Mary, Uttariya Pal, Sachin Kumar, Anil Mukund Limaye	Estrogen receptor- $\alpha$ is a determinant of protocadherin-8 expression in breast cancer cells	Gene Reports	2019	14		6	11
104	Mohan C. Manjegowda, Anil M. Limaye	DNA methylation dependent suppression of GPER1 in colorectal cancer	Medical Research Archives	2018	6		4	

105	Shreya Mehrotra, Dimple Chouhan, Rocktotpal Konwarh, Manishekhar Kumar, Jadi Praveen Kumar and Biman B. Mandal.	A comprehensive review on silk at nanoscale for regenerative medicine and allied applications.	ACS Biomaterials Science & Engineering	2019	-	DOI: 10.1021/acsbiomaterials.8b01560	-	-
106	Shreya Mehrotra, Joseph Christakiran Moses, Ashutosh Bandyopadhyay, Biman B. Mandal.	3D printing/bioprinting based tailoring of in vitro tissue models: Recent advances and challenges. (COVER PAGE)	ACS Applied Bio Materials	2019	-	DOI: 10.1021/acsabm.9b00073	-	-
107	Ankit Gangrade and Biman B. Mandal.	An Injectable Carbon Nanotube Impregnated Silk Based Multifunctional Hydrogel for Localized Targeted and On Demand Anticancer Drug Delivery	ACS Biomaterials Science & Engineering	2019	-	DOI: 10.1021/acsbiomaterials.9b00416	-	-
108	Joseph Christakiran Moses, Mainak Dey, K. Bavya Devi, Mangal Roy, Samit K. Nandi and Biman B. Mandal.	Synergistic effects of silicon/zinc doped brushite and silk scaffolding in augmenting the osteogenic and angiogenic potential of composite biomimetic bone grafts. (COVER PAGE)	ACS Biomaterials Science & Engineering	2019	5	3	1462	1475
109	Nabanita Saha, Rushita Shah, Prerak Gupta, Biman B. Mandal, Radostina Alexandrova, Maja Dutour Sikiric, Petr Saha.	PVP - CMC Hydrogel: An excellent bioinspired and biocompatible scaffold for osseointegration.	Materials Science and Engineering C	2019	95	-	440	449
110	Khushwant Singh, Ankit Gangrade, Achintya Jana, Biman B. Mandal and Neeladri Das.	Design, synthesis, characterization and antiproliferative activity of organoplatinum compounds bearing 1,2,3-triazole ring	ACS Omega	2019	4	1	835	841
111	Prerak Gupta, Joseph Christakiran Moses and Biman B. Mandal.	Surface patterning and innate physico-chemical attributes of silk films concomitantly govern vascular cell dynamics.	ACS Biomaterials Science & Engineering	2019	5	2	933	949
112	Bibhas K. Bhunia and Biman B. Mandal.	Exploring gelation and physico-chemical behavior of in-situ bioresponsive silk hydrogels for disc degeneration therapy.	ACS Biomaterials Science & Engineering	2019	5	2	870	886
113	Jadi Praveen Kumar and Biman B. Mandal.	Silk sericin induced pro-oxidative stress leads to apoptosis in human cancer cells.	Food & Chemical Toxicology	2019	123	-	275	287
114	Dimple Chouhan, Shreya Mehrotra, Omkar Majumder and Biman B. Mandal.	Magnetic actuator device assisted modulation of cellular behavior and tuning of drug release on silk platform.	ACS Biomaterials Science & Engineering	2019	5	1	92	105

115	Jadi Praveen Kumar; Rocktotpal Konwarh; Manishekhar Kumar; Ankit Gangrade; Biman B. Mandal.	Potential nanomedicine applications of multifunctional carbon nanoparticles developed using green technology	ACS Sustainable Chemistry & Engineering	2018	6	1	1235	1245
116	Khushwant Singh, Ankit Gangrade, Sourav Bhowmick, Achintya Jana, Biman B. Mandal, Neeladri Das.	Self-assembly of a [1+1] ionic hexagonal macrocycle and its antiproliferative activity.	Frontiers in Chemistry	2018	6	-	87	-
117	Rituparna Duarah, Yogendra Pratap Singh, Prerak Gupta, Biman B. Mandal, Nirranjan Karak.	Smart self-tightening surgical suture from tough bio-based hyperbranched polyurethane/reduced carbon dot nanocomposite.	Biomedical Materials	2018	13	4	04500 4	-
118	Sween Gilotra, Dimple Chouhan, Nandana Bhardwaj, Samit K. Nandi and Biman B. Mandal.	Potential of silk sericin based nanofibrous mats for wound dressing applications.	Materials Science and Engineering C	2018	90	-	420	432
119	Rana Dalapati, Soutick Nandi, Helge Reinsch, Bibhas K. Bhunia, Biman B Mandal, Norbert Stock, Shyam Biswas.	Fluorogenic naked-eye sensing and live-cell imaging of cyanide by hydrazine-functionalized CAU-10 metal-organic framework.	CrystEngComm	2018	20	-	4194	4201
120	Sourav Bhowmick, Achintya Jana, Khushwant Singh, Prerak Gupta, Ankit Gangrade, Biman B. Mandal and Neeladri Das.	Coordination driven Self-assembly of Ionic Irregular Hexagonal Metallamacrocycles via an Organometallic Clip and their Cytotoxicity Potency.	Inorganic Chemistry	2018	57	7	3615	3625
121	Saundray Raj Soni, Nimmy Kumari, Bibhas K. Bhunia, Biswatrish Sarkar, Biman B. Mandal and Animesh Ghosh.	Synthesis and characterization of a non-cytotoxic and biocompatible acrylamide grafted pullulan – Application in pH responsive controlled drug delivery.	International Journal of Biological Macromolecules	2018	120	-	753	762
122	Saundray Raj Soni, Bibhas Bhunia, Nimmy Kumari, Subhashis Dan, Sudipta Mukherjee, Biman B. Mandal and Animesh Ghosh.	Therapeutically effective controlled release formulation of pirfenidone from non-toxic biocompatible carboxymethyl pullulan-poly(vinyl alcohol) interpenetrating polymer networks.	ACS Omega	2018	3	9	11993	12009
123	Saundray Raj Soni, Nimmy Kumari, Bibhas K. Bhunia, Biswatrish Sarkar, Biman B. Mandal and Animesh Ghosh.	In vitro and in vivo evaluation of pirfenidone loaded acrylamide grafted pullulan-poly(vinyl alcohol) interpenetrating polymer networks.	Carbohydrate Polymers	2018	202	-	288	298
124	Adil M. Rather, Arpita Shome, Bibhas K. Bhunia,	Simultaneous and controlled release of two different bioactive small	Journal of Materials Chemistry B	2018	6	-	7692	7702

	Aparna Panuganti, Biman B Mandal, Uttam Manna.	molecules from nature inspired single material.							
125	Jadi Praveen Kumar, Shamsah Alam, Abhishek Jain, Kausar Ansari and Biman B. Mandal.	Protective activity of silk sericin against UV radiation-induced skin damage by downregulating oxidative stress.	ACS Applied Bio Materials,	2018	1	6	2120	2132	
126	Yogendra Pratap Singh, Joseph Christakiran Moses, Nandana Bhardwaj and Biman B. Mandal.	Injectable hydrogels: a new paradigm for osteochondral tissue engineering.	Journal of Materials Chemistry B	2018	6	-	5499	5529	
127	Sudena Chakravarty, Bedanta Gogoi, Biman B Mandal, Nandana Bhardwaj and Neelotpal Sen Sarma.	Silk fibroin as a platform for dual sensing of vitamin B12 using photoluminescence and electrical techniques.	Biosensors and Bioelectronics	2018	112	-	18	22	
128	Dimple Chouhan, Janani Guru, Bijayashree Chakraborty, Samit Nandi and Biman B Mandal.	Functionalized PVA-Silk blended nanofibrous mats promote diabetic wound healing via regulation of extracellular matrix and tissue remodeling.	Journal of Tissue Engineering and Regenerative Medicine	2018	12	3	e1559	e1570	
129	Bibhas K. Bhunia and Biman B. Mandal.	Modulation of extracellular matrix by annulus fibrosus cells on tailored silk based angle-ply intervertebral disc construct.	Materials and Design	2018	158	-	74	87	
130	Adil Rather, Arpita Shome, Suresh Kumar, Bibhas K. Bhunia, Biman B Mandal, Hemant Srivastava and Uttam Manna.	Alkali Metal-ion Assisted Michael Addition Reaction in Controlled Tailoring of Topography in Superhydrophobic Polymeric Monolith.	Journal of Materials Chemistry A	2018	6	-	17019	17031	
131	Yogendra Pratap Singh, Joseph Christakiran Moses, Bibhas K. Bhunia, Samit K. Nandi and Biman B. Mandal.	Hierarchically structured seamless silk scaffolds for osteochondral interface tissue engineering. (COVER PAGE)	Journal of Materials Chemistry B	2018	6	-	5671	5688	
132	Joseph Christakiran Moses, Samit K. Nandi and Biman B Mandal.	Multifunctional cell instructive silk-bioactive glass composite reinforced scaffolds towards osteoinductive, proangiogenic and resorbable bone grafts.	Advanced Healthcare Materials	2018	7	10	e1701418	-	
133	Dimple Chouhan, Naresh Thatikonda, Linnea Nilebäck, Mona Widhe, My Hedhammar and Biman B. Mandal.	Recombinant spider silk functionalized silkworm silk matrices as potential bioactive wound dressings and skin grafts.	ACS Applied Materials and Interfaces	2018	10	28	23560	23572	
134	Dimple Chouhan, Tshewuzo-u Lohe, Pavan Kumar Samudrala and Biman B. Mandal.	In situ forming silk fibroin hydrogel promotes skin regeneration in full thickness burn wounds.	Advanced Healthcare Materials	2018	7	24	e1801092	-	

135	Manishekhar Kumar, Prerak Gupta, Sohenii Bhattacharjee, Samit K. Nandi and Biman B. Mandal.	Immunomodulatory injectable silk hydrogels maintaining functional islets and promoting anti-inflammatory M2 macrophage polarization.	Biomaterials	2018	187	-	1	17
136	Glingston S, Deb R, Kumar S, Nagotu S	Organelle dynamics and viral infections: at cross roads	Microbes and Infection	2018	21	1	20	32
137	Banerjee R, Deb R, Roy K, Chatterjee S, Nagotu S	Uptake and intracellular fate of nona-arginine peptide in yeast	Biopolymers: Peptide Science	2018		Doi.org/10.1002/pep2.24101		
138	Deori NM, Kale A, Maurya PK, Nagotu S	Peroxisomes: role in cellular ageing and age related disorders	Biogerontology	2018	19	5	303	324
139	Paul, T., Baskaran, D., Pakshirajan, K., & Pugazhenthii, G	Continuous bioreactor with cell recycle using tubular ceramic membrane for simultaneous wastewater treatment and bio-oil production by oleaginous <i>Rhodococcus opacus</i>	Chemical Engineering Journal	2019	367		76	85
140	Goswami, L., Kumar, R. V., Pakshirajan, K., Pugazhenthii, G.	A novel integrated biodegradation-microfiltration system for sustainable wastewater treatment and energy recovery	Journal of Hazardous Materials	2019	365		707	715
141	Tai Tang, V., Pakshirajan, K.	Novel advanced porous concrete in constructed wetlands: Preparation, characterization and application in urban storm runoff treatment	Water Science and Technology	2018	78		2374	2382
142	Goswami, L., Kumar, R. V., Borah, S. N., Manikandan, N. A., Pakshirajan, K., Pugazhenthii, G.	Membrane Bioreactor and integrated membrane bioreactor systems for micropollutant removal from wastewater: A review.	Journal of Water Process Engineering	2018	26		314	328
143	Singh, A., Manikandan, N.A., Sankar, M.R., Pakshirajan, K., Roy, L.	Experimental Investigations and Surface Morphology of Bio-Micromachining on Copper	Materials Today	2018	5	2	4225	4234
144	Goswami, L., Manikandan, N. A., Dolman, B., Pakshirajan, K., Pugazhenthii, G	Biological treatment of wastewater containing a mixture of polycyclic aromatic hydrocarbons using oleaginous bacterium <i>Rhodococcus opacus</i>	Journal of Cleaner Production	2018	196		1282	1291
145	Kiran, M.G., Pakshirajan, K., Das, G.	Metallic wastewater treatment by sulfate	Frontiers of Environmenta	2018	12	4	1	12

		reduction using anaerobic rotating biological contactor reactor under high metal loading conditions	I Science and Engineering					
146	Kumar, M., Sinharoy, A., Pakshirajan, K.	Process integration for biological sulfate reduction in a carbon monoxide fed packed bed reactor	Journal of Environmental Management	2018	219		294	303
147	Gopi Kiran, M., Pakshirajan, K., Das, G.	Heavy metal removal from aqueous solution using sodium alginate immobilized sulfate reducing bacteria: Mechanism and process optimization	Journal of Environmental Management	2018	218		486	496
148	Varun Saxena, Pranjali Chandra, & Lalit M. Pandey	Design and characterization of novel Al-doped ZnO nanoassembly as an effective nanoantibiotic	Applied Nanoscience	2018	8	8	1925	1941
149	Ajeet Singh, Abshar Hasan, Sakshi Tiwari and Lalit M. Pandey	Therapeutic Advancement in Alzheimer Disease: New Hopes on the Horizon?	CNS & Neurological Disorders - Drug Targets.	2018	17		571	589
150	Swati Sharma, Varun Saxena, Anupriya Baranwal, Pranjali Chandra and Lalit M Pandey	Engineered nanoporous materials mediated heterogeneous catalysts and their implications in biodiesel production	Materials Science for Energy Technologies	2018	1		11	21
151	Rasmi Ranjan Behera, Apurba Das, Pamu Dobbidi, Lalit M Pandey and M.R. Sankar	Mechano-tribological properties and in vitro bioactivity of biphasic calcium phosphate coating on Ti-6Al-4V	Journal of the Mechanical Behavior of Biomedical Materials	2018	86		143	157
152	Abshar Hasan, Gyan Waibhaw and Lalit M. Pandey	Conformational and Organizational Insights into Serum Proteins during Competitive Adsorption on Self-Assembled Monolayers	Langmuir	2018	34	28	8178	8194
153	Swati Sharma, Sakshi Tiwari, Abshar Hasan, Varun Saxena and Lalit M. Pandey	Recent advances in conventional and contemporary methods for remediation of heavy metal-contaminated soils	3 Biotech	2018	8		2160	2190
154	Swati Sharma, Abshar Hasan, Naveen Kumar and Lalit M. Pandey	Removal of methylene blue dye from aqueous solution using immobilized Agrobacterium fabrum	Environmental Science and Pollution Research	2018	25	22	21605	21615

		biomass along with iron oxide nanoparticles as biosorbent						
155	Poulami Datta, Pankaj Tiwari and Lalit M.Pandey	Isolation and characterization of biosurfactant producing and oil degrading <i>Bacillus subtilis</i> MG495086 from formation water of Assam oil reservoir and its suitability for enhanced oil recovery	Bioresource Technology	2018	270		439	448
156	Sunayan Deka, Varun Saxena, Abshar Hasan, Pranjal Chandra and Lalit M.Pandey	Synthesis, characterization and in vitro analysis of $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> -GdFeO <sub>3</sub> biphasic materials as therapeutic agent for magnetic hyperthermia applications	Materials Science and Engineering: C	2018	92		932	941
157	Rasmi Ranjan Behera, Abshar Hasan, Mamilla Ravi Sankar and Lalit Mohan Pandey	Laser cladding with HA and functionally graded TiO <sub>2</sub> -HA precursors on Ti-6Al-4V alloy for enhancing bioactivity and cyto-compatibility	Surface and Coatings Technology	2018	352		420	436
158	Abshar Hasan, Sudip K. Pattanayek, and Lalit M. Pandey	Effect of Functional Groups of Self-Assembled Monolayers on Protein Adsorption and Initial Cell Adhesion	ACS Biomaterial Science and Engineering	2018	4	9	3224	3233
159	Ravi, Lalit M.Pandey	Enhanced adsorption capacity of designed bentonite and alginate beads for the effective removal of methylene blue	Applied Clay Science	2018	169		102	111
160	Varun Saxena, Swati Sharma, Lalit Mohan Pandey	Fe(III) doped ZnO nano-assembly as a potential heterogeneous nano-catalyst for the production of biodiesel	Materials Letters	2018	237		232	235
161	Abhishek Roy, Shivam Tiwari, Srijeeb Karmakar, K.Anki Reddy, and Lalit Mohan Pandey	The effect of the stoichiometric ratio of zinc towards the fibrillation of Bovine Serum Albumin (BSA): A mechanistic insight	International Journal of Biological Macromolecules	2018	123		409	419
162	Srijeeb Karmakar, Nandini Sarkar, and Lalit M.Pandey	Proline functionalized gold nanoparticles modulates lysozyme fibrillation	Colloids and Surfaces B: Biointerfaces	2018	174	1	401	408
163	Srijeeb Karmakar, Laipubam Gayatri Sharma, Abhishek	Neuronal SNARE complex: A protein folding system with	Neurochemistry International	2018	122		196	207



	Roy, Anjali Patel, and Lalit Mohan Pandey	intricate protein-protein interactions, and its common neuropathological hallmark, SNAP25.						
164	Poulomi Saha, Mohd Faheem Khan and Sanjukta Patra	Truncated $\alpha$ amylase: an improved candidate for textile processing	Preparative Biochemistry and Biotechnology	2018	14	-	1	11
165	Nivedita Singh, Ashwinee Kumar Shreshtha, M. S. Thakur and Sanjukta Patra	Xanthine scaffold: scope and potential in drug development	Heliyon	2018	4	10	e00829	-
166	Debamitra Chakravorty and Sanjukta Patra	RankProt: A multi criteria-ranking platform to attain protein thermostabilizing mutations and its in vitro applications-Attribute based prediction method on the principles of Analytical Hierarchical Process	PloS One	2018	13	10	e0203036	-
167	Nivedita Singh, Swagata Patra and Sanjukta Patra.	Identification of Xanthine Derivatives as Inhibitors of Phosphodiesterase 9A Through in silico and Biological Studies	Combinatorial Chemistry & High Throughput Screening	2018	21	7	476	486
168	Mohd Faheem Khan and Sanjukta Patra	Deciphering the rationale behind specific codon usage pattern in extremophiles	Scientific Reports	2018	8	1	15548	-
169	Satakshi Hazra and Sanjukta Patra	Alleviating the Neglected Tropical Diseases: Recent Developments in Diagnostics and Detection	Current Topics in Medicinal Chemistry	2018	18	18	1559	1574
170	Dey, P., Mukherjee, S., Das, G. and Ramesh, A.	Micellar chemotherapeutic platform based on a bifunctional salicaldehyde amphiphile delivers a "combo-effect" for heightened killing of MRSA.	Journal of Materials Chemistry B	2018	6	14	2116	2125
171	Sahareen, T., Dey, P., Mukherjee, S., Das, G and Ramesh, A.	Potential of pyridine amphiphiles as staphylococcal nuclease inhibitor	ChemBioChem	2018	19	13	1400	1408
172	Singh, R., Samanta, S., Mullick, P., Ramesh, A. * and Das, G. *	Al <sup>3+</sup> sensing through different turn-on emission signals vis-a-vis two different excitations: applications in biological and environmental realms.	Analytica Chimica Acta	2018	1025		172	180
173	Gaurav Jerath, Ruchika Goyal, Vishal Trivedi, T.R.	Syndiotactic peptides for targeted delivery	Acta Biomaterialia	2019	87	-	130	139

	Santhoshkumar and Vibin Ramakrishnan							
174	Prakash Kishore Hazam, Ruchika Goyal and Vibin Ramakrishnan	Peptide based Antimicrobials: Design Strategies and Therapeutic Potential	Progress in Biophysics and Molecular Biology	2019	142	-	10	22
175	Gaurav Pandey, Sudhir Morla, Harshal B. Nemade, Sachin Kumar and Vibin Ramakrishnan	Modulation of Aggregation with Electric Field; Scientific Roadmap for a Potential Non-Invasive Therapy Against Tauopathies.	RSC Advances	2019	9	-	4744	4750
176	Jahnu Saikia, Gaurav Pandey, Sajitha Sasidharan, Ferrin Antony, Harshal B. Nemade, Sachin Kumar, Nitin Chaudhary, and Vibin Ramakrishnan	Electric Field Disrupts Amyloid Aggregation; Potential Non-invasive Therapy for Alzheimer's Disease	ACS Chemical Neuroscience	2019		doi:10.1021/acscchemneuro.8b00490		
177	Praksah Kishore Hazam, Akhil, R. , Gaurav Jerath, Jahnu Saikia and Vibin Ramakrishnan	Topological effects on the designability and bactericidal potency of antimicrobial peptides.	Biophysical Chemistry	2019	142	-	10	18
178	Ranbhor Ranjit, Anil Kumar, Abhijit Tendulkar, Kirti Patel, Vibin Ramakrishnan, and Susheel Durani	Automated Design Tool for Hetero-chiral Protein Folds	Physical biology	2018	15	6	66005	66010
179	S Basak, I Chakrabartty, V Hedao, Rahul G Shelke, L Rangan	Assessment of genetic variation among wild <i>Alpinia nigra</i> (Zingiberaceae) population: genome mining and molecular marker approach.	Molecular Biology Reports	2018	46	1	177	189
180	P Baruah, A Singh, L Rangan, A Kumar, A Khare	Optimization of copper nanoparticles synthesized by pulsed laser ablation in distilled water as a viable SERS substrate for karanjin.	Materials Chemistry and Physics	2018	220		111	117
181	S Basak, L Rangan	Production, characterization and inhibition of fungal cellulases utilizing rice bran as substrate in solid state fermentation.	Microbiology : Current Research	2018	2	4	69	74
182	R Das, RG Shelke, L Rangan, S Mitra	Estimation of nuclear genome size and characterization of Ty1-copia like LTR retrotransposon in <i>Mesua ferrea</i> L.	Journal Plant Biochemistry and Biotechnology	2018	27	4	478	487
183	I Chakrabartty, PK Baruah, AN Panda, A Khare, L Rangan	Hybrid formulation of Cu nanoparticles and labdane diterpene from <i>Alpinia nigra</i> : a vibrational spectroscopic study.	Journal of Applied Spectroscopy	2018	85	5	983	990

184	Sharma PK, Saharia M, Srivastava R, Kumar S, Sahoo L	Tailoring Microalgae for Efficient Biofuel Production	Frontiers in Marine Science	2018	5	382	1	19
185	Srivastava R, Kumar S, Kobayashi Y, Kusunoki K, Tripathi P, Kobayashi Y, Koyama H, Sahoo L	Comparative genome-wide analysis of WRKY transcription factors in two Asian legume crops: Adzuki bean and mung bean	Scientific Reports	2018	8	16971	1	18
186	Borghain P, Chowardhara B, Saha B, Awasthi J, Kitaniya S, Sahoo L, Panda SK	Establishment of highly efficient regeneration system in Tomato var. pusa ruby amenable to Agrobacterium tumifaciens mediated plant transformation system	International Journal of Plant Research	2018	31	4	62	67
187	Nahar S, Vemireddy L, Sahoo L, Tanti B	Antioxidant protection mechanisms reveals significant response in drought induced oxidative stress in some traditional rice of Assam, India	Rice Science	2018	25	4	185	196
188	Nahar S, L, Sahoo L, Tanti B	Screening of drought tolerant rice through morpho-physiological and biochemical approaches	Biocatalysis and Agricultural Biotechnology	2018			150	159
189	Bordoloi S, Hussain R, Gadi VK, Bora H, Sahoo L, Karangat R, Garg A, Sreedeeep S	Monitoring soil cracking and plant parameters for a mixed grass species.	Géotechnique Letters.	2018	8		1	7
190	Bordoloi S, Gadi VK, Hussain R, Sahoo L, Garg A, Sreedeeep S, Mei G, Poulsen TG	Influence of fiber from waste weed Eichhornia Crassipes on water retention and cracking characteristics of vegetated soils	Géotechnique Letters.	2018	8		1	25
191	Gadi VK, Hussain R, Bordoloi S, Hossain S, Singh SR, Garg A, Sreedeeep S, Karangat R, Sahoo L	Relating stomatal conductance and surface area with evapotranspiration induced suction in a heterogeneous grass cover	Journal of Hydrology	2019	568		867	876
192	Abhishek Kumar, D. Mukherjee, and P. Satpati	Mutations in Parkinson's Disease Associated Protein DJ-1 Alter the Energetics of DJ-1 Dimerization.	J. Chem. Inf. Model.	2019		DOI: 10.1021/acs.jcim.8b00687		
193	K. Roy, S. Ghosh, M. Chetia, P. Satpati, S. Chatterjee	Dicyclohexylurea derivatives of amino acids as dye absorbent organogels and anion sensors	Organic & biomolecular chemistry	2019	17	11	3026	3039

194	C. Lind, M. Esguerra, W. Jespers, P Satpati, H. Gutierrez-de-Terán, J. Åqvist,	Free energy calculations of RNA interactions.	Methods	2019		doi: 10.1016/j.ymeth.2019.02.014.		
195	G. Pandit, H. Ilyas, S. Ghosh, A. P. Bidkar, Sk. A. Mohid, A. Bhunia, P. Satpati, and S. Chatterjee	Insights into the Mechanism of Antimicrobial Activity of Seven-Residue Peptides.	J. Med. Chem.	2018	61	17	7614	7629
196	Abhishek Kumar and P. Satpati	Principle of K <sup>+</sup> /Na <sup>+</sup> selectivity in the active site of Group II intron at various stages of self-splicing pathway.	J Mol Graph Model, 84, 1-9 (2018)	2018	84		1	9
197	Amit Kumar and P. Satpati	Energetics of preferential binding of RIG-I to double-stranded viral RNAs with 5' tri/di phosphate over 5' monophosphate.	ACS Omega	2018	3	4	3786	3795
198	Ajmani Abhishek, Narayanan Saranya, Patra Chandi, Narayanasamy Selvaraju	Studies on the remediation of Chromium (VI) from simulated wastewater using novel biomass of Pinus kesiya cone	Desalination and Water Treatment	2018	114		192	204
199	N Saranya, Abhishek Ajmani, V Sivasubramanian, N Selvaraju	Hexavalent Chromium removal from simulated and real effluents using Artocarpus heterophyllus peel biosorbent-Batch and Continuous studies	Journal of Molecular Liquids	2018	265		779	790
200	E Nakkeeran, Chandi Patra, Tasrin Shahnaz, S Rangabhashiyam, N Selvaraju	Continuous biosorption assessment for the removal of hexavalent chromium from aqueous solutions using Strychnos nux vomica fruit shell	Bioresource Technology Reports	2018	3		256	260
201	V Karthik, K Saravanan, C Patra, B Ushadevi, S Vairam, N Selvaraju	Biosorption of Acid Yellow 12 from simulated wastewater by non-viable T. harzianum: Kinetics, Isotherm and Thermodynamics studies	International Journal of Environmental Sciences and Technology	2018		doi.org/10.1007/s13762-018-2073-4		
202	Shravan Kumar, Selvaraju Narayanasamy, R. Prasanna Venkatesh	Removal of Cr(VI) from synthetic solutions using water Caltrop Shell as a low-cost biosorbent	Separation Science and Technology	2018		doi.org/10.1080/01496395.2018.156033		
203	Abhishek Ajmani, Tasrin Shahnaz, Saranya Narayanan, Narayansamy Selvaraju	Equilibrium, kinetics and thermodynamics of hexavalent chromium biosorption on pristine and zinc chloride activated Senna siamea seed pods	Chemistry and Ecology	2019	35	4	379	396

204	Srikanth Katla, Bappa Karmakar, Subbi Rami Reddy Tadi, Naresh Mohan, B Anand, Uttariya Pal, Senthilkumar Sivaprakasam	High level extracellular production of recombinant human interferon alpha 2b in glycoengineered <i>Pichia pastoris</i> : culture medium optimization, high cell density cultivation and biological characterization	Journal of Applied Microbiology	2019	126	5	1438	1453
205	Rohit Seshrao Ghodke, Jyoti prasad Kakati, Subbi Rami Reddy Tadi, Naresh Mohan and Senthilkumar Sivaprakasam	Kinetic modeling of hyaluronic acid production in palmyra palm ( <i>Borassus flabellifer</i> ) based medium by <i>Streptococcus zooepidemicus</i> MTCC 3523	Biochemical Engineering	2018	137		284	293
206	Boehm V, Britto-Borges T, Steckelberg AL, Singh KK, Gerbracht JV, Gueney E, Blazquez L, Altmueller J, Dieterich C, Gehring NH	Exon Junction Complexes Suppress Spurious Splice Sites to Safeguard Transcriptome Integrity	Molecular Cell	2018	72	3	482	495
207	Aparajita Dutta, Tushar Dubey, Kusum Kumari Singh, Ashish Anand	SpliceVec: Distributed feature represents for splice junction prediction	Computational Biology and Chemistry	2018	74		434	441
208	Mohd. Ziauddin Ansari, Amrendra Kumar, Dileep Ahari, Anurag Priyadarshi, Padmavathi Lolla, Rashna Bhandari and Rajaram Swaminathan	Protein charge transfer absorption spectra: an intrinsic probe to monitor structural and oligomeric transitions in proteins	Faraday Discussions	2018	207		91	113
209	Rajat Anand, Manish Agarwal, Venkata Satish Kumar Mattapparathi, Rajaram Swaminathan, Sitangshu Bikas Santra	Consequences of Heterogeneous Crowding on an Enzymatic Reaction: A Residence Time Monte Carlo Approach	ACS Omega	2019	4		727	736
210	Dibakar Gohain and Ranjan Tamuli	Calcineurin responsive zinc-finger-1 binds to a unique promoter sequence to upregulate neuronal calcium sensor-1, whose interaction with MID-1 increases tolerance to calcium stress in <i>Neurospora crassa</i>	Molecular Microbiology	2019		doi.org/10.1111/mmi.14234		
211	Haridhasapavalan KK, Borgohain MP, Dey C, Saha B, Narayan G, Kumar S, Thummer RP	An insight into non-integrative gene delivery approaches to generate transgene-free induced pluripotent stem cells	Gene	2018	686		146	159
212	Saha B, Krishna Kumar H, Borgohain MP, Thummer RP	Prospective applications of Induced Pluripotent Stem Cells in Military Medicine	Med J Armed Forces India	2018	74	4	313	320

213	Aniruddha Das, Sooram Banesh, Vishal Trivedi and Shyam Biswas	Extraordinary Sensitivity for H <sub>2</sub> S and Fe(III) Sensing in Aqueous Medium by Al-MIL-53-N <sub>3</sub> Metal-Organic Framework: In Vitro and In Vivo Sensing Applications.	Dalton Transactions	2018	47		2690	2700
214	Deka, SJ., Trivedi, V	Potentials of PKC in cancer progression and anticancer drug development.	Curr Drug Discov Technol.	2018		doi: 10.2174/1570163815666180219113614		
215	Soutick Nandi, Sooram Banesh, Vishal Trivedi and Shyam Biswas	A dinitro-functionalized metal-organic framework featuring visual and fluorogenic sensing of H <sub>2</sub> S in living cells, human blood plasma and environmental samples.	Analyst	2018	143	6	1482	1491
216	Deka, SJ., Gorai, S., Manna, D., Trivedi, V	Biochemical studies and Virtual Screening of Phytochemical reservoir from northeastern Indian plants to identify anti-cancer agents.	Journal of Biologically Active Products from Nature	2018	8	2	104	124
217	Vimee Raturi., Kumar Abhishek Subhashis Jana, Subhendu Sekhar, Sekhar Bag and Trivedi, V	Virtual Screening, Molecular modelling and biochemical studies to exploit PF14_0660 as a target to identify novel anti-malarials.	Letters in Drug Design & Discovery	2019	16	doi: <a href="https://doi.org/10.2174/1570180815666180727121200">10.2174/1570180815666180727121200</a>		
218	Chowdhury, Sayan; Mondal, Subrata; Muthuraj, Balakrishnan; S N, Balaji; Trivedi, Vishal; Iyer, Parameswar	Remarkably Efficient Blood-Brain Barrier Crossing Polyfluorene-Chitosan Nanoparticle Selectively Tweaks Amyloid Oligomer in CSF and A $\beta$ 1-40	ACS Omega	2018	3		8059	8066
219	Chowdhury, Sayan; S N, Balaji; Mondal, Subrata; Meher, Niranjan; Trivedi, Vishal; Iyer, Parameswar	Modulating Early Stage Amyloid Aggregates by Dipeptide Linked Perylenebisimides: Structure Activity Relationship, Inhibition and Modulation in Human CSF and A $\beta$ 1-40	ACS Applied Bio Materials	2018	1	2	403	413
220	Mostakim SK, Soutick Nandi, Rakesh Kumar Singh, Vishal Trivedi, and Shyam Biswas	Selective sensing of peroxynitrite by Hf-based UiO-66-B(OH) <sub>2</sub> metal-organic framework: Applicability to cell imaging	Inorganic Chemistry	2018	57	16	10128	10136
221	Banesh, S., Ramakrishnan V., and Trivedi, V	Mapping of Phosphatidylserine	Archives of Biochemistry	2018	660	15	1	10

		recognition region on CD36 Ectodomain	and Biophysics					
222	Soutick Nandi, Ena Sharma, Vishal Trivedi and Shyam Biswas	Metal-Organic Framework Showing Highly Selective and Sensitive Detection of Exogenous and Endogenous Formaldehyde	Inorganic Chemistry	2018	57	24	15149	15157
223	Kimjolly Lhouvum, Balaji, SN, Jawed, AM and Trivedi, V	Plasmodium falciparum PFI1625c offers an opportunity to design potent anti-malarials: Biochemical characterization and testing potentials in drug discovery	Acta Tropica	2019	191		116	127
224	Kumar, S and Trivedi, V	Extracellular Methemoglobin promotes Cytoadherence of Uninfected RBC to Endothelial cells: Insight into cerebral malaria pathology	Journal of Cellular Biochemistry	2019		DOI:10.1002/jcb.28390		
225	Das, Aniruddha; Das, Sourik; Trivedi, Vishal; Biswas, Shyam	A Dual Functional MOF-Based Fluorescent Sensor for Intracellular Phosphate and Extracellular 4-Nitrobenzaldehyde.	Dalton Trans	2019	48		1332	1343
226	Mahesh R, Naira VR and Maiti SK	Concomitant production of fatty acid methyl ester (biodiesel) and exopolysaccharides using efficient harvesting technology in flat panel photobioreactor with special sparging system via <i>Scenedesmus abundans</i>	Bioresource Technology	2019	278		231	241
227	Maibam PD, Maiti SK	A Strategy for Simultaneous Xylose Utilization and Enhancement of Cellulase Enzyme Production by <i>Trichoderma reesei</i> Cultivated on Liquid Hydrolysate Followed by Induction with Feeding of Solid Sugarcane Bagasse	Waste and Biomass Valorization	2019		DOI: <a href="https://doi.org/10.1007/s12649-019-00645-6">https://doi.org/10.1007/s12649-019-00645-6</a>		
228	Naira VR, Das D and Maiti SK	Real time light intensity based carbon dioxide feeding for high cell-density microalgae cultivation and biodiesel production in a bubble	Bioresource Technology	2019	284		43	55

		column photobioreactor under outdoor natural sunlight						
229	Panda SK and Maiti SK	An approach for simultaneous detoxification and increment of cellulase enzyme production by <i>Trichoderma reesei</i> using rice straw	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	2019		DOI: 10.1080/15567036.2019.1568641		
230	Singh NK, Naira VR and Maiti SK	Production of biodiesel by autotrophic <i>Chlorella pyrenoidosa</i> in a sintered disc lab scale bubble column photobioreactor under natural sunlight	Preparative Biochemistry and Biotechnology	2019		DOI: <a href="https://doi.org/10.1080/10826068.2018.1536991">https://doi.org/10.1080/10826068.2018.1536991</a>		
231	Panda SK and Maiti SK	An approach for simultaneous detoxification and increment of cellulase enzyme production by <i>Trichoderma reesei</i> using rice straw	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	2019		DOI: 10.1080/15567036.2019.1568641		
232	Singh NK, Naira VR and Maiti SK	Production of biodiesel by autotrophic <i>Chlorella pyrenoidosa</i> in a sintered disc lab scale bubble column photobioreactor under natural sunlight	Preparative Biochemistry and Biotechnology	2019		DOI: <a href="https://doi.org/10.1080/10826068.2018.1536991">https://doi.org/10.1080/10826068.2018.1536991</a>		
233	Surajbhan Sevda, Ibrahim M. Abu-Reesh	Improved salt removal and power generation in a cascade of two hydraulically connected up-flow microbial desalination cells	Journal Of Environmental Science And Health, Part A	2018	53	4	326	337
234	Surajbhan Sevda, T.R.Sreekishnan, Narcís Pous, Sebastià Puig, Deepak Pant	Bioelectroremediation of perchlorate and nitrate contaminated water: A review	Bioresource Technology	2018	225		331	339
235	Rintu Banerjee, S.P. JeevanKumar, Ninad Mehendale, Surajbhan Sevda, Vijay Kumar Garlapati	Intervention of microfluidics in biofuel and bioenergy sectors: Technological considerations and future prospects	Renewable and Sustainable Energy Reviews	2019	101		548	558
236	Surajbhan Sevda, Swati Sharma, Chetan Joshi, Lalit	Biofilm formation and electron transfer in		2018	7	1	220	234



	Pandey, Namrata Tyagi, Ibrahim AbuReesh and T.R. Sreekrishnan	bioelectrochemical systems	Environmental Technology Reviews					
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**Conference/Workshop/Seminar/Symposia (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**  
**Total No. of papers (posters/ abstracts) published in Conference Proceedings: 163**

**Format for submission of papers published in Conference Proceedings**

S. No.	Authors	Paper Title	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Year	Starting Page	Ending Page
1	Pratik Nag, Souptick Chanda	Proximal Femoral Locking Plate: The effect of interface conditions on Implant induced stress shielding.	IEEE EMBS International Student Conference	2018		
2	Rajdeep Ghosh, Souptick Chanda, Debabrata Chakraborty	Mechanobiological based microscale study of Influence of Surface Texture Design on Peri-Acetebular Bone Ingrowth.	31 <sup>st</sup> Annual Congress by International Society for Technology in Arthroplasty (ISTA 2018)	2018		
3	Pratik Nag, Souptick Chanda	A comparison of Proximal Femoral Locking Plate(PFLP) and Dynamic Hip Screw(DHS) based on the effect of stress shielding in subtrochanteric femoral fracture.	Research Conclave, IIT Guwahati	2019		
4	Srirupa Bhattacharya, Rajib Shome, Muktaashree Saha, Hirakjyoti Roy	New trends in multi modal molecular imaging applications for animal studies in drug discovery	NIPER Guwahati	2018		
5	Aditi Banerjee, Upashi Goswami, Deepanjalee Dutta, Neha Arora, Anita T Simon, Anil Bidkar, Srirupa Bhattacharya, Rajib Shome, Muktaashree Saha, Debashree Debasmita, Plaboni Sen, Hirakjyoti Roy	Translational research and biomarker discovery	Department of Biosciences and Bioengineering, IIT Guwahati	2018		
6	Srirupa Bhattacharyya, Neha Arora, Siddhartha Sankar Ghosh	Emergence of Protein Therapeutics in Cancer Medicine-	Research conclave 2018, IIT Guwahati	2018		
7	Rajib Shome, Asif Raza, Siddhartha Sankar Ghosh	Advanced Gene Therapy: Future of Cancer Therapeutics	Research conclave 2018, IIT Guwahati	2018		
8	Phurpa Dema Thungon, Torsha Kundu and Pranab Goswami	Analytical studies on the two types of fluorescent nanoclusters stabilized by catalase	Frontiers in Chemical Science 2018	6-8 <sup>th</sup> December, 2018		

9	Naveen Kumar Singh, Dr. Pedro Estrela and Pranab Goswami	Development of simple, pragmatic and low cost aptasensor for Malaria diagnosis	International Conference on Advancement In Science and Technology (ICAST)	3-4 <sup>th</sup> September, 2018		
10	Phurpa Dema Thungon, Torsha Kundu and Naveen Kumar Singh	Study of enzyme stability in silk films to develop biosensors	International Conference on Advancement In Science and Technology (ICAST)	3-4 <sup>th</sup> September, 2018		
11	Pooja Rani Kuri, Naveen Kumar Singh and Pranab Goswami	C Dot Aptamer conjugate based detection of <i>Plasmodium falciparum</i> glutamate dehydrogenase for Malaria diagnosis	International Conference on Advancement In Science and Technology (ICAST)	3-4 <sup>th</sup> September, 2018		
12	Naveen Kumar Singh, Lightson Ngashangva, Pranab Goswami	A Pragmatic Plasmodium falciparum glutamate dehydrogenase based sensor for malaria diagnosis	International Conference on engaging India and Canada: Challenges of sustainable development goal	8-9 <sup>th</sup> June, 2018		
13	Vikky Rajulapati, Arun Dhillon and Arun Goyal	Green process of degumming of jute fiber and bioscouring of cotton fabric by alkaline pectinases from <i>Clostridium thermocellum</i>	National Conference on Recent Trends and Advancements in Chemical Sciences, Delhi University	March 29-31, 2019		
14	Dishant Goyal, Krishan Kumar, Abhijeet Thakur and Arun Goyal	Expression, purification and biochemical characterization of family 5 glycoside hydrolase (RfGH5_7) from <i>Ruminococcus flavefaciens</i> FD-1 v3	Research Conclave, IIT Guwahati	March, 14-17, 2019		
15	Mohanapriya, N, Shweta Singh, Sumitha Banu, Priyanka Nath and Arun Goyal	Saccharification of <i>Sorghum durra</i> by Chimera ( $\beta$ -glucosidase + endo $\beta$ -1,4 glucanase; CtGH1-L1-CtGH5-F194A) and Cellobiohydrolase (CtCBH5A) for bio-ethanol production.	Research Conclave, IIT Guwahati	March 14-17, 2019		
16	Vikky Rajulapati, Arun Dhillon and Arun Goyal	Biocompatibility and anti-cancer activity analysis of pectic oligosaccharides produced from waste of Pineapple ( <i>Ananas comosus</i> )	Research Conclave, IIT Guwahati	March 14-17, 2019		
17	Abhijeet Thakur and Arun Goyal	Efficient saccharification of finger millet stalk by a new thermostable $\alpha$ -L-arabinofuranosidase (PsGH43A) from <i>Pseudopedobacter saltans</i>	Research Conclave, IIT Guwahati	March 14-17, 2019		
18	Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Optimization of enzymatic hydrolysis of alkali-treated finger millet straw by recombinant $\beta$ -1,4-endoxylanase	Research Conclave, IIT Guwahati	March 14-17, 2019		
19	Shweta Singh, Priyanka Nath, Krishan Kumar and Arun Goyal	Mutation of aspartate 256 to glycine enhanced the catalytic efficiency of CMCase from <i>Bacillus amyloliquefaciens</i> SS35 UV2 mutant strain	Research Conclave, IIT Guwahati	March 14-17, 2019		
20	Himadree Das, Karthika B., Kedar Sharma and Arun Goyal	<i>In silico</i> structural characterization of a new member heparinase II/III of family 12 polysaccharide lyase from <i>Pseudopedobacter saltans</i>	Research Conclave, IIT Guwahati	March 14-17, 2019		

21	Kedar Sharma <sup>1</sup> , Carlos M.G.A. Fontes <sup>2</sup> , Shabir Najmudin <sup>2</sup> and Arun Goyal <sup>1</sup>	Molecular organization and protein stability of the <i>Clostridium thermocellum</i> glucuronoxylan endo- $\beta$ -1,4-xylanase of family 30 glycoside hydrolase in solution	Research Conclave, IIT Guwahati	March 14-17, 2019		
22	Krishan Kumar, Vikky Rajulapati and Arun Goyal	<i>In vitro</i> prebiotics and biocompatibility evaluation of Laminari-oligosaccharides	CARBO-XXXIII, Sweet '18: Glycochemistry, Biology and Technology (SGBT), IISER Kolkata	Dec. 19-21, 2018		
23	Kaustubh Khaire, Kakali Borah, *Arun Goyal and V. S. Moholkar	Pretreatment optimization of sugarcane leaf tops for recovery of holocellulose	3 <sup>rd</sup> International Conference on Sustainable Energy and Environmental Challenges (3 <sup>rd</sup> SEEC), IIT Roorkee, India	Dec. 18-21, 2018		
24	Priyanka Nath, Arun Dhillon, Kedar Sharma and *Arun Goyal	Protein engineering of carbohydrate hydrolysing enzymes for enhancing activity for improved biomass saccharification	3 <sup>rd</sup> International Conference on Sustainable Energy and Environmental Challenges (3 <sup>rd</sup> SEEC), IIT Roorkee, India	Dec. 18-21, 2018		
25	Dishant Goyal, Krishan Kumar and Arun Goyal	Expression and functional characterization of recombinant mannanase of family 5 glycoside hydrolase (RfGH5_7) from <i>Ruminococcus flavefaciens</i> .	Bioprocessing India 2018, IIT Delhi, India	Dec. 16-18, 2018		
26	Krishan Kumar and Arun Goyal	Exploring the role of CBM3c in the catalysis of theme B1 family 9 glycoside hydrolase (Cel9W) from <i>Hungateiclostridium thermocellum</i> ATCC 27405.	Bioprocessing India 2018, IIT Delhi, India	Dec. 16-18, 2018		
27	Kedar Sharma, Abhijeet Thakur, Rajeev Kumar and Arun Goyal	Structure and biochemical characterization of glucose tolerant $\beta$ -1,4 glucosidase (HtBgl) of family 1 glycoside hydrolase from <i>Hungateiclostridium thermocellum</i>	Bioprocessing India 2018, IIT Delhi, India	Dec. 16-18, 2018		
28	Abhijeet Thakur and Arun Goyal	First $\alpha$ -L-arabinofuranosidase (PsGH43) from <i>Pedobacter saltans</i> and efficient saccharification of finger millet stalk through synergism	Bioprocessing India 2018, IIT Delhi, India	Dec. 16-18, 2018		
29	Kedar Sharma and Arun Goyal	Structure characterization of endo- $\beta$ -1,4 xylanase from <i>Pseudopedobacter saltans</i> by SAXS and Molecular Dynamics simulation	59 <sup>th</sup> Annual Conference of AMI, University of Hyderabad, India	Dec. 9-12, 2018		
30	Sumitha Banu J., Abhijeet Thakur, Vijay S. Moholkar and Arun Goyal	Saccharification of hemicellulose from pretreated finger millet straw by $\beta$ -1,4-endoxylanase for bioethanol production	59 <sup>th</sup> Annual Conference of AMI, University of Hyderabad, India	Dec. 9-12, 2018		
31	Kedar Sharma, Abhijeet Thakur, Kaustubh Khaire and Arun Goyal	Molecular characterization of halo and organic solvent stable xylanase from <i>Pseudopedobacter saltans</i> and its application in xylooligosaccharides production from Kans grass biomass	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15 <sup>th</sup> BRSI convention, CSIR-IICT Hyderabad, India	Nov. 22-25, 2018		

32	Shweta Singh, Arun Dhillon and Arun Goyal	Ultraviolet irradiation of <i>Bacillus amyloliquefaciens</i> SS35 for producing hyperactive mutant strain for improved cellulase activity	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15 <sup>th</sup> BRSI convention, CSIR-IICT Hyderabad, India	Nov. 22-25, 2018		
33	Priyanka Nath, Arun Dhillon, Kedar Sharma Arun Goyal	Construction and characterization of chimeric enzyme developed by fusing $\beta$ -glucosidase (CtGH1) and endoglucanase (CtGH5-F194A) both from <i>Clostridium thermocellum</i> for enhanced catalytic efficiency and thermostability	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15 <sup>th</sup> BRSI convention, CSIR-IICT Hyderabad, India	Nov. 22-25, 2018		
34	Vikky Rajulapati, Arun Dhillon and Arun Goyal	Characterization of pectic oligosaccharides produced from agro-waste of pineapple ( <i>Ananas comosus</i> ) and their anti-cancer activity	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15 <sup>th</sup> BRSI convention, CSIR-IICT Hyderabad, India	Nov. 22-25, 2018		
35	Aruna Rani, Riwivo Baruah and Arun Goyal	Anti-tumor effects of chondroitin AC lyase ( <i>PsPL8A</i> ) from <i>Pseudopedobacter saltans</i> and its applications in production of prebiotics.	12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Aizawl, Mizoram, India	Nov. 12-14, 2018		
36	Vikky Rajulapati, Arun Dillon and Arun Goyal	Extraction, characterization and anti-cancer activity of pectic oligosaccharides—produced from agro-waste of Orange ( <i>Citrus reticulata</i> )	29th International Carbohydrate Symposium in 2018 (ICS 2018), Universidade de Lisboa (FCUL), Lisboa, Portugal	July 15-19, 2018		
37	Shweta Singh, Arun Dhillon and Arun Goyal	Strain improvement of <i>Bacillus amyloliquefaciens</i> SS35 by ultraviolet radiation for producing hyperactive mutant strain for improved endoglucanase activity	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	July 6-7, 2018		
38	Rajeev Kumar, Kedar Sharma, Abhijeet Thakur and Arun Goyal	Molecular cloning and biochemical characterization of $\beta$ -1,4 glucosidase ( <i>RtBgl</i> ) family 1 glycoside hydrolase (GH1) from <i>Ruminiclostridium thermocellum</i>	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	July 6-7, 2018		
39	Priyanka Nath, Arun Dhillon, Kedar Sharma Arun Goyal	Molecular cloning, expression, purification and biochemical characterization of chimera (CtGH1-L1-CtGH5-F194A) using endoglucanase (CtGH5) mutant F194A and $\beta$ -1,4-glucosidase (CtGH1) from <i>Clostridium thermocellum</i>	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	July 6-7, 2018		
40	Sumitha Banu J., Abhijeet Thakur, Aruna Rani, Vijay S. Moholkar and Arun Goyal	Pretreatment and clostridial enzymes hydrolysis of finger millet stalk for biofuel production.	DBT National Workshop on Bioenergy, IIT Roorkee, Uttarakhand, India	July 6-7, 2018		

41	Bipra Chatterjee, Arup Kumar Pal and Cota Navin Gupta	A Comparative Study Between Random Forest and BLDA on P300 Paradigm Based BCI	The fifth Annual Conference of Cognitive Science, Indian Institute of Technology Guwahati	2018		
42	Shwetank Panwar and Cota Navin Gupta	Performance Optimized Approach for Automatic Fiducial Localization in Medical Imaging to Assist Robot-guided Neurosurgery	IEEE EMBS International Student Conference 2018, Bangalore	2018		
43	Atul Kumar, Jina Bhattacharyya, Bithiah Grace Jaganathan	Stromal cells induce chemoresistance in CML through BMP pathway	3 <sup>rd</sup> scientific workshop on the hematological tumor microenvironment and its therapeutic targeting	2019	38	38
44	Trishna Anand, Jina Bhattacharyya, Bithiah Grace Jaganathan	Study on leukemia bone marrow stroma interreaction	20 <sup>th</sup> Indo-US flow cytometry workshop	2019		
45	Sreeja Dattachoudhury, Bithiah Grace Jaganathan	Understanding the role of ERK signaling pathway in breast cancer chemoresistance	20 <sup>th</sup> Indo-US flow cytometry workshop	2019		
46	Trishna Anand, Jina Bhattacharyya, Bithiah Grace Jaganathan	Study on leukemia bone marrow stroma interreaction	Research Conclave, IIT Guwahati	March 14-17, 2019		
47	Sreeja Dattachoudhury, Bithiah Grace Jaganathan	Understanding the role of ERK signaling pathway in breast cancer chemoresistance	Research Conclave, IIT Guwahati	March 14-17, 2019		
48	Renu Sharma, Bithiah Grace Jaganathan	Role of RHO GTPase and BMP in breast cancer metastasis	Research Conclave, IIT Guwahati	March 14-17, 2019		
49	Vishnu K	Study on huma mesenchymal stem cells differentiation	Research Conclave, IIT Guwahati	March 14-17, 2019		
50	Suraj Kumar Mandal and Shankar Prasad Kanaujia	Functional annotation of metal sequestering ABC transporters in <i>Thermus thermophilus</i> HB8	Emerging Trends in Disease Model Systems. NCCS Pune, India.	March 25-27, 2019		
51	Prerana Gogoi and Shankar Prasad Kanaujia	Structure-based functional characterization of archaeal translation initiation factors.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	June 27-29, 2018		
52	Monika Chandravanshi and Shankar Prasad Kanaujia.	Structural and functional characterization of Trehalose/maltose binding protein from <i>Thermus thermophilus</i> HB8.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	June 27-29, 2018		
53	Suraj Kumar Mandal and Shankar Prasad Kanaujia.	Structural and functional characterization of a putative metal-specific substrate binding protein from <i>Thermus thermophilus</i> HB8.	National Seminar on Crystallography (NSC-46), NIMHANS Bangalore, India.	June 27-29, 2018		
54	Aman Prakash, Karukriti Kaushik Ghosh, and Manish Kumar	Characterization of <i>Leptospira</i> putative lipoprotein LIC11966 and its serological diagnostic application in diverse hosts including humans	National Conference VIBCON-2018 in Nagaland on “Innovative Biotechnological Approaches for Improving	2018	56	56

			Animal Health and Productivity”			
55	Aman Prakash and Manish Kumar	Identification and characterization of essential elements involved in CRISPR expression and maturation in pathogenic <i>Leptospira interrogans</i>	International Conference on Recent Research in Biomedical Engineering, Cancer Biology, Stem Cells, Bioinformatics and Applied Biotechnology (BECBAB-2018) in JNU, New Delhi	2018	-	-
56	Harshini SP, Pankaj Kumar and Manish Kumar	Cloning and expression of sporozoite and macroschizont (spm2) protein from genomic DNA of <i>Theileria annulata</i> isolated from the cattle blood sample	National Conference VIBCON-2018 in Nagaland on “Innovative Biotechnological Approaches for Improving Animal Health and Productivity”	2018	59	59
57	Anusua Dhara and Manish Kumar	Two isoforms of Caseinolytic proteases (ClpPs) of <i>Leptospira interrogans</i> are essential for functional activity	World Congress on Infectious Diseases & Antibiotics – 2018, Bangalore	2018	-	-
58	Md. Saddam Hussain and Manish Kumar	Biochemical characterization of CRISPR-Cas Cascade complex subunit protein-Cas7 in <i>Leptospira interrogans</i> Copenhageni Strain Fiocruz L1-130	Research conclave’19 at IITG	2019	-	-
59	Sujasha Ghosh, Anil Mukund Limaye	DNA methylation dependent regulation of GPER 1 in colon cancer cell lines: the role of upstream CpG island	Research Conclave 2019	2019		
60	Tanushree Paul, Kannan Pakshirajan and G. Pugazhenth	Refinery wastewater treatment using the oleaginous <i>Rhodococcus opacus</i> and bio-oil production from the lipid rich bacterial biomass by hydrothermal liquefaction	Research Conclave 2019, Guwahati, India	March 14-17, 2019		
61	B.B. Negi and K. Pakshirajan	Selenium removal from wastewater using fungal pellets	Research Conclave 2019, Guwahati, India	March 14-17, 2019		
62	M M Tejas Namboodiri and Kannan Pakshirajan	Fungal chitosan production by solid state fermentation of rice straw using <i>Penicillium citrinum</i> biomass	RABEB, March 15-16, 2019, IIT BHU, Varanasi, U.P., India	2019		
63	Surjith Ramasamy and Kannan Pakshirajan	Lutein production in split column airlift photobioreactor from halophilic microalgae using waste anaerobic digestate as a cheap substrate	International Conference on Recent Advancements in Chemical, Environmental and Energy Engineering – 2019, SSN college of Engineering, Chennai, India	14 <sup>th</sup> – 15 <sup>th</sup> February 2019		
64	A. Sinharoy and K. Pakshirajan	Biological selenite reduction to selenium in a carbon monoxide fed gas lift bioreactor	6 <sup>th</sup> Bioprocessing India Conference, IIT Delhi, New Delhi, India	December 16-18, 2018		
65	D.K. Kumar and K. Pakshirajan	Biodegradation of endocrine disrupting chemicals (EDCs) using <i>Arthrobacter sp.</i> : kinetics of	6 <sup>th</sup> Bioprocessing India Conference, IIT Delhi, New Delhi, India	December 16-18, 2018		

		batch microbial growth and biodegradation				
66	M. Kumar and K. Pakshirajan	Biological removal and recovery of heavy metals from acid mine drainage	6 <sup>th</sup> Bioprocessing India Conference, , IIT Delhi, New Delhi, India	December 16-18, 2018		
67	T. Paul, D. Baskaran, K. Pakshirajan and G. Pugazhenti	Bioreactor strategies for refinery wastewater treatment using Rhodococcus opacus and bio-oil production by hydrothermal liquefaction	International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-2018), Rourkela, India	December, 6-7, 2018		
68	S.N. Borah, S. Sen, K. Pakshirajan, S. Deka	Production and structural characterization of a rhamnolipid biosurfactant produced utilising Distillers Dried Grains with Solubles (DDGS) as a cost effective substrate	International Conference on Bio-Innovation for Environmental and Health Sustainable Developments (BEHSD), CSIR-Indian Institute of Toxicology Research, Lucknow, India	Nov 27-28, 2018,		
69	S. Arun and K. Pakshirajan	Shortcut biological nitrogen removal using a consortium of algae, ammonia oxidizing bacteria and methanol utilizing bacteria in a photo sequencing batch reactor	International Conference in Challenges in Environmental Science & Engineering (CESE-2018) , Bangkok, Thailand	November 4 – 8, 2018		
70	A. Sinharoy and K. Pakshirajan	Biohydrogen production using carboxydrophic hydrogenogenic biomass in a carbon monoxide fed anaerobic moving bed biofilm reactor	International Conference in Challenges in Environmental Science & Engineering (CESE-2018), , Bangkok, Thailand	November 4 – 8, 2018		
71	S. Arun and K. Pakshirajan	Novel shortcut biological nitrogen removal using a photo sequencing batch reactor for ammonia rich wastewater treatment,	International Conference on Sustainable Water Resources - Innovation and Impacts (TECHNOSCAPE-2018), Vellore Institute of Technology, Vellore, Tamil Nadu.	September 6-8, 2018		
72	Ravi, Lalit M Pandey	Enhancement of adsorption capacity of designed bentonite/alginate beads for effective removal of methylene blue dye	Sustainable energy and environmental challenges (3 <sup>rd</sup> SEEC), IIT Roorkee, India (Oral presentation)	2018		
73	Ravi, Saurabh kumar chandrakar, Lalit M Pandey	Preparation of nano-bentonite by using sonochemical and co-precipitation method and their applications in dye removal	Research Conclave'19, IIT Guwahati, India (Poster presentation)	2019		
74	Laipubam Gayatri Sharma, Lalit M Pandey	Fibrillation of A $\beta$ (1-40) under variable shear fields in parallel plate geometry	International Conference on Frontiers in Chemical Sciences (FICS - 2018), IIT Guwahati, India (Poster presentation)	2018		
75	Aman Bhardwaj, Lalit M Pandey	Plant secondary metabolite mediated silver nanoparticles synthesis and its perspective use for biomedical applications	International Conference on Frontiers in Chemical Sciences (FICS - 2018), IIT Guwahati, India (Poster presentation)	2018		
76	Varun Saxena, Lalit M Pandey	Synthesis, characterization and antibacterial activity of Zinc and	Biomaterials Symposium University of Lancaster	2019		

		Iron co-doped hydroxyapatite nanoparticles				
77	Varun Saxena, Lalit M Pandey	Synthesis, characterization and antibacterial activity of Zinc and Iron co-doped hydroxyapatite nanoparticles	Bioinspired Nanomaterials 2019 University of Strathclyde	2019		
78	Lalit M. Pandey	Self-assembled monolayers in Biomaterials	Bioinspired Nanomaterials 2019 University of Strathclyde	2019		
79	Ghadir Nofal, Mohd Faheem Khan, Renu Sarath Babu Vegesna and Sanjukta Patra	Fungal Enzymes as Candidates for Holistic Treatment of Textile Industry Effluent (Awarded 3 <sup>rd</sup> Prize)	Research Conclave'19, Students' Academic Board, Indian Institute of technology, Guwahati, Assam, India	14 <sup>th</sup> - 17 <sup>th</sup> March, 2019		
80	Gaurang Dilip Gurjar, Mohd Faheem Khan and Sanjukta Patra	Exploiting the Reactive Oxygen Species Producing Enzymes for bioremediation of Industrial Wastewater	Research Conclave'19, Students' Academic Board, Indian Institute of technology, Guwahati, Assam, India	14 <sup>th</sup> - 17 <sup>th</sup> March, 2019		
81	Mayur Mahindra Kedare, Mohd Faheem Khan and Sanjukta Patra	Challenges in metagenomic DNA extraction and purification: Amplification of manure compost metagenome	59 <sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI- 2018) & International Symposium on Host Pathogen Interactions, Sub-theme: Genomics and Metagenomics	December 9 <sup>th</sup> -12 <sup>th</sup> , 2018		
82	Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	Optimizing the effect of various process parameters for enhanced biomass and lipid production in <i>Chlorella pyrenoidosa</i> NCIM 2738 using response surface methodology	Workshop on Advances in Environmental Protection and Sustainability (AEPS-2018), Centre for the Environment, IIT Guwahati	June 2 <sup>nd</sup> , 2018		
83	Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	n-hexadecane degrading strains isolated from a petroleum refinery waste contaminated site for potential application in refinery wastewater bioremediation	59 <sup>th</sup> Annual conference of "Association of Microbiologists of India (AMI-2018), School of Life Sciences, University of Hyderabad in association with Department of Microbiology, Osmania University	December 9 <sup>th</sup> -12 <sup>th</sup> , 2018		
84	Prithwi Chayan Chatterjee, Debasree Kundu and Sanjukta Patra	The scope of n-hexadecane degrading microbial strains isolated from petroleum waste contaminated site for bioremediation of refinery waste	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups, IIT Guwahati	March 14 <sup>th</sup> -17 <sup>th</sup> , 2019		
85	Bhaskar Kalita, Bhaskar Das and Sanjukta Patra	Sustainable agricultural waste utilization promising rural entrepreneurship in North East India	Workshop on Advances in Environmental Protection and Sustainability (AEPS-2018), Centre for the Environment, IIT Guwahati	June, 2 <sup>nd</sup> 2018		
86	Bhaskar Kalita and Sanjukta Patra	Edible Fungal biodiversity for sustainable development prospects in rural areas of North East India	59 <sup>th</sup> Annual conference of "Association of Microbiologists of India (AMI-2018), School of Life	December 8 <sup>th</sup> -13 <sup>th</sup> , 2018		



			Sciences, University of Hyderabad in association with Department of Microbiology, Osmania University			
87	Bhaskar Kalita and Sanjukta Patra	Macro-fungi Biodiversity for sustainable livelihood subsistence and food security in rural areas of North East India	Biodiversity, Biotechnology and Bio-informatics: Innovative and Emerging Trends-2019 [NCBBBIET 2019], Department of Botany, Berhampur University, Odisha	February 22 <sup>nd</sup> -23 <sup>rd</sup> , 2019		
88	Bhaskar Kalita and Sanjukta Patra	Macro-Fungal biodiversity for sustainable development prospects in rural areas of North East India	Research Conclave '19 – An amalgamation of Academia, Industry and Start-ups, IIT Guwahati	March 14 <sup>th</sup> -17 <sup>th</sup> , 2019		
89	Gaurav Pandey, and Vibin Ramakrishnan	Modulation of Aggregation with Electric Field; Electric field assisted inhibition of aggregation in amyloidogenic proteins	Proceedings of the 35th European Peptide Symposium, Dublin City University, Dublin, Ireland.	2018	268	269
90	Jahnu Saikia and Vibin Ramakrishnan	Electric Field Disrupts Amyloid Aggregation; Potential Non-invasive Therapy for Alzheimer's Disease	63rd Biophysical Society Annual Meeting'2019. Baltimore, Maryland, USA. Biophysical Journal	2019	116.3	51a
91	S. Sasidharan and V.Ramakrishnan	Novel hybrid magnetic material for reduction and removal of heavy metals	6th International Conference on Multifunctional, Hybrid and Nanomaterials, Meliá Sitges, Sitges, Spain	11-15 March 2019	56	56
92	R Das, L Rangan	Stress evaluation in non-edible oil crops – anatomical, physiological and phytochemical approach	Indian Plant Science Congress	2019		
93	RG Shelke, L Rangan	Identification and characterization of genetic repeat elements from <i>Pongamia pinnata</i> for genetic diversity analysis	Indian Plant Science Congress	2019		
94	S Shreekant, I Chakrabartty, L Rangan	Anti-bacterial susceptibility assessment of microemulsion formulation of labdane from <i>Alpinia nigra</i>	Indian Plant Science Congress	2019		
95	MK Gupta, L Rangan	3,5-dihydroxy-4'7'-dimethoxyflavone: structural characterization, enzyme kinetics, and <i>in-silico</i> approach against melanogenic activity	Indian Plant Science Congress	2019		
96	I Chakrabartty, NK Kalita, V Katiyar, L Rangan	Physico-rheological characterization of organically derived seed samples from <i>Alpinia nigra</i>	Indian Plant Science Congress	2019		
97	A Singh, MZ Ansari, L Rangan, R Swaminathan	UV-visible absorption and fluorescence spectra of Karanjin in different solvents and solvent mixture	Indian Plant Science Congress	2019		

98	S SenthilKumar, L Rangan, R Swaminathan	Effect of extraction solvent system on the native structure of the plant metabolites: A study on paracoumaric acid from <i>Mesua ferrea</i>	Indian Plant Science Congress	2019		
99	Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Production of 3-aminopropionic acid using metabolically engineered <i>Bacillus megaterium</i> whole-cell biocatalysis	Recent Advancements in Biochemical Engineering and Biotechnology (RABEB -2019), IIT (BHU) Varanasi, India	March 15-16, 2019		
100	Ganesh Nehru, Subbi Rami Reddy Tadi, Senthilkumar Sivaprakasam	Development of a dual promoter expression system for production of heparosan in recombinant <i>Bacillus sp.</i>	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	December 16-18,2018		
101	Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Metabolic engineering of <i>Bacillus spp.</i> for the production of $\beta$ -alanine , a vitamin B <sub>5</sub> precursor	59 <sup>th</sup> International Annual Conference of The Association of Microbiologists of India (AMI- 2018), University of Hyderabad, India	December, 9-12, 2018		
102	Subbi Rami Reddy Tadi, Ganesh N, Senthilkumar Sivaprakasam	Over expression of <i>L-aspartate <math>\alpha</math>-decarboxylase</i> enhances the 3-aminopropionic acid production in <i>Bacillus spp.</i>	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	December 16-18,2018		
103	Som Dutt Ravindran, Subbi Rami Reddy Tadi, Senthilkumar Sivapraksam	Metabolic engineering of <i>Bacillus spp</i> for the enhanced production PHB	Bioprocessing INDIA 2018: Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, IIT Delhi, India	December 16-18,2018		
104	Srikanth Katla, Naresh Mohan, K. Yoganand, B. Anand, Senthilkumar Sivaprakasam	Recombinant Human Interferon Alpha-2b: Cloning, Expression and PAT-Process Analytical Technology Enabled Production in Glycoengineered <i>Pichia pastoris</i>	European Congress on Biotechnology (ECB-2018), Geneva, Switzerland	July 1-4, 2018		
105	Glory Basumata	Introduction to RNA-Seq & Functional Interpretation	Wellcome Genome Campus, EMBL-EBI, UK	March 26-29, 2019		
106	Bhagyashree Deka, Kusum Kumari Singh	Elucidating the microRNA and RBP-Mediated Modulation of RNPS1 Gene Expression	Research Conclave, IIT Guwahati	March 14-17, 2019		
107	Sweta Kumari, Bhagyashree Deka,	Investigating Molecular Mechanism of SAP18 in Splicing	Research Conclave, IIT Guwahati	March 14-17, 2019		

	Kusum Kumari Singh	by Comparative Transcriptome Analysis				
108	Glory Basumata, Kusum Kumari Singh	Knock-down Effects of MAGOHB on Alternative Splicing via RNA-Seq Analysis	Research Conclave, IIT Guwahati	March 14-17, 2019		
109	Glory Basumata, Kusum Kumari Singh	Knock-down Effects of MAGOHB on Alternative Splicing via RNA-Seq Analysis	International Conference on Molecular Basis of Diseases & Therapeutics, Central University of Rajasthan	March 08-10, 2019		
110	Baruah D and Tamuli R	Understanding the interactions of phospholipase C-1, secretory phospholipase A2, and Ca <sup>2+</sup> /H <sup>+</sup> exchanger in circadian regulated conditions, development, and cell survival in <i>Neurospora crassa</i> .	Research Conclave, IIT Guwahati, India, (Best Poster Presentation Award), (Poster presentation).	March 14-17, 2019		
111	Marak K CN, Baruah D and Tamuli R	A look into evolution and life through calcium.	Research Conclave, IIT Guwahati, India (Model Presentation).	March 14-17, 2019		
112	Shokeen S and Tamuli R	Isolation and characterization of <i>Pilobolus</i> like species from cow dung samples.	Research Conclave, IIT Guwahati, India, (Poster presentation).	March 14-17, 2019		
113	Bania NM, Tamuli R and Bora U	A fungal based system for the synthesis of vitamin D and studying its relationship with zinc homeostasis.	Research Conclave, IIT Guwahati, (Poster presentation).	March 14-17, 2019		
114	Vijay Kumar Mishra and Rakhi Chaturvedi	Production of androgenic haploid plants through <i>in vitro</i> anther culture of <i>Camellia assamica</i> ssp. <i>assamica</i> (Masters)	International Conference on “Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)”	2019	47	47
115	Radhika Rajendran and Rakhi Chaturvedi	Dedifferentiated <i>in vitro</i> cell lines: a bioresource utilization method for enhanced spilanthal production by optimizing media constituents using response surface methodology from <i>Spilanthes paniculata</i>	International Conference on “Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)”	2019	51	51
116	Ruchira Bajpai and Rakhi Chaturvedi	Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of <i>Camellia assamica</i> ssp. <i>assamica</i> and clonal fidelity assessment using RAPD marker	International Conference on “Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)”	2019	63	63
117	Rajendra Adak and Rakhi Chaturvedi	<i>In vitro</i> optimization studies for the production and scale-up of artemisinin—an important antimalarial drug	International Conference on “Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019)”	2019	80	80
118	Radhika Rajendran, Balaji S	Isolation, purification and quantification of <i>N</i> -alkylamides	International Conference on Trends in Plant Sciences	2019	93	93

	Narashimman, Vishal Trivedi and Rakhi Chaturvedi	from flower head in vitro cell cultures of <i>Spilanthes paniculata</i> and its biological activity on <i>Plasmodium falciparum</i>	and Agrobiotechnology (ICTPA 2019)			
119	Ruchira Bajpai and Rakhi Chaturvedi	Double haploid production in <i>Camellia assamica</i> spp. <i>Lasiocalyx</i> and assessment of homozygosity using microsatellite marker	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019	107	107
120	Tapas Das and Rakhi Chaturvedi	Induction of androgenic callus in <i>Vigna radiata</i>	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019	116	116
121	Imnanaro and Rakhi Chaturvedi	Exploring totipotency in <i>Musa balbisiana</i> (Bhimkol) as a method for development of clonally propagated viable plants	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019	117	117
122	Krishna Kant Pachauri and Rakhi Chaturvedi	Commercial-scale production of horticulture and medicinal plants by using bioreactor systems	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019	121	121
123	Ravikant Godara and Rakhi Chaturvedi	Establishment of <i>in vitro</i> adventitious root cultures for enhanced metabolite production in <i>Spilanthes</i> spp.	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019)	2019	206	206
124	Imnanaro and Rakhi Chaturvedi	Large scale <i>In vitro</i> clonal propagation of <i>Musa paradisica</i> using shoot-tip culture	National Conference on Stakeholders on Conservation, Cultivation, Resource Development and Sustainable Utilization of Medicinal Plants of North Eastern India by Nagaland University and Society for Conservation & Resource Development of Medicinal Plants, New Delhi	2019	53	53
125	Ruchira Bajpai and Rakhi Chaturvedi	Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of <i>Camellia assamica</i> ssp. <i>assamica</i> and clonal fidelity assessment using RAPD marker	Research Conclave - IIT Guwahati	March 14-17, 2019		
126	Vartika Srivastava and Rakhi Chaturvedi	Exploring the anti-bacterial potential of palmatine, an alkaloid, identified from in-vitro culture of <i>Tinospora cordifolia</i> (wild) Mires ex Hook and Thoms	Research Conclave - IIT Guwahati	March 14-17, 2019		
127	Tapas Das and Rakhi Chaturvedi	Determination of Androgenic callus responsive stage of microspores in anther culture of <i>Vigna radiata</i> species.	Research Conclave - IIT Guwahati	March 14-17, 2019		
128	Krishna Kant Pachauri and Rakhi Chaturvedi	Commercial-scale production of medicinal and horticulture plants by using bioreactor systems	Research Conclave - IIT Guwahati	March 14-17, 2019		

129	Imnanaro and Rakhi Chaturvedi	In vitro micropropagation and clonal fidelity assessment of plantlets in <i>Musa</i> spp.	Research Conclave 14-17, 2019 - IIT Guwahati	March 14-17, 2019		
130	Amrita Devi Khwairakpam, Javadi Monisha, Nandkishore Roy, Padmavathi G, Devivasha Bordoloi, Ajaikumar B Kunnumakkara,	An investigation on the anti-cancer potential of Cambodian mint against human Oral Squamous Cell Carcinoma,	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
131	Amrita Devi Khwairakpam, Javadi Monisha, Nandkishore Roy, Padmavathi G, Devivasha Bordoloi, Ajaikumar B Kunnumakkara,	Examining the anti-cancer potential of Cambodian mint against human Oral Squamous Cell Carcinoma at National conference on ethno-medicine and traditional health practices in Northeast region of India	National conference on ethno-medicine and traditional health practices in Northeast region of India	2018		
132	Amrita Devi Khwairakpam, Ajaikumar B Kunnumakkara,	The Role of Lipogenic enzymes in the Initiation and Progression of Oral cancer	Research Conclave 2019	2019		
133	Bethsebie Laldusaki Sailo, Ajaikumar B. Kunnumakkara,	NGALR as a Potential Biomarker and Molecular Target for Lung Cancer	6 <sup>th</sup> AIST Imaging Workshop & DAILAB PIKNIKH series XXXII	2019		
134	Bethsebie Laldusaki Sailo, Ajaikumar B. Kunnumakkara,	Role of Lipocalin Receptor in the Development of Lung Cancer	Research Conclave-2019	2019		
135	Bethsebie Laldusaki Sailo, Sajin Fransis K and Mangalam S. Nair, Ajaikumar B. Kunnumakkara,	Therapeutic potential of a diterpene derived from <i>Hedychium coronarium</i> against colorectal cancer	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
136	Bethsebie Laldusaki Sailo, Sajin Fransis K, Mangalam S. Nair, Ajaikumar B. Kunnumakkara,	Evaluating the Efficacy of Coronarin D: A Diterpene against Colorectal Cancer,	National Conference on Ethno-medicine and Traditional Health Practices in North-East Region of India	2018		
137	Bordoloi D, Monisha J, Roy NK, Padmavathi G, Kunnumakkara AB	Exploration of the anti-neoplastic potential of a flavonoid from Varnish tree against human head and neck Cancer	National conference on ethno-medicine and traditional health practices in Northeast region of India	2018		
138	Bordoloi D, Monisha J, Roy NK, Padmavathi G, Kunnumakkara AB	Evaluation of a chalcone derivative as natural alternative for oral cancer therapy	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2019		
139	Bordoloi D, Kunnumakkara AB	An investigation on the role of TIPE family of proteins in the	Research Conclave 2019	2019		

		development and progression of lung cancer’				
140	Harsha C, Kunnumakkara AB	Implication of Neutrophil gelatinase associated lipocalin receptor (NGALR) in the development of oral squamous cell carcinoma	Research Conclave 2019	2019		
141	Kishore Banik, Ajaikumar B. Kunnumakkara	Development of TNFAIP8 Family of Proteins as Novel Biomarker in Bone Cancer	Research Conclave 2019	2019		
142	Kishore Banik, Ajaikumar B. Kunnumakkara	Differential Expression of TNFAIP8 Family of Proteins in Bone Cancer Tissues	Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies	2018		
143	Kishore Banik, Harsha Choudhary, Devivasha Bordoloi, Ajaikumar B. Kunnumakkara	Anticancer activity of Hondapara leaf extract against oral squamous cell carcinoma	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
144	Kishore Banik, Harsha Choudhary, Devivasha Bordoloi, Ajaikumar B. Kunnumakkara	Anticancer activity of Elephant Apple leaf extract against Oral Cancer	Ethno-medicine and Traditional Health Practices In North-East Region of India	2018		
145	Krishan K. Thakur, Sajin K. Fransis, Manglam S. Nai and Ajaikumar B. Kunnumakkara.	Anticancer Effects of Coronarin-D on Lung Cancer Cells”	Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies	2018		
146	Krishan K. Thakur, Ajaikumar B. Kunnumakkara.	Overexpression of NGALR in breast cancer and associated with clinical prognosis”	Research Conclave-2019	2019		
147	Manteghi N, Harsha C, Fransis KS, Nair MS, Kunnumakkara AB.	Therapeutic potential of a labdane diterpene isolated from rhizomes of Hedychium coronarium against triple negative breast cancer: involvement of the Akt-mTOR signaling pathway	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
148	Sosmitha Girisa, Ajaikumar B. Kunnumakkara	Role of Mortalin in Oral Squamous Cell Carcinoma (OSCC)	6th AIST International Imaging Workshop & DAILAB PIKNIKH series XXXII	2019		
149	Sosmitha Girisa, Harsha Choudhary, Devivasha Bordoloi, Kishore Banik, Krishan Kumar Thakur, Amrita Devi Khwairakpam and Ajaikumar B Kunnumakkara	Withaferin A as a Potential Anticancer Agent Against Oral Squamous Cell Carcinoma	Research Conclave-2019	2019		

150	Bano Shabnam, Harsha Choudhury, Devivasha Bordoloi, Kishore Banik, Amrita Devi Kh, Ajaikumar B Kunnumakkara	Prognostic implication of Sorcin in oral cancer development	6 th AIST International Imaging workshop & DAILAB PIKNIKH series XXXII	2019		
151	Bano shabnam, Harsha Choudhury, Ajaikumar B Kunnumakkara	Role of Sorcin in the Development of Oral Squamous Cell Carcinoma	Research Conclave-2019	2019		
152	Vikkurthi Rajesh, Poonam, Sajin Fransis K, Mangalam S Nair, Ajaikumar B. Kunnumakkara	Synthesis and characterization of Coronarlin D liposomes and evaluation of its anti-cancer potential against head and neck squamous cell carcinoma	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
153	Vikkurthi Rajesh, Sajin Fransis K, Mangalam S Nair, Ajaikumar B. Kunnumakkara	Synthesis and characterization of nanoliposomal formulations of natural terpenoid drugs and evaluation of thesis anti-cancer potential against oral squamous cell carcinoma	Research Convclave-2019	2019		
154	Th. Babita Devi , Ajaikumar B. Kunnumakkara, M. Ahmaruzzaman	A green approach for the fabrication of hybrid nanoparticles and their antimicrobial properties	3 <sup>rd</sup> International Conference on Nutraceuticals and Chronic Diseases	2018		
155	Th. Babita Devi , Ajaikumar B. Kunnumakkara, M. Ahmaruzzaman	Bio-mediated green synthesis of bimetallic nanoparticles and their antimicrobial efficiency against bacterial strain	National Conference on Ethno-medicine and Traditional Health Practices in North- East Region of India	2018		
156	Shokeen S and Bania NM	Symposium on Biomolecular Interaction Techniques	National Centre for Biological Sciences, Bangalore, February 18-19, 2019.	2019		
157	PK Baruah, MA Raman, I Chakrabartty, L Rangan, AK Sharma, A Khare	Antibacterial effect of silk treated with silver and copper nanoparticles synthesized by pulsed laser ablation in distilled water	AIP Conference Proceedings	2018	3006	
158	Surajbhan Sevda, Ram D. Mehta	Use of Flow Cytometry For Microbiological Quality Of Drinking Water	20th INDO-US flow cytometry symposium cum workshop on "Applications of Flow Cytometry in Biotechnology, IIT Guwahati	2019		
159	Surajbhan Sevda, Pranab Goswami	Performance Of Microbial Desalination Cell In High Organic Load. Three-day Indo-German bilateral workshop on membranes for water and energy	Organized by CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat.	18 to 20 Feb 2019		
160	Chetan Joshi, Surajbhan Sevda, Dharmendra	Role of Industrial Enzymes in Environmental Technology	Bioprocessing India 2018, IIT Delhi	December 16th-18th, 2018		

	Pathak, Munish Madaan	Process: Status and Future Prospective				
161	Surajbhan Sevda, Swati Sharma, Vijay Kumar.	Microfluidics in bioelectrochemical system: Technological considerations and future prospects	Research conclave 2019, IIT Guwahati		March 14-17, 2019	
162	Surajbhan Sevda, Vijay Kumar.	Use of microbial fuel cell (MFC) as biosensor for detection of biochemical oxygen demand (BOD) in wastewater	Red Start, Research Conclave 2019, IIT Guwahati		March 14-17, 2019	
163	Sourish Bhattacharya, Sandhya Mishra, Surajbhan Sevda	Bioprospecting of marine resources for biopolymer production for biomedical applications	Research Conclave 2019, IIT Guwahati		March 14-17, 2019	

**Book, Book Chapter, etc. (PERIOD: 1 APRIL 2018 – 31 MARCH 2019)**

**Total No. of Books published: 4**

**Total No. of Book Chapters published: 56**

**Format for submission of Book**

S. No.	Name of Author/s	Name of Book	Publisher	Volume and Issue No. (If any)	Total Page No.	ISBN	Year of Publication
1.	Pradeep Kumar, Jayanta K. Patra, Pranjal Chandra	Advances in microbial biotechnology: current trends and future prospects	CRC Press, Taylor & Francis Group, USA	---	590	9781771886673	2018
2	Ajaikumar B Kunnumakkara, Amrita Devi, Shabanam Bano	Metformin and Cancer	Springer	--	400	978-0-367-22431-8	In Press
3	Sreeraj Gopi, Sabu Thomas, Ajaikumar B. Kunnumakkara, Bharat B. Aggarwal and Augustine Amalraj	The Chemistry and Bioactive Components of Turmeric	Royal Society of Chemistry	-	500	9781788015554	In Press
4	Ajaikumar B Kunnumakkara, Anindita Deka and Rajesh Vikruthi	Dasamoola: The Ten Roots of Ayurveda	Springer	-	200	978-0-367-22898-9	In Press

**Format for submission of Book Chapter, etc.**

S. 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.	Anupriya Baranwal, Ananya Srivastava, Pranjal Chandra*	A Systematic Study on Phytosynthesized Silver Nanoparticles and Their	Advances in Microbial Biotechnology	CRC Press, USA		537-556	9781351248907	2018



		Antimicrobial Mode of Action	Current Trends and Future Prospects					
2	Ritesh S. Malani, Sohan Singh, Arun Goyal and Vijayanand S. Moholkar	Ultrasound-assisted biodiesel production using KI-impregnated zinc oxide (ZnO) as heterogeneous catalyst: a mechanistic approach	In Conference Proceedings of the Second International Conference on Recent Advances in Bioenergy Research	Springer		67-81		2018
3	Deepmoni Deka, Saprativ P. Das, Rajeev Ravindran, Mohammad Jawed and Arun Goyal	Water hyacinth as a potential source of biofuel for sustainable development	In Urban Ecology, Water quality and climate change.	Springer Book		351-363		2018
4	Kedar Sharma, Abhijeet Thakur and Arun Goyal	Xylanases for food applications	Green Bio-Processes	Springer		99-118		2019
5	Abhijeet Thakur, Kedar Sharma and Arun Goyal	$\alpha$ -L-arabinofuranosidase: A potential enzyme for the food industry	Green Bio-Processes	Springer		229-244		2019
6	CN Gupta, JA Turner, VD Calhoun	Source-Based Morphometry: Data-Driven Multivariate Analysis of Structural Brain Imaging Data	Brain Morphometry	Humana Press, New York, NY		105-120		2018
7	P. Bhattacharjee, P Gupta, MJ Christakiran, SK Nandi, Biman B Mandal.	Silk-based matrices for bone tissue engineering applications	Nanostructures for the engineering of cells, tissues, and organs	William Andrew Applied Science Publishers	-	439-472	9780128136652	2018
8	Nandana Bhardwaj, Dimple Chouhan, Biman B Mandal.	3D functional scaffolds for skin tissue engineering.	Functional 3D tissue engineering scaffolds	Elsevier	-	345-365	9780081009796	2018
9	Joseph Christakiran M, Ankit Gangrade and Biman B. Mandal.	Carbon Nanotubes and their Polymer Nanocomposites	Nanomaterials and Polymer Nanocomposites	Elsevier	-	145-175	9780128146156	2018
10	Deori N M, Deb R, Banerjee R, Nagotu S	Yeast: A multifaceted eukaryotic microbe and its biotechnological applications	Advance in microbial biotechnology: current trends and future prospects	Apple academic press		175-208	978-1771886673	2018
11	Srijeeb Karmakar, Varun Saxena, Pranjal Chandra and L. M. Pandey	Novel Therapeutics and Diagnostics Strategies Based on Engineered Nanobiomaterials	Nanotechnology in Modern Animal Biotechnology,	Springer Nature Singapore Pte Ltd.		1-27	978-981-13-6003-9	2018
12	Varun Saxena, Ishani Shukla, Lalit M. Pandey	Hydroxyapatite: an inorganic ceramic for biomedical applications	Materials for Biomedical Engineering	Nanobio materials in Tissue Engineering, Elsevier		205-249	978-0-12-816909-4	2019

13	Bhaskar Das, Manashjit Gogoi, Satakshi Hazra and Sanjukta Patra	Nanocarrier- Assisted Drug Delivery for Neglected Tropical Diseases	Nanoconjugate Nanocarriers for Drug Delivery	CRC Press, 2018	-	-	135117 102X, 978135 117102 1	2018
14	Ruchika Goyal and Vibin Ramakrishnan	Peptide-based Drug Delivery Systems	Characterization and Biology of Nanomaterials for Drug Delivery	Elsevier	-	25-46	978-0- 12- 814031 -4	2018
15	Borghain MP*, Narayan G*, Krishna Kumar H, Dey C, Thummer RP	Maximizing Expression and Yield of Human Recombinant Proteins from Bacterial Cell Factories for Biomedical Applications	Advances in Microbial Biotechnology Current Trends and Future Prospects	Apple Academic Press	1	431- 470	978- 177188 6673	2018
16	Ruchira Bajpai and Rakhi Chaturvedi	Haploid embryogenesis in Tea	Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants	Springer	Volume II Second Edition	349- 368	978-3- 319- 79086- 2	2018
17	Vartika Srivastava and Rakhi Chaturvedi	Somatic embryogenesis in Neem	Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants	Springer	Volume II Second Edition	369- 386	978-3- 319- 79086- 2	2018
18	Amrita Devi Kh. Bethsebie Lalduhsaki Sailo, Bano Shabnam, Kishore Banik and Ajaikumar B Kunnumakkara	Prostate cancer and metformin	Metformin and Cancer	Springer			978-0- 367- 22431- 8	In Press
19	Amrita Devi Kh. Devivasha Bordoloi, Bano Shabnam, Kishore Banik, and Ajaikumar B Kunnumakkara	Leukemia and metformin	Metformin and Cancer	Springer			978-0- 367- 22431- 8	In Press
20	Amrita Devi Kh. Devivasha Bordoloi, Choudhary Harsha, Bano Shabnam, and Ajaikumar B Kunnumakkara	Endometrial cancer and metformin	Metformin and Cancer	Springer			978-0- 367- 22431- 8	In Press
21	Amrita Devi Kh. Bethsebie Lalduhsaki Sailo, Choudhary Harsha, and Ajaikumar B Kunnumakkara	Head and neck cancer and metformin	Metformin and Cancer	Springer			978-0- 367- 22431- 8	In Press
22	Amrita Devi Kh. Devivasha Bordoloi,	Esophageal cancer and metformin	Metformin and Cancer	Springer			978-0- 367- -	In Press

	Choudhary Harsha, Bano Shabnam, and Ajaikumar B Kunnumakkara						22431-8	
23	Amrita Devi Kh. Bano Shabnam, and Ajaikumar B Kunnumakkara	Renal cancer and metformin	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
24	Amrita Devi Kh., Bano Shabnam, Devivasha Bordoloi, Choudhary Harsha, and Ajaikumar B Kunnumakkara	Cholangiosarcoma and metformin	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
25	Amrita Devi Kh., Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Thyroid cancer and metformin	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
26	Bano Shabnam, and Ajaikumar B Kunnumakkara	Colorectal cancer and metformin	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
27	Bano Shabnam, Bordoloi, Choudhary Harsha, and Ajaikumar B Kunnumakkara	Metformin and Cervical cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
28	Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Metformin and melanoma	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
29	Bano Shabnam, and Ajaikumar B Kunnumakkara	Metformin and bladder cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
30	Bano Shabnam, Devivasha Bordoloi and Ajaikumar B Kunnumakkara	Metformin and brain cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
31	Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Metformin and lung cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
32	Bano Shabnam, Devivasha Bordoloi and Ajaikumar B Kunnumakkara	Metformin and ovarian cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
33	Bano Shabnam, and Ajaikumar B Kunnumakkara	Metformin and osteosarcoma	Metformin and Cancer	Springer			978-0-367-22431-8	In Press

34	Bano Shabnam, Bethsebie Laldusaki Sailo and Ajaikumar B Kunnumakkara	Metformin and Pancreatic cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
35	Bano Shabnam, Amrita Devi Kh. and Ajaikumar B Kunnumakkara	Metformin and Breast cancer	Metformin and Cancer	Springer			978-0-367-22431-8	In Press
36	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Ayurveda- A brief introduction	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
37	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Dasamoola-A holistic formulation	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
38	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Ecology of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
39	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Traditional uses of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
40	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Chemical constituents of the dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
41	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-cancerous properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
42	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-inflammatory properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
43	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-diabetic properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
44	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-oxidant activities of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
45	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-microbial activities of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
46	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Cardioprotective, hepatoprotective and neuroprotective properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
47	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-ulcer properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
48	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Anti-parasitic and anti-analgesic properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press

49	Anindita Deka, Vikkurthi Rajesh, Ajaikumar B. Kunnumakkara	Other significant properties of dasamoola plants	Dasamoola: The Ten Roots Of Ayurveda	Springer			978-0-367-22898-9	In Press
50	Garg A, Gadi VK, Hossain S, Abhinav, Karangat R, Sekharan S, Sahoo L	Role of plant health parameters in understanding spatial heterogeneity of hydraulic conductivity of vegetated soil: A case study of urban green infrastructure monitoring: Towards a Sustainable Geoenvironment.	Environmental Science and Engineering (Proceedings of the 8th International Congress on Environmental Geotechnics)	Springer Nature, Singapore	3	377-384	978-981-13-2226-6	2019
51	Gadi VK, Hossain S, Deka G, Garg A, Karangat R, Sekharan S, Sahoo L	Spatial heterogeneity of hydraulic conductivity in green infrastructure due to presence of wilted and live grass: A field study: Towards a sustainable geoenvironment,	Environmental Science and Engineering (Proceedings of the 8th International Congress on Environmental Geotechnics)	Springer Nature, Singapore	3	393-400	2018	2019
52	Kumar S, Dey A, Yau Y-Y, Sahoo L	RNA interference: for improving bioenergy trait for energy plants	Greenhouse gas mitigation and global warming-next generation biofuels and role of biotechnology	Springer			978-81-322-3763-1	2018
53	Hasnahana Chetia, Debajyoti Kabiraj, Biju Bharali, Sunita Ojha, Manash Pratim Barkataki, Dharitri Saikia, Tinka Singh, Ponnala Vimal Mosahari, Pragya Sharma, Utpal Bora	Exploring the Benefits of Endophytic Fungi via Omics	Advances in Endophytic Fungal Research	Springer, Cham, 2019	N/A	Chapter : 4, pp.51-81 Total pages: 30	ISBN 978-3-030-03589-1	2019
54	Ponnala Vimal Mosahari, Deepika Singh, Jon Jyoti Kalita, Pragya Sharma, Hasnahana Chetia, Debajyoti Kabiraj, Chandan Mahanta, Utpal Bora	Nanotoxicity: Impact on Health and Environment	Environmental Toxicity of Nanomaterials	CRC Press, 2018	N/A	Chapter : 2, Total pages: 26	ISBN 9781351252959	2018
55	Ojha, S., Singh, D., Sett, A., Chetia, H., Kabiraj, D. & Bora,	Nanotechnology in Crop Protection	Nanomaterials in Plants, Algae and Micro-organism: Concepts and Controversies	Academic Press	Vol 1	345-390	0128116463, 9780128116463	2018
56	PK Baruah, A Nath, I	Surface enhance Raman scattering and antibacterial	In: Advances in Science and Technology	i-manager		141-144		2019

Chakrabarty, A Singh, A Das, L Rangan, AK Sharma, A Khare	capacity of pulsed laser ablated metal/ metaloxide nanoparticle		publicati on				
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#### 10. Conferences/Workshops/Symposia Attended: International, National

S.No	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
1	Dr. Souptick Chanda	2 <sup>nd</sup> World Congress & Expo on Biotechnology and Bioengineering, June 25-27, 2018	Dubai	June 23,2018	International
2	Dr. Pranjal Chandra	DST/DBT Joint Conclave of Ramanujan, Ramalingaswamy, and Inspire Fellows	Jaipur	June 8-10 <sup>th</sup> 2018	National
3	Dr. Pranjal Chandra	Platinum Jubilee International Conference on Biotechnological Research and Innovation for Sustainable Development	Indian Institute of Chemical Technology Hyderabad	November 22-25, 2018	International
4	Dr. Pranjal Chandra	International Conference on Frontiers in Chemical Sciences (FICS - 2018)	IIT Guwahati	December 6-8th, 2018	International
5	Dr. Pranjal Chandra	New Horizon in Food Processing Technology and Nutrition” (NHFPTN-2019) during SLIETCON-2019, Under TEQIP - III (Twinning Program)	S.L. Institute of Engg. & Technology (MHRD, Govt. of India), Punjab	March 1-2, 2019	National
6	Dr. Pranjal Chandra	International Conference on Computational Methods in Manufacturing (ICMM 2019),	IIT Guwahati	March 8-9, 2019	National
7	Dr. Nitin Chaudhary	National Workshop on Fluorescence and Raman Spectroscopy (FCS2018)	Delhi	Nov 12-17, 2018	National
8	Prof. Pranab Goswami	Bio-fuel cell: An Emerging Green Technology for Biosensors and Bioremediation Applications	Chemical Engineering Department, Assam Engineering College	Dec, 18, 2018	National
9	Prof. Pranab Goswami	Bio-fuel cell	Department of Electronics and Communication Engineering, Tezpur University	Dec, 14, 2018	National
10	Prof. Arun Goyal	International Conference on Biotechnological Research and Innovation for Sustainable Development, 15th BRSI convention.	CSIR- Indian Institute of Chemical Technology (CSIR-IICT) Hyderabad	Nov. 22-25, 2018	International
11	Prof. Arun Goyal	Bioprocessing India 2018	IIT Delhi	Dec 16-18, 2018	National
12	Prof. Arun Goyal	3 <sup>rd</sup> International Conference on Sustainable Energy and Environmental Challenges (3 <sup>rd</sup> SEEC)	IIT Roorkee	Dec 18-21, 2018	International
13	Prof. Arun Goyal	CARBO-XXXIII, Sweet '18: Glycochemistry, Biology and Technology (SGBT),	Indian Institute of Science Education and Research (IISER) Kolkata	Dec 19-21, 2018	International

14	Dr. Bithiah Grace Jaganathan	3 <sup>rd</sup> scientific workshop on the hematological tumor microenvironment and its therapeutic targeting	London	Feb 24-26, 2019	International
15	Dr. Manish Kumar	VIBCON 2018	Medziphema, Nagaland	Dec 13-15 <sup>th</sup> 2018	National
16	Dr. Anil M. Limaye	38 <sup>th</sup> annual convention of the Indian Association for Cancer Research	Chandigarh	Mar 1-3, 3019	National
17	Dr. Anil M. Limaye	Indo-Japan symposium on Recent Advances in Cancer Research	Guwahati	Mar 28, 2019	National
18	Dr. Biman B. Mandal	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT- BHU	February 22-25, 2019	International
19	Dr. Biman B. Mandal	International Conference on Advances in Polymer Science & Technology	Kathmandu, Nepal.	November 1-3, 2018,	International
20	Dr. Biman B. Mandal	Indian Biophysical Society International Conference	IISER Kolkata	March 15-17, 2019	International
21	Dr. Biman B. Mandal	4 <sup>th</sup> Annual Conference 2018, Research Society for the Study of Diabetes in India, Assam Chapter	Guwahati, Assam	August 25-26, 2018	National
22	Dr. Biman B. Mandal	International Symposium of Functional Nanomaterials (ISFM)	Chandigarh University	April 13-15, 2018	International
23	Dr. Biman B. Mandal	3 <sup>rd</sup> Annual Conference of ISNM "Nanobioteck-2018"	IIT Delhi and AIIMS, New Delhi	October 24-27, 2018	International
24	Dr. Biman B. Mandal	International conference on Biomedical Engineering and Technology: Roadway from Laboratory to Market"	Department of Biomedical Engineering, NIT Raipur	December 20-21, 2018	International
25	Dr. Biman B. Mandal	National Symposium on "From Genes to Network: Recent trends in Cell Signaling"	Amity University, Haryana	December 14-15, 2018	National
26	Dr. Biman B. Mandal	Indo-Egyptian symposium meeting, BSBE Department, IIT Bombay	BSBE Department, IIT Bombay	January 30-31, 2019	International
27	Dr. Biman B. Mandal	4 <sup>th</sup> Annual Conference organized by Assam Endocrine Society	Department of Endocrinology, Gauhati Medical College	March 15-16, 2019	National
28	Dr. Shirisha Nagotu	Zeiss Microscopy conclave 2019	Bangalore, India	Feb 14-16, 2019	National
29	Prof. Kannan Pakshirajan	6 <sup>th</sup> Bioprocessing India Conference (BPI 2018)	IIT Delhi, New Delhi,	December 16-18	International
30	Prof. Kannan Pakshirajan	International Conference in Challenges in Environmental Science & Engineering (CESE-2018)	Bangkok, Thailand	November 4-8, 2019	International
31	Prof. Kannan Pakshirajan	International Conference on Sustainable Water Resources - Innovation and Impacts (TECHNOSCAPE-2018)	Vellore, Tamil Nadu	September 6-8, 2018	International

32	Prof. Kannan Pakshirajan	Go Green Conference	Puttaparthi, Andhra Pradesh	July 25-26, 2018	International
33	Dr. Lalit M Pandey	Bioinspired Nanomaterials 2019	University of Strathclyde, United Kingdom	March 18-19, 2019	International
34	Prof. Aiyagari Ramesh	8th ASM Conference on Biofilms	Washington DC, USA	October 7-11 2018	International
35	Dr. Rajkumar P. Thummer	Recent Trends and Advancements in Regenerative Medicine and The Role of Omics and Biomarkers in Health	University of Kerala, Thiruvananthapuram	Feb 28 to March 2, 2019	National
36	Prof. Rakhi Chaturvedi	1 <sup>st</sup> Rural Dialogue jointly organized by Innovior, Delhi and Centre for Rural Technology, IIT Guwahati, India	IIT Guwahati, Assam, India	July 6-7, 2018	National
37	Prof. Lingaraj Sahoo	International Conference on Trends in Plant Sciences and Agrobiotechnology-2019 (ICTPA-2019)	IIT Guwahati	February 14-16, 2019	International
38	Prof. Lingaraj Sahoo	Assam Botany Congress (ABC-01)	Gauhati University	February 4 - 6, 2019	International
39	Prof. Lingaraj Sahoo	International Plant Physiology Congress	Lucknow, Uttar Pradesh	December 2-5, 2018	International
40	Prof. Utpal Bora	Tailoring physical properties of materials for nerve regeneration	CNRS & UNIVERSITÉ PARIS-SUD, Paris, France	Oct 22-24, 2018	International

#### 11. Invited Lectures of Faculty: In India, Abroad (Please do not repeat entries from Sl. No. 10)

S.No	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Dr. B. Anand	CRISPR-Cas System: From Genome Defence to Tinkering Genome	DBT Workshop on Genome Engineering, IISc Bangalore	Bengaluru	26 June 2018
2	Dr. B. Anand	CRISPR-Cas System: Some Hard Facts on its Biology and Hot Air on its Genome Engineering Applications	IN-YAS-Frontier of Science Brainstorming Meeting, Indian National Young Academy of Sciences (IN-YAS)	Hyderabad	10 December 2018
3	Prof. Utpal Bora	Modern Biology in Homeopathy	NEIAH, Shillong	Shillong	10.04.2018
4	Prof. Utpal Bora	Insect Genomics and Translational Research	Sikkim University	Gangtok	28-29.05.2018
5	Prof. Utpal Bora	Genomics of Silkworms	Nowgong College, Nagaon	Assam	04-05.10.2018
6	Prof. Utpal Bora	Genomics of Silkworms	UGC Refresher Course in Life Sciences, UGC – HRDC - Gauhati University	Assam	20.07.2018
7	Prof. Utpal Bora	Aptamers in India	University of Bordeaux, Bordeaux, France	Bordeaux, France	17-19.10.2018
8	Prof. Utpal Bora	Evolution of Butterfly and Moths with Angiosperms	Max Planck Institute of Evolutionary Biology	Plon, Germany	26-29.10.2018
9	Prof. Utpal Bora	Bioentrepreneurship, Challenges and Opportunities	GUIST, Guwahati	Assam	17.11.2018
10	Prof. Utpal Bora	Understanding the evolutionary relationship between angiosperms and Lepidoptera	Gauhati University	Assam	05.02.2019



11	Prof. Utpal Bora	Panelist	Amity University Kolkata Campus (Organized jointly by DST & ASCI)	Kolkata	14.02.2019
12	Prof. Utpal Bora	Literature Search and Identification of Research Problem	North Eastern Institute of Ayurveda and Homeopathy	Shillong	21.02.2019
13	Prof. Utpal Bora	Climate Change: Challenges, Opportunities, Adaptability and Sustainability	IIT Madras	Madras	02.03.2019
14	Dr. Biplab Bose	Data, More Data, and Personalized Medicine	ACBICON 2018	Goa	October 2018
15	Dr. Biplab Bose	Looking Beyond Average: Exploring Cellular Heterogeneity	International Conference On Trends In Plant Sciences And Agrobiotechnology, 2019	Guwahati	February 2019
16	Dr. Biplab Bose	Cellular State Transition Dynamics in EGF-induced in Epithelial-Mesenchymal Transition	IACR 2019	Chandigarh	February 2019
17	Dr. Biplab Bose	Do More with Your Flow Cytometry Data: Look Beyond MFI	Indo-US Flow Cytometry Workshop, IIT Guwahati	Guwahati	March 2019
18	Dr. Biplab Bose	Exploring Cellular Heterogeneity & Subpopulation Dynamics	Indo-US Flow Cytometry Workshop, Cahchar Cancer Hospital	Silchar	March 2019
19	Dr. Bithiah Grace Jaganathan	BMP and ERK Pathways in Imatinib Resistance of Chronic Myeloid Leukemia	Indo-US Flow Cytometry Workshop, IIT Guwahati	Guwahati	March 2019
20	Dr. Bithiah Grace Jaganathan	Chemoresistance of Chronic Myeloid Leukemia	Symposium on "Recent Advances in Cancer Research"	Guwahati	28 March 2019
21	Dr. Pranjal Chandra	Design of Miniaturized Nanobiosensing Prototypes for Diverse Applications	Indian Institute of Chemical Technology Hyderabad	Hyderabad	22-25 November, 2018
22	Dr. Pranjal Chandra	Design and development of miniaturized biosensor for onsite clinical and food safety application	Indian Institute of Technology Guwahati, India	Guwahati	December 6- 8, 2018
23	Dr. Pranjal Chandra	Electrochemical sensing systems for clinical application	Indian Institute of Technology Bhubaneswar	Bhubaneswar	26th January 2019
24	Dr. Pranjal Chandra	Nano-bioengineered based commercially viable electronic sensor systems for onsite food safety and clinical applications	S.L. Institute of Engg. & Technology (MHRD, Govt. of India), Punjab	Chandigarh.	March 1-2, 2019
25	Dr. Pranjal Chandra	NanoBio-Engineering Methods for Development of Commercially Viable Sensor	Indian Institute of Technology Guwahati, India	Guwahati	March 8-9, 2019
26	Prof. Rakhi Chaturvedi	In vitro anther culture and haploid plant production in <i>Camellia</i> species to generate homozygous plants with the possibilities of accumulation of bioactive metabolites	State Innovation and Transformation Aayog of Assam (SITA), Tea Conclave	Khanapara, Guwahati, Assam, India	March 7-8, 2018
27	Prof. Rakhi Chaturvedi	Studies on nutrient uptake and culture conditions for synthesis of Caffeine, (+)-Catechine, (-)-	National Chung Hsing University (NCHU)	Taichung, Taiwan, R.O.C.	March 30-31, 2018

		Epicatechin and (-)-Epigallocatechin gallate in anther derived haploid cell lines of tea [ <i>Camellia sinensis</i> (L.)]			
28	Prof. Rakhi Chaturvedi	Plant cell suspension cultures: an engineering consideration for enhanced metabolite production	2018 In Vitro Biology Meeting by Society for In Vitro Biology (SIVB)	St Louis, Missouri, USA	June 2 – 6, 2018
29	Prof. Rakhi Chaturvedi	Possibilities on accelerating the endogenous production of medicinally useful metabolites in <i>Camellia</i> spp. via androgenesis and haploid plant production in vitro	2018 Western Region Annual Meeting: The Pacific Rim Conference by International Plant Propagators' Society (IPPS)	Kona, Hawaii, USA	July 28 - August 4, 2018
30	Prof. Rakhi Chaturvedi	Totipotency and regeneration in tissue cultures of <i>azadirachta indica</i> (neem) - a versatile tree.	International Association for Plant Biotechnology (IAPB) Congress	Dublin, Ireland	August 19-24, 2018
31	Prof. Rakhi Chaturvedi	Introduction of plant tissue culture concepts to the Ayurveda realm	Workshop on "Ayurveda for Public Health" by North Eastern Institute of Ayurveda & Homoeopathy (NEIAH), Ministry of Ayuh, Govt. of India	Shillong, Meghalaya, India	November 2, 2018
32	Prof. Rakhi Chaturvedi	Plant Tissue Culture: An Engineering Consideration for Enhanced Metabolite Production	88th Annual Session of the Academy (NASI) & Symposium by NASI, India	Chitrakoot, Satna, M.P., India.	December 6-8, 2018
33	Prof. Rakhi Chaturvedi	In vitro callus and cell suspension cultures from different plant parts for metabolite production and scale-up	6 <sup>th</sup> Bioprocessing India (BPI) conference 2018 by IIT Delhi	Delhi, India	December 16-18, 2018
34	Prof. Rakhi Chaturvedi	Application of plant tissue culture techniques for bioresources conservation and recovery	Assam botanical and international conference on plant science by botanical society of Assam, in association with department of Botany, Gauhati University and PCRFB, Calcutta	Guwahati, Assam. India	February 4-6, 2019
35	Prof. Rakhi Chaturvedi	Biotechnological interventions for bioresources conservation and recovery	National Conference on Stakeholders on Conservation, Cultivation, Resource Development and Sustainable Utilization of Medicinal Plants of North Eastern India by Nagaland University and Society for Conservation & Resource Development of Medicinal Plants, New Delhi	Lumami, Nagaland, India	March 6-7, 2019
36	Prof. Rakhi Chaturvedi	Biotechnological tools for bioresources conservation and metabolite production	Biotechnology Research in India: Current status and Future Prospects By Jamia Hamdard (Hamdard University)	New Delhi, India.	March 26-27, 2019

37	Prof. S. S. Ghosh	Emergence of Cancer Nanotheranostics	National Conference on recent advances in applied biological sciences	NEHU (Shillong)	May 4-5, 2018
38	Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	An Interdisciplinary Approach in Characterization & Applications of Nanostructured Materials	University of Kalyani	August 1 <sup>st</sup> to 10 <sup>th</sup> 2019
39	Prof. S. S. Ghosh	Theranostics 'POC' Device	TEQIP3-IITG	IITG	21 <sup>st</sup> September 2019
40	Prof. S. S. Ghosh	Nanotheranostics to 'POC' Device	International Conference on Functional Nanomaterials (ICFNM-2019)	IIT BHU	February 23-25 <sup>th</sup> 2019
41	Prof. S. S. Ghosh	Flow cytometry in Nanotheranostics Devices	The 20th Indo-US Flow Cytometry Workshop and Symposium on Advanced Molecular Techniques	IITG	February 13, 2019
42	Prof. S. S. Ghosh	Prospective Nanotheranostic Devices	National Conference on Chalcogenide Compounds	Defence Institute of Advanced Technology, Pune	February 14-14 <sup>th</sup> , 2019
43	Prof. Arun Goyal	Green process of degumming of jute fiber and bioscouring of cotton fabric by alkaline pectinases from <i>Clostridium thermocellum</i>	National Conference on Recent Trends and Advancements in Chemical Sciences	University of Delhi	March 29-31, 2019.
44	Prof. Arun Goyal	Recombinant chondroitin AC lyase ( <i>PsPL8A</i> ) from <i>Pedobacter saltans</i> and its applications in therapeutics and functional foods	12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET)	Mizoram University, Aizawl, Mizoram, India	Nov. 12 - 14, 2018
45	Prof. Arun Goyal	Protein engineering of hydrolytic enzymes for enhancing activity for improved saccharification	DBT National Workshop on Bioenergy, IIT Roorkee	IIT Roorkee	July 6-7, 2018
46	Dr. Cota Navin Gupta	TEQIP-III Sponsored Short Term Course on Fundamentals of Robotics and Artificial Intelligence	IIT Guwahati	Guwahati	Feb 4- Feb8, 2019
47	Dr. Cota Navin Gupta	QIP - Short Term Course On "Current Status and Requirements of Biomedical Devices"	IIT Guwahati	Guwahati	28 <sup>th</sup> March, 2019
48	Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Fayoum University,	Egypt	12th April 2018
49	Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Delta University	Egypt	14th April 2018
50	Dr. Ajaikumar B Kunnumakkara	New Trends in Cancer Therapy	Mansoura University	Egypt	15th April 2018

51	Dr. Ajaikumar B Kunnumakkara	Development of Highly Safe, Efficacious and Affordable Drugs for the Prevention and Treatment of Chronic Diseases	Mansoura University	Egypt	16th April 2018
52	Dr. Ajaikumar B Kunnumakkara	New Trends in Cancer Therapy	Kfr El-Sheikh University	Egypt	17th April 2018
53	Dr. Ajaikumar B Kunnumakkara	Role of Nanotechnology in the development of safe, efficacious and affordable drugs for the prevention and treatment of cancer	Mahatma Gandhi University	Kottayam, Kerala	11 <sup>th</sup> July 2018
54	Dr. Ajaikumar B Kunnumakkara	Curcumin: The Indian Solid Gold for the Prevention and Treatment of Different Chronic Diseases	NIPER Guwahati	Guwahati	25 <sup>th</sup> August 2018
55	Dr. Ajaikumar B Kunnumakkara	The potential of natural products in the prevention and treatment of oral cancer	3rd International Conference on Nutraceuticals and Chronic Diseases". Organized by Swami Rama Himalayan University	Rishikesh, India.	15 <sup>th</sup> September 2018
56	Dr. Ajaikumar B Kunnumakkara	The Role of Nutraceuticals in the Prevention and Treatment of Chronic Diseases	Department of Pharmaceutical Biotechnology, Manipal Institute of Higher Education	Manipal, Karnataka	24 <sup>th</sup> September 2018
57	Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	National Institute of Advanced Industrial Science and Technology,	Tsukuba, Japan	17 <sup>th</sup> October 2018
58	Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	Biyani College	Jaipur	27 <sup>th</sup> November 2018
59	Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and Nature Based Solutions	Indian Institute of Chemical Technology	Hyderabad	24 <sup>th</sup> November 2018
60	Dr. Ajaikumar B Kunnumakkara	Isoform Specific Role of Akt in Oral Cancer	Center for Cellular and Molecular Biology	Hyderabad	23 <sup>rd</sup> November 2018
61	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Bangalore	8 <sup>th</sup> December 2018
62	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Kanpur	13 <sup>th</sup> December 2018
63	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Lucknow	14 <sup>th</sup> December 2018
64	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Jaipur	15 <sup>th</sup> December 2018
65	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	BigBrother Nutra Care Pvt Ltd	Agra, Uttar Pradesh	16 <sup>th</sup> January 2019

66	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Jhansi, Uttar Pradesh	17 <sup>th</sup> January 2019
67	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Bhopal, Madhya Pradesh	18 <sup>th</sup> January 2019
68	Dr. Ajaikumar B Kunnumakkara	<i>CME Talk-</i> Curcuminoids a potential molecule to support all body systems & in the prevention and treatment of cancer	Big Brother Nutra Care Pvt Ltd	Ujjain, Madhya Pradesh	19 <sup>th</sup> January 2019
69	Dr. Ajaikumar B Kunnumakkara	Role of Store Operated Calcium Channels and Oral Cancer	Guru Nanak Dev University	Amritsar, India	22 <sup>nd</sup> February 2019
70	Dr. Ajaikumar B Kunnumakkara	Turmeric: The Indian Solid Gold for the Prevention and Treatment of Different Chronic Diseases	International AYUSH Conclave Govt. of Kerala	Thiruvananthapuram, Kerala	16 <sup>th</sup> February 2019
71	Dr. Ajaikumar B Kunnumakkara	Isoform Specific Development of Akt Inhibitors for the Treatment of Oral Cancer	CSIR-NIIST	Thiruvananthapuram, Kerala	27 <sup>th</sup> February 2019
72	Dr. Ajaikumar B Kunnumakkara	An Investigation on the Interplay between Tumor Necrosis Factor- $\alpha$ Induced Protein 8 (TNFAIP8/TIPE) Family and Progression of Oral Squamous Cell Carcinoma (OSCC)	Kerala University	Thiruvananthapuram, Kerala	28 <sup>th</sup> February 2019
73	Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and natural Solutions	IIT Delhi	Delhi	18 <sup>th</sup> February 2019
74	Dr. Ajaikumar B Kunnumakkara	Oral Cancer Basics and natural Solutions	Recent Advances in Biomedical Research, IIT Guwahati	Guwahati, Assam	27 <sup>th</sup> March 2019
75	Dr. Ajaikumar B Kunnumakkara	Role of Nutraceuticals in the prevention and treatment of cancer	Recent Advances in Cancer Research, IIT Guwahati	Guwahati, Assam	28 <sup>th</sup> March 2019
76	Dr. Ajaikumar B Kunnumakkara	Fusion genes and cancer	Recent Advances in Cancer Research, IIT Guwahati	Guwahati, Assam	28 <sup>th</sup> March 2019
77	Dr. Anil M. Limaye	Interplay of estrogen regulation and DNA methylation dependent silencing in the intron-2 of Cystatin A gene in breast cancer cells	Dept. of MBBT, Tezpur University	Tezpur	26 Mar, 2019
78	Dr. Biman B. Mandal	Invited Popular Science Lecture on Tissue Engineering to Undergraduate students at Jagadis Bose National Science Talent Search, (JBNSTS), Kolkata	Jagadis Bose National Science Talent Search, (JBNSTS)	Kolkata	March 29, 2019
79	Dr. Biman B. Mandal	Invited Popular Science Lecture on Tissue Engineering at IIT Guwahati	Research Conclave 2019, IIT Guwahati	Guwahati	March 14-17, 2019
80	Dr. Biman B. Mandal	Invited Popular Science Lecture to Top 1% 10+ students of West Bengal	Jagadis Bose National Science Talent Search, (JBNSTS)	Kolkata	March 17, 2019
81	Dr. Biman B. Mandal	Invited lecture at 4 <sup>th</sup> Annual Conference organized by Assam Endocrine Society	Department of Endocrinology, Gauhati Medical College	Kaziranga, Assam	March 15-16, 2019

82	Dr. Biman B. Mandal	Invited lecture at Indian Biophysical Society International Conference	IISER Kolkata	Kalyani, West Bengal	March 15-17, 2019
83	Dr. Biman B. Mandal	Invited lecture at Indo-Egyptian symposium meeting, BSBE Department, IIT Bombay	BSBE Department, IIT Bombay	Mumbai	January 30-31, 2019
84	Dr. Biman B. Mandal	Invited lecture at National Symposium on “From Genes to Network: Recent trends in Cell Signaling”	Amity University	Haryana	December 14-15, 2018
85	Dr. Biman B. Mandal	Invited lecture at International conference on Biomedical Engineering and Technology: Roadway from Laboratory to Market”	Department of Biomedical Engineering, NIT Raipur	Raipur	December 20-21, 2018
86	Dr. Biman B. Mandal	Invited Popular Lecture conducted by The National Academy of Sciences, India (NASI), NER Chapter	St. Edmund’s College, Shillong	Shillong	November 24, 2018
87	Dr. Biman B. Mandal	Invited lecture at 3 <sup>rd</sup> Annual Conference of ISNM “Nanobiotech-2018”	IIT Delhi and AIIMS	New Delhi	October 24-27, 2018
88	Dr. Biman B. Mandal	Invited lecture at 4 <sup>th</sup> Annual Conference 2018, Research Society for the Study of Diabetes in India, Assam Chapter	Research Society for the Study of Diabetes in India, Assam Chapter	Guwahati, Assam	August 25-26, 2018
89	Dr. Biman B. Mandal	Invited lecture at International Symposium of Functional Nanomaterials (ISFM)	Chandigarh University	Chandigarh	April 13-15, 2018
90	Dr. Biman B. Mandal	Invited lecture at International Conference on Advances in Polymer Science & Technology	Kathmandu, Nepal.	Kathmandu, Nepal.	November 1-3, 2018,
91	Prof. Kannan Pakshirajan	Syngas fermentation for biohydrogen production and biodesulfurization	S.S.N. College of Engineering,	Chennai, Tamil Nadu	February 14-15, 2019
92	Prof. Kannan Pakshirajan	Value added products from biomass gasification waste – a biorefinery approach	Assam Engineering College	Guwahati, Assam	December 17-21, 2018
93	Prof. Kannan Pakshirajan	Waste biorefinery for sustainable circular economy	IIT Guwahati	Guwahati	November 26-30, 2018
94	Prof. Kannan Pakshirajan	Cost-effective and large scale production of biosurfactants for sustainable agriculture	North-Eastern Hill University	Shillong, Meghalaya	September 10-12, 2018
95	Prof. Kannan Pakshirajan	Environmental pollution: causes, effects and control	IIT Guwahati	Guwahati	August 30-September 19, 2018
96	Prof. Kannan Pakshirajan	Writing and publishing first quality scientific manuscripts	University of Science & Technology	Meghalaya	May 21-25, 2018.

97	Prof. Kannan Pakshirajan	Biological treatment of oil and gas industry wastewater for value addition and resource recovery	IIT Guwahati	Guwahati	April 4, 2018
98	Prof. Aiyagari Ramesh	"Probiotic Lactic Acid Bacteria in Antibacterial Therapy: Techniques and Applications"	CSIR - Central Food Technological Research Institute	Mysuru	01 March 2019
99	Prof. L Rangan	Mining of bioactives from seeds of Karanj.	IICT Hyderabad	Hyderabad, India	November 22-24, 2018
100	Prof. L Rangan	Estimation of nuclear genome size and its correlation with Ty1- <i>copia</i> like LTR retrotransposon and cell phenotypic traits.	Global Plant and Molecular Biology Conference (GPMB)	Rome	September 20-23, 2018
101	Prof. L Rangan	Combining the old with the new- "Nature is our prototype"- New Positives of Research in Field of Applied Biodiversity	Symbiosis	Pune, India	August 31, 2018
102	Prof. L Rangan	Maintaining Biodiversity in North-eastern India: Ethno-medicinal usage of Zingiberaceae.	Biovision Alexandria	Egypt	April 20-22 2018
103	Prof. Lingaraj Sahoo	Biotechnology for Insect Pest and Virus Management in Cowpea	Gifu University, Japan	Gifu, Japan	23 May 2018
104	Prof. Lingaraj Sahoo	Industrial Application of Biological Pesticides and Genetically Modified Plants	Japan Bioindustry Association Meet	Tokyo, Japan	25 May 2018
105	Prof. Lingaraj Sahoo	Plant and Algal Bioresource based Biofuel	JDA talk at Gifu University, Japan	Gifu, Japan	28 May, 2018
106	Prof. Lingaraj Sahoo	Application of Plant Biotechnology – Crop Protection	UGSAS, Gifu University	Gifu, Japan	29 May 2018
107	Prof. Lingaraj Sahoo	Improvement of Minor Grain Legumes – from Genes to Field	National Seminar on Plant Sciences by Tripura University	Agartala, Tripura	07 June 2018
108	Prof. Lingaraj Sahoo	RNA Interference mediated Crop Protection	College of Veterinary Science, Assam Agricultural University	Khanapara, Guwahati	9 August, 2018
109	Prof. Lingaraj Sahoo	New Age Agriculture - Learning from Nature	<i>The University of Science and Technology (USTM), Meghalaya</i>	Khanapara, Meghalaya	18 August, 2018
110	Prof. Lingaraj Sahoo	Climate Smart Agriculture - Learning from Nature	UGC-HRDC, Gauhati University	Guwahati	27 Sept, 2018
111	Prof. Lingaraj Sahoo	Field performance of RNAi-transgenic cowpea lines resistant to MYMIV	ICTPA 2019, IIT Guwahati	Guwahati	15 Feb, 2019
112	Dr. Senthilkumar Sivaprakasam	Enhanced Production of Human Interferon $\alpha 2b$ (huifn $\alpha 2b$ ) in Glycoengineered <i>Pichia Pastoris</i> Cell Factory: Process Analytical Technology (PAT) Enabled Process Monitoring and Control	IIT Delhi	Delhi	December 17, 2018
113	Prof. Rajaram Swaminathan	Intrinsic fluorescence from protein charge transfer states: photochemical features and application	JNU	New Delhi	16 Nov 18
114	Dr. Rajkumar P. Thummer	An Insight into a DNA-free Reprogramming Approach to Generate Integration-Free Induced	Dept. of Zoology, University of Kerala	Thiruvananthapuram	March 2, 2019

		Pluripotent Stem Cells for Prospective Biomedical Applications			
115	Dr. Souptick Chanda	Invited lecture for QIP short term course on "Current Status and Requirements of Biomedical Devices". Topic: Muscle Contraction Dynamics: A Modeling Approach	IIT Guwahati	Guwahati	March 25, 2019

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

S.No	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Dr. Vinay Mandati	Scripps Research Institute	Emerging Tumor Suppressor Mechanisms of Hippo Core Components	14.08.2018	Biotalk
2	Prof. Krishnamachar Sreenivasan	CIT Kokrajhar	Stability of Multi Layered Vehicular & Clop Flow	25.09.2018	Biotalk
3	Dr. Ajay Dixit	Univ. of Minnesota	Understanding the immune dynamics in inflammation and cancer	05.10.2018	Biotalk
4	Dr. Saurav Haldar	NIH, Bethesda	New insights in influenza viral fusion	02.11.2018	Biotalk
5	Prof. John N. Giannios	World Genomic Translational Medicine Organization	Eradication of chemoresistant metastatic cancer stem cells mediated by nanosurgery	13.11.2018	International speaker, Biotalk
6	Dr. Farid Badria	Mansoura University Natural Products: Preclinical and Clinical Applications of Untapped sources for Human Health Welfare	Natural Products: Preclinical and Clinical Applications of Untapped sources for Human Health Welfare	15.11.2018	International Speaker, Biotalk
7	Dr. Raushan Singh	Univ. of Massachusetts Medical School	SWR1C: A nucleosome editing machine	16.11.2018	Biotalk
8	Dr. Rashmi Panigrahi	Univ. of Alberta, Canada	Making sense of chaos in membrane proteins	19.12.2018	Biotalk
9	Dr. Hemant Agrawal	DENOVO software, USA	FCS Express: An introduction to flow cytometry data analysis-getting the most out of your data in record time	29.01.2019	Biotalk
10	Prof. Claus-Michael Lehr	Helmholtz Institute of Pharmaceutical Research	Drug Delivery Technologies for Combatting and Preventing Infectious Diseases	05.02.2019	International Speaker, Biotalk
11	Dr. Arnab Datta	NIH, USA Quantitative Protein Mass Spectrometry: A systems Biological Approach for the Discovery and Validation of Potential Therapeutic Targets	Quantitative Protein Mass Spectrometry: A systems Biological Approach for the Discovery and Validation of Potential Therapeutic Targets and Biomarkers for Human Diseases	06.02.2019	Biotalk



		and Biomarkers for Human Diseases			
12	Prof. Philip Cohen	Univ. of Dundee	The interplay between protein phosphorylation and ubiquitylation in regulating the innate immune system	07.02.2019	International Speaker, Biotalk
13	Dr. Raunak Kumar Das	VIT Vellore	Epithelio-Mesenchymal Transition in oral precancers and its induction by viruses	12.02.2019	Biotalk
14	Dr. Pooja Kumari	Univ. of Oslo	Distinct RNA elements repurpose LIN4 mediated RNA regulation during cell-fate decisions	13.03.2019	Biotalk
15	Prof. Kelath Murali Manoj	Satyamjayatu-the Science Foundataion	Why is oxygen the elixir of life? How does cyanide kill so quickly?" Criticism of standing textbook ideas on cellular respiration and explanations by murburn concept, a new paradigm in biochemistry	11.03.2019	Biotalk
16	Dr. King Hang Aaron Lau	University of Strathclyde, United Kingdom	Invited speaker	18 December,2018	
17	Dr. Aruna Ivaturi	University of Strathclyde, United Kingdom	Invited speaker	18 December,2018	
18	Prof. Vinay Juvekar	IIT Bomaby, India	External Ph.D. Thesis Examiner	13 November, 2018	
19	Prof. Akio Ebihara	Gifu University, Gifu	Lab Visit	22.09.2018	
20	Dr. S.S. Sandhu, Additional Secretary	Ministry of Human Resource Development, GoI	Lab Visit	30.11.2018	
21	Shri Kailash Soni	Member of Parliament, Rajya Sabha	Lab Visit	16.08.2018	
22	Ms. Juri Gogoi	United Health Group, US	Lab Visit	29.11.2018	

### 13. 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. B. Anand	11 <sup>th</sup> Young Investigators' Meeting (YIM 2019)	DBT, Wellcome-DBT India Alliance, Springer Nature, Thermo Fisher Scientific, CSIR-IICB	March 6 - 10	International	150
2	Dr. Cota Navin Gupta, Dr. Souptick Chanda, Dr. Selvaraju Narayanasamy	Computational Modeling and Simulation for Bioengineering Applications.	DBT	09/06/2018	National	40
3	Dr.Cota Navin Gupta (Session Co-Chair)	The twelfth national frontiers of engineering	INAE	17-18 <sup>th</sup> Sept 2018	National	150

4	Kumar S	Diagnostic Approaches in Virology: Recent Advancements	DBT	4 <sup>TH</sup> -6 <sup>TH</sup> March, 2019	National	35
5	Dr. Biman B. Mandal (IITG) And Dr. Avanish Parmar Singh (IIT BHU)	International Conference on Functional Nanomaterials (ICFNM-2019)	DST/DBT/ICMR	February 22-25, 2019	International	250
6	Kannan Pakshirajan	Global Initiative of Academic Networks (GIAN) course on Biofuel Cell Technology: Fundamentals and Applications	MHRD, Government of India	April 23-27, 2018	National	40
7	Dr. Lalit M Pandey and Prof. Animes K Golder	Recent advances in bioinspired nanomaterials for environmental applications	DST-UK India educated and research initiative	18 December, 2018	International	40
8	L Rangan (Chairperson and principle Convener)	20 <sup>th</sup> Indo-US Flow Cytometry Symposium Cum Workshop on " <i>Applications of Flow Cytometry in Biotechnology</i> "	ISAC, TETC	13-16 March 2019	International	38
9	Rakhi Chaturvedi	Vigyan Jyoti 2018	Department of Science and Technology (DST) India.	August 29, September-14, 2018	National	60
10	Rakhi Chaturvedi	International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), in association with IIT Guwahati and International Plant Propagators' Society (IPPS)	DBT, NEC and other private sponsors	February 11-13, 2019	International	175
11	Rakhi Chaturvedi	International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), in association with IIT Guwahati and Plant Tissue Culture Association-India (PTCA-I)	DBT, NEC and other private sponsors	February 14-16, 2019	International	350
12	Dr. Ajaikumar B Kunnumakkara (Chairman)	International Conference on Nutraceuticals and Chronic Diseases	Society for Nutraceuticals and Chronic Diseases	14 <sup>th</sup> -16 <sup>th</sup> Sep, 2018	International	500
13	Dr. Ajaikumar B Kunnumakkara (Convenor)	Recent Advances in Biomedical Research-2019	Department of Biotechnology, Govt. of India	26 <sup>th</sup> -27 <sup>th</sup> March, 2019	International	90

14	Dr. Ajaikumar B Kunnumakkara (Convenor)	Recent Advances in Cancer Research-2019	Department of Biotechnology, Govt. of India	28 <sup>th</sup> March, 2019	National	80
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**A brief report on the major NATIONAL and INTERNATIONAL events with photographs may also be given separately in addition to the format given above.**

**14. Patents:**

**No. of Patents Applied with details 17**

**No. of Patents Granted with details 0**

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Gargi Goswami, Ankan Sinha, Ratan Kumar, , Harender Singh, B.C. Dutta, Debasish Das	Process for enhancing biomass productivity by high density cultivation of microalgae	2/11/2018	201811041629	
2	Mayurketan Mukherjee, Gargi Goswami and Debasish Das	Media and process for biosynthesis of Butanol	13/02/2019	201931005755	
3	Barman U, Ghosh SS and Paily R P	Glutathione-S-Transferase – Nanoconjugate Based FET Biosensor for Detection of Cancer	2018	201831031884	
4	Das M, Goswami U, Ghosh SS, Chattopadhyay A	A composition for filtration of microorganism and heavy metals and process thereof	2018	201831016639	
5	Iyer PK, Dey A, Singh A, Dutta D, Ghosh SS	An ultra-low voltage operated organic field effect transistor (OFET) based bio-sensing system and a method for fabricating the same	2018	201831000478	
6	PranabGoswami and LightsonNgashangva	Portable kit for onsite determination of formaldehyde in aqueous sample	05/11/2018	201831041908	
7	PranabGoswami, Naveen Kumar Singh, PhurpaDemaThungon, VinayBachu	A modified syringe for detection of various enzymes for various instrument free detection	17/08/2018	201831030902	
8	Dr. Biman B. Mandal and Dimple Chouhan	Silk hydrogels for treatment of burn wounds.	12/06/2018	201831022013	
9	Dr. Biman B Mandal and G. Janani.	Urokinase production through fiber reinforced silk scaffold using high density perfusion culture.	27/06/2018	201831024035	
10	Dr. Biman B Mandal and Jadi Praveen Kumar	Silk sericin for skin care application and its process of preparation.	20/04/2018	201831026915	
11	Dr. Biman B Mandal, Y.P. Singh, A. Bandyopadhyay, S. Mehrotra, J.C. Moses, B.K. Bhunia, G. Janani, D. Chouhan	Development of silk based bioinks for 3D printing and uses thereof.	12/10/2018	201831038727	

12	Dr. Biman B Mandal and Suvro Kanti Choudhury	Nutritious Tissue Engineered Edible Meat and Methods of Production Thereof.	19/12/2018	201831047999	
13	Dr. Biman B Mandal, Dimple Chouhan, Bibrita Bhar and Rajiv Borah	Silk fibroin-Aloe-Vera matrices for wound healing.	05/02/2019	201931004617	
14	Dr. Biman B Mandal and Ankit Gangrade	Injectable nanocomposite silk hydrogel for targetted and controlled delivery of therapeutic agents.	06/02/2019	201931004799	
15	Vibin Ramakrishnan, Gaurav Pandey, Harshal B. Nemade, Jahnu Saikia, Sajitha S, & Nitin Chaudhary.	Therapeutic devices	July 10, 2018	International Patent (PCT) No. WO/2019/012556	Published on January 17, 2019
16	Subbi Rami Reddy Tadi, Ganesh Nehru, Senthilkumar Sivaprakasam	Methods for the increased production of D (-) Pantothenate in <i>Bacillus megaterium</i>	2018	201831039883	
17	Chandan K. Jana, Ajaikumar B. Kunnumakkara, Md Ashraful Haque, Bethsiebe L Sailo, Ganesan Padmavathi	Novel carbotetracycles having anti-cancer properties and a method of synthesis thereof	13 <sup>th</sup> October 2018	201831038926	

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

1. Dr. Souptick Chanda received *Fulbright-Nehru Academic and Professional Excellence Fellowship 2019-20* to carry out research at Harvard Medical School, Boston, USA.
2. Dr. Pranjal Chandra: Outstanding Reviewer Award for Contribution to the quality of the journal “Vacuum” (Elsevier, Amsterdam, The Netherlands), June 2018.
3. Dr. Pranjal Chandra: Awarded the coveted honor of the Young scientist Award 2017-2018 by the Biotech Research Society of India. Award comes with citation, award certificate, and cash prize. Delivers the award lecture at the CSIR Indian Institute of Chemical Technology -Platinum Jubilee International Conference on Biotechnological Research and Innovation for Sustainable Development 22-25 November, 2018
4. Dr. Pranjal Chandra :Young Engineers Award – 2018 by the Senior Engineers Forum-Guwahati, held at the Institution of Engineers Building, Panbazar, Guwahati.
5. Dr. Pranjal Chandra: Outstanding Reviewer Award for Contribution to the quality of the journal “Energy Conversion and Management” (Elsevier, Amsterdam, The Netherlands), September 2018.
6. Dr. Pranjal Chandra: Expert reviewer of Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA) under Department of Science and Technology (DST), GoI and Centre National de la Recherche Scientifique (CNRS) of France
7. Dr. Pranjal Chandra: Served as “Judge for Oral presentations” of the participants in the National conference on “Ethno-medicine and Traditional Health Practices in Northeast region of India” August 25, 2018 at NIPER-Guwahati
8. Professor Pranab Goswami: Outstanding Reviewer Award from Elsevier, *Amsterdam, The Netherlands*, in recognition for contribution to the quality of the journal, *Journal of Photochemistry and Photobiology B: Biology* .
9. Professor Pranab Goswami: DBT, India has nominated as DBT-NER steering committee member for a period of 3 years from December 2018.
10. Professor Pranab Goswami: Director’s nominee for the Institute Academic Disciplinary Committee (IADC) for 2018 to 2020.
11. Professor Pranab Goswami: External expert of Research Review Committee of Assam down town University for the period of 2018-2021.

12. Professor Pranab Goswami: Serving as a member of Scientific Advisory Council (SAC) of IASST, Guwahati for 2017 to 2020.
13. Professor Pranab Goswami: Member of the Expert panel for the selection processes of scientist at IASST, Guwahati during January 11-12, 2019.
14. Professor Pranab Goswami: PhD thesis received from NIT Raipur evaluated.
15. Professor Pranab Goswami: PhD thesis received from Gauhati University evaluated and conducted viva-voce exam on 18<sup>th</sup> February 2019.
16. Professor Pranab Goswami: PhD thesis received from Tezpur University (EEE department) evaluated and conducted viva-voce exam on 14<sup>th</sup> December, 2018.
17. Professor Pranab Goswami: PhD thesis received from Tezpur University (Physics department) evaluated and conducted viva-voce exam on 28<sup>th</sup> November, 2018.
18. Professor Pranab Goswami: PhD thesis received from NEHU, Shillong evaluated.
19. Professor Pranab Goswami: The work: Singh, et al. on Capacitive malaria aptasensor using *Plasmodium falciparum* glutamate dehydrogenase as target antigen in undiluted human serum, *Biosensors and Bioelectronics*, 117,246-252 (2018), *has been highlighted in Current Science*, 115,(8), 25 October 2018.
20. Prof. Arun Goyal: Invited to be a member, Board of Studies at College of Engineering and technology (CET), Bhubaneswar, Odisha.
21. Prof. Arun Goyal: Evaluation of Application for promotion of Assistant Professor at King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia, Feb 2019.
22. Prof. Arun Goyal: Evaluated Applications for Shastri Indo-Canadian Institute Fellowships, Jan 2019
23. Prof. Arun Goyal: Invited as an Expert member, committee for promotion of Faculty member, Department of Bioengineering, BIT Mersa, Ranchi, Jan 12, 2019.
24. Prof. Arun Goyal: Nominated as Member, Technical Expert Committee for DBT-NER by DBT in the area Energy, Environment and Biodiversity, Dec 2018 for 3 years.
25. Prof. Arun Goyal: Invited to Chair in Rapid Fire Session to Judge Best oral presentation at 3<sup>rd</sup> International Conference on Sustainable Energy and Environmental Challenges (3<sup>rd</sup> SEEC), Dec 18-21, 2018, IIT Roorkee, India.
26. Prof. Arun Goyal: Invited to Chair a session and to Judge Best Poster award at International Conference on Biotechnological Research and Innovation for Sustainable Development, 15<sup>th</sup> BRSI convention. CSIR- Indian Institute of Chemical Technology (CSIR-IICT), Nov. 22-25, 2018, Hyderabad, India.
27. Prof. Arun Goyal: Invited to serve as member for National Selection Committee (STEM) for 2019-2020 Fulbright-Nehru Academic and Professional Excellence Fellowships, Nov. 16 2018.
28. Prof. Arun Goyal: Invited to Judge Best Poster award at 12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Nov 12-14, 2018, Aizawl, Mizoram, India
29. Prof. Arun Goyal: Invited as a selection committee member for Faculty member, Department of Biotechnology, North Bengal University, Camp Office Kolkata, Aug 23, 2018.
30. Prof. Arun Goyal: Invited to Judge Best Poster award at 12th Annual Convention of ABAP & International Conference on Biodiversity, Environment and Human Health: Innovations and Emerging Trends (BEHIET), Nov 12-14, 2018, Aizawl, Mizoram, India
31. Prof. Arun Goyal: Invited to Chair a session and to Judge Best Poster award at DBT workshop on Bioenergy, July 6-7, 2018, IIT Roorkee, India.
32. Prof. Arun Goyal: Invited as a selection committee member for Associate Professor, Department of Biotechnology, Delhi Technical University, Delhi, June 28-30, 2018.
33. Prof. Arun Goyal: Invited as Distinguished member for preparing MTech Course Curriculum, Department of Bioengineering, NIT Agartala, May 26, 2018.
34. Prof. Arun Goyal: Invited to be a member, Board of Studies, for approval of syllabi of BE (Biotechnology), M.Tech (Biotechnology) and M.Sc (Biotechnology) at Department Bioengineering, Birla Institute of Technology (BIT), MESRA, Ranchi, Jharkhand.
35. Dr. Shankar Prasad Kanaujia received the Early Career Research (ECR) Award 2019, Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India.

36. Dr. S Kumar received first award in oral presentation at annual conference of IAAVR, West Bengal for presenting paper “Innovative Progress in Animal Health and Production for Safe and Secured Food Under One Health Perspective”, February, 2019
37. Dr. Biman B. Mandal is awarded Outstanding Reviewer Certificate (Top 25) by Royal Society of Chemistry (RSC, Journal of Materials Chemistry: B) in view of significant contribution (based on the number, timeliness and quality of the reports) to RSC journal in 2018.
38. Dr. Biman B. Mandal: Cover Pages (03) in “ACS Biomaterials Science & Engineering”, “ACS Applied Bio Materials” and “JMC-B” for work on silk based tissue engineering.
39. Dr. Biman B. Mandal: Numerous Research highlights of our work in leading International, National Newspapers, Magazines and News Channels: e.g. The Hindu, The Hindu BL, Nature India, The Caravan, Down To Earth, Indian Science Journal Scroll, BiotechTimes, BioVoice etc.
40. Prof. L Rangan: Inducted member for NASI NORTH-EASTERN CHAPTER for 2019-2020
41. Prof. L Rangan: Scientific Board Member- Scientific Advisory Committee of SDNB Vaishanv College for Women 2018-2020
42. Dr. Kusum Kumari Singh received Biotechnology Overseas Associateship for NER Scientists Award 2018, Department of Biotechnology, Ministry of Science and Technology, Govt. of India.
43. Prof. R Swaminathan was elected as a member of the Executive Council in the Indian Biophysical Society for the year 2019-2020 starting from April 2019.
44. Prof. Ranjan Tamuli has been appointed as Research Advisor of Nan Yang Academy of Sciences (Singapore) with effect from the October 22, 2018.
45. Prof. Rakhi Chaturvedi have organized and Chaired a session on ‘Elicitation of Secondary Metabolites in Plants and Metabolite Engineering’ in 2018 In Vitro Biology Meeting organized by Society for In Vitro Biology (SIVB) at St Louis, Missouri, USA June 2-6, 2018.
46. Dr. Ajaikumar B. Kunnumakkara: Faculty award for outstanding achievements in science from Kfr El-Sheikh University, Egypt, April 2018.
47. Dr. Ajaikumar B. Kunnumakkara: Honorary Chair Professor Award, Mahatma Gandhi University, Kottayam, Kerala, July 2018.
48. Dr. Ajaikumar B Kunnumakkara was awarded the Sakura Exchange Program by JST, Japan.
49. Prof. Latha Rangan served as Co-Chair in First Indian Plant Science Congress; January 23 - 25, 2019, SRMIST, Kattankulathur, Chennai.
50. Prof. Latha Rangan, Chaired the Plenary Session on Plant Genetic Contributions to Plant microbe interactions, January 24, 2019, SRMIST.
51. Dr. Surajbhan Sevda was awarded “Shastri-Canadian Travel support” for Canada Travel. He worked as visiting scientist, department of biological science, University of Calgary, Canada (16 Dec 2018 to 10<sup>th</sup> Jan 2019).
52. Prof. R. Swaminathan chaired a session at National workshop on fluorescence and Raman spectroscopy organized by JNU and IIT Delhi during 12-17 Nov 2018.

#### **16. Students’ Achievements:**

- a. Research story entitled “Unravelling the mysteries of CRISPR memory generation” written by Yoganand. K.N.R has been selected for AWSAR (Augmenting Writing Skills for Articulating Research) awards – 2018 by the Department of Science and Technology, Government of India.
- b. Mr. Pratik Nag got selected for the *Prime Minister’s Research Fellowship* (PMRF).
- c. Ms. Debika Datta was awarded travel grant by American peptide society to attend the American peptide symposium 2019 at Monterey, California.
- d. PhD student, PhurpaDemaThungon has received the prestigious Overseas Visiting Doctoral Fellowship (OVDF) from SERB (DST)-UAlberta Partnership scheme to carry out her thesis work at University of Alberta, Canada for a period of one year (May 2019-April 2020).
- e. M. Tech student, Sanjay M secured the 1<sup>st</sup> position and received a cash prize of Rs 25000 for his model “Optisense- a smartphone based malaria detection platform” in the Redstart-All India Startup Challenge, Research Conclave 2019, organized by IIT Guwahati during 14-17<sup>th</sup> March.

- f. PhD student, Smita Das secured the 1<sup>st</sup> position in the oral presentation event for the paper “Development of an aptasensor for the detection of *Plasmodium* lactate dehydrogenase, presented in Research Conclave 2019 organized by IIT Guwahati during 14-17<sup>th</sup> March.
- g. PhD student, Pooja Rani Kuri bagged the Best poster award for the paper “Two dimensional micro pad for alcohol detection” in the Research Conclave 2019 organized by IIT Guwahati during 14-17<sup>th</sup> March.
- h. PhD student, Pooja Rani Kuri received consolation prize in three minutes thesis presentation (3MT) for the paper “Obesity: Not just a cosmetic problem” held on 8<sup>th</sup> February, 2019 at IIT Guwahati.
- i. PhD student Naveen Kumar Singh received the Best poster award in International Conference on Advancement in Science and Technology (ICAST-2018) organized by JSPS society, Japan held at Visva-Bharati, Santiniketan, West Bengal, India during the time period 3-4 September 2018.
- j. PhD student, Smita Das has been selected as the best oral presentation across both internal and external participants in the department and received gift voucher of EUR 100 by springer in Research Conclave 2019 organized by IIT Guwahati during 14-17<sup>th</sup> March.
- k. PhD student Naveen Kumar Singh Received travel grant for Shastri Indo Canadian International Conference held in New Delhi, 7-8 July 2018 from Shastri Indo Canadian Institute, New Delhi.
- l. PhD student Naveen Kumar Singh (Roll. no. Roll No. 136106035) won Third prizewith prize money Rs 20,000 inNorth East Bio start talent search contest, conduct by Guwahati Biotech Park during 2018.
- m. Kedar Sharma, Carlos M.G.A. Fontes, Shabir Najmudin and Arun Goyal (2019) Molecular organization and protein stability of the *Clostridium thermocellum* glucuronoxylan endo- $\beta$ -1,4-xylanase of family 30 glycoside hydrolase in solution. Research Conclave, March 14-17, 2019, IIT Guwahati, Assam. (2<sup>nd</sup> Best Poster Award)
- n. Abhijeet Thakur and Arun Goyal (2019) Efficient saccharification of finger millet stalk by a new thermostable  $\alpha$ -L-arabinofuranosidase (*PsGH43A*) from *Pseudopedobacter saltans*. Research Conclave, March 14-17, 2019, IIT Guwahati, Assam. (3<sup>rd</sup> Best Poster Award)
- o. Shweta Singh, Arun Dhillon and Arun Goyal (2018) Ultraviolet irradiation of *Bacillus amyloliquefaciens* SS35 for producing hyperactive mutant strain for improved cellulase activity. International Conference on Biotechnological Research and Innovation for Sustainable Development, 15<sup>th</sup> BRSI convention. CSIR- Indian Institute of Chemical Technology (CSIR-IICT), Nov. 22-25, 2018, Hyderabad, India. (Best Poster Award)
- p. Mr. Samyak Singh, BTP Student, got placed at Wipro Ltd.
- q. Mr. Arup Kumar Pal, MTP Student, got placed at MasterCard Inc.
- r. Mr. Shwetank Panwar, B. Tech Trainee Student, got research assistantship at Montreal Neurological Institute (MNI), McGill University, Canada
- s. Ms. Monika Chandravanshi received the *BEST POSTER MERIT AWARD* at National Seminar on Crystallography (NSC-46). June 27-29, 2018, NIMHANS Bangalore, India.
- t. Mr. Suraj Kumar Mandal received the *BEST ORAL PRESENTATION AWARD* at National Seminar on Crystallography (NSC-46). June 27-29, 2018, NIMHANS Bangalore, India.
- u. Md Saddam Hussain received 3<sup>rd</sup> prize in poster presentation in “Research conclave’19” at IITG
- v. Sudhir M R, NDV mediated apoptosis and migration inhibition of human oral cancer cells: A probable role of Beta-catenin and MMP7, Research Conclave 2019, Best Poster.
- w. Ferrin Antony, Inhibitory effect of NTZ on NDV: A possible repurposing of drugVIBCON, Nagaland December, 2018, Best Poster.
- x. Manisha Shah, Chicken viperin inhibits NDV infection: A probable interaction with viral matrix protein.INTER VIROCON 2018, CHANDIGARH 2018, Best Poster.
- y. Yogendra Pratap Singh has been awarded Newton Bhabha PhD Placement Programme 2017-18 by Department of Biotechnology, Government of India and British Council, UK to carry out research work with Dr. Chris Holland at The University of Sheffield, UK for a period of 4 months (Oct 2018 to Jan 2019).
- z. Yogendra Pratap Singh has been awarded Raman-Charpak fellowship 2017-18 by Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA) to carry out research with Prof. Daniele Noel at the Institute for Regenerative Medicine and Biotherapy (IRMB, INSERM U1183), Montpellier, France for a period of 6-months (Feb to Aug 2018).

- aa. Janani G has been awarded “Fulbright Nehru Doctoral Research Fellow” (Aug 2018-May 2019), visited University of Pittsburgh for 9 months, award financed by United States India Education Foundation (USIEF) and Institute of International Education (IIE) New York.
- bb. Dimple Chouhan - Student Travel Assistance Fund awarded by IIT Guwahati for participation in ‘International conference on advances in polymer science and technology, Nepal’, Nov 01-03, 2018. (Cash award 20,000 INR).
- cc. Dimple Chouhan, Biman B. Mandal, “Smart and affordable wound dressings for treatment of chronic diabetic foot ulcers” presented the work in ‘Talent Search Contest on Innovative Research Ideas Leading to Entrepreneurial Venture in Biotechnology and Allied Areas’ organized by Guwahati Biotech Park, Assam, April 5th 2018. (4th prize with a cash award of 15,000 INR).
- dd. Team (Silk-Bots) led by Yogendra Pratap Singh, Bibhas Bhunia, Shreya Mehrotra, Souradeep Dey and Ashutosh Bandyopadhyay presented the work on “3D Bioprinting” in TechExpo 2018 organized during Techniche 2018 at IIT Guwahati during 30th August to 2nd September 2018. (Best project from IIT Guwahati).
- ee. Team members – Bibhas Bhunia, Shreya Mehrotra, Souradeep Dey and Ashutosh Bandyopadhyay, presented the model on “3D Bioprinted Human Tissues” at Research Conclave-2019, organized at IIT Guwahati during 14th to 17th March, 2019. (3rd Prize in Model Presentation).
- ff. Prerak Gupta, Katherine L. Lorentz, Darren G. Haskett, Eoghan M. Cunnane, Aneesh Ramaswamy, Justin S. Weinbaum, David A. Vorp, Biman B. Mandal. “In vitro and in vivo evaluation of bi-layered tubular silk scaffolds for vascular tissue engineering applications”. ICFNM-2019, IIT BHU, Varanasi, India; February 22-25, 2019. (1st prize in oral presentation)
- gg. Bibhas K. Bhunia, Biman B. Mandal, “Exploring in situ gelling and physicochemical behavior of bioresponsive silk hydrogel for nucleus pulposus tissue engineering”. Poster presented at International Conference on Functional Nanomaterial (ICFNM) 2019 organized by Department of Physics, Indian Institute of Technology (BHU) Varanasi, Feb 22-25, 2019. (Best Poster Award)
- hh. Prerak Gupta, Katherine L. Lorentz, Darren G. Haskett, Eoghan M. Cunnane, Aneesh Ramaswamy, Justin S. Weinbaum, David A. Vorp, Biman B. Mandal. “Functional in vivo performance of adipose stem cells seeded small diameter silk vascular grafts”. Research Conclave-2019, IIT Guwahati, India; March 14-17, 2019. (1st prize in poster presentation)
- ii. Shreya Mehrotra, Su Ryon Shin, Biman B. Mandal. “Evaluation of Silk as a Bioink Component for 3D Printing of Mechanically Robust Hierarchical Cardiac Tissues”. Research conclave- 2019, IIT-Guwahati, March 14-17, 2019. (2nd Prize in Poster Presentation).
- jj. Joseph Christakiran Moses, Triya Saha and Biman B. Mandal. "Silk based bioinks for 3D bioprinting of hierarchically relevant osteochondral interface" Research conclave-2019, IIT-Guwahati, March 14-17, 2019. (Awarded 3rd prize for poster presentation).
- kk. Dimple Chouhan, Biman B. Mandal, “Silk fibroin hydrogel as an affordable alternative solution for treatment of third degree burn wounds”, International conference on advances in polymer science and technology, Nepal, Nov 01-03, 2018. (1st prize in oral presentation).
- ll. Rachayeeta Deb, Ph D student, received 2<sup>nd</sup> prize for poster presentation for the poster presentation titled “Investigating the role of PEX25 in peroxisome biogenesis in *Saccharomyces cerevisiae*” at the Research Conclave, IIT Guwahati, India, March 14-17, 2019.
- mm. Mr. Arindam Sinharoy received the *BEST POSTER AWARD* (3<sup>rd</sup> prize) at 6<sup>th</sup> Bioprocessing India Conference. December 16-18, 2018, IIT Delhi, New Delhi, India.
- nn. Ms Tanushree Paul received the *BEST POSTER AWARD* (2<sup>nd</sup> prize) at Research Conclave 2019. March 14-17, 2019, Indian Institute of Technology Guwahati, Guwahati, India.
- oo. Ms Tanushree Paul received the *BEST POSTER AWARD* at International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-2018). December 6-7, 2018, National Institute of Technology, Rourkela, India.
- pp. Varun Saxena, PhD Scholar (2015 batch) has been awarded with CSC split site Scholarship for a tenure of 1 year under Dr. K. H. Aaron Lau at University of Strathclyde, UK.
- qq. Ghadir Nofal awarded with Third Prize for poster presentation at Research Conclave held at IIT Guwahati during 14<sup>th</sup>-17<sup>th</sup> March 2019.
- rr. Ruchika Goyal honored with ‘Best Poster Presentation Award’ at 20<sup>th</sup> Indo-US Flow Cytometry Symposium cum Workshop on ‘Applications of Flow Cytometry in Biotechnology’, Indian Institute of Technology Guwahati, Assam, 13<sup>th</sup> to 16<sup>th</sup> March 2019.



- ss. Ruchika Goyal received 'Certificate of Competence' for Hands on Training on Laboratory Animals for Handling, Care and Procedures, in Hands on Workshop on Handling and Care of Laboratory Animals, School of Life Sciences, Jawaharlal Nehru University, New Delhi, 4<sup>th</sup> to 7<sup>th</sup> February 2019.
- tt. Vivek Prakash awarded '3<sup>rd</sup> prize in Poster Presentation' during Research Conclave 2019 organized by IIT Guwahati.
- uu. Trishna Anand was honored with 'Best Poster Presentation Award' at 20<sup>th</sup> Indo-US Flow Cytometry Symposium cum Workshop on 'Applications of Flow Cytometry in Biotechnology', Indian Institute of Technology Guwahati, Assam, 13<sup>th</sup> to 16<sup>th</sup> March 2019
- vv. Trishna Anand was awarded '2<sup>nd</sup> prize in Poster Presentation' during Research Conclave 2019 organized by IIT Guwahati.
- ww. Renu Sharma was awarded '3<sup>rd</sup> prize in Poster Presentation' during Research Conclave 2019 organized by IIT Guwahati.
- xx. Jahnu Saikia: Graduate and Professional Student Council (GPSC) Travel Award to attend 63<sup>rd</sup> Annual Biophysical Society Meeting in Baltimore, Maryland.
- yy. GM Kumar, L Rangan\* (2019) 3,5-dihydroxy-4'7-dimethoxyflavone: Structural characterization, enzyme kinetics, and *in-silico* approach against melanogenic activity; Indian Plant Science Congress (IPSC'19), 23<sup>rd</sup> – 25<sup>th</sup> January 2019, pp 115. *Best Research Scholar Award*.
- zz. Mr. Ganesh N received the *BEST POSTER AWARD* at Bioprocessing INDIA (BPI 2018): Recent Advancements & Applications in Bioprocessing for Healthcare, Bioenergy and Environment, December 16-18, IIT Delhi, India.
- aaa. Mr. Subbi Rami Reddy Tadi received the *BEST POSTER AWARD* at Recent Advancements in Biochemical Engineering and Biotechnology (RABEB -2019), March 15-16, IIT (BHU) Varanasi, India
- bbb. Darshana Baruah, a Ph D student, received Best Poster Presentation Award for the poster presentation titled "Understanding the interactions of phospholipase C-1, secretory phospholipase A2, and Ca<sup>2+</sup> /H<sup>+</sup> exchanger in circadian regulated conditions, development, and cell survival in *Neurospora crassa*" by Baruah D and Tamuli R, at the Research Conclave, IIT Guwahati, India, March 14-17, 2019.
- ccc. Ms. Chandrima Dey (PhD student) has been awarded a travel grant for "Training program in Generation and Maintenance of Human iPS cells" scheduled from 7<sup>th</sup> to 13<sup>th</sup> November, 2018 organized by "The Accelerating the application of Stem cell technology in Human Diseases (ASHD)" program supported by Department of Biotechnology (DBT), Government of India and The Centre for iPS Cell Research and Application (CiRA), Kyoto University, Japan.
- ddd. Ms. Gloria Narayan (PhD student) was selected for a workshop (partially funded) on "Human induced pluripotent stem cells (iPSCs)" organized by Centre for Stem Cell Research, Christian Medical College Campus, Bagayam, Vellore from 18<sup>th</sup> to 23<sup>rd</sup> February, 2019.
- eee. Ms. Poulomi Adhikari (MTech student) was selected for a workshop (partially funded) on "Human induced pluripotent stem cells (iPSCs)" organized by Centre for Stem Cell Research, Christian Medical College Campus, Bagayam, Vellore from 18<sup>th</sup> to 23<sup>rd</sup> February, 2019.
- fff. Ruchira Bajpai a PhD student, under the supervision of Prof. Rakhi Chaturvedi, received Best Interactive Poster Presentation Award on title "Plant regeneration via repetitive secondary embryogenesis from androgenic embryos in suspension cultures of *Camellia assamica* ssp. *assamica* and clonal fidelity assessment using RAPD marker" at an International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), held at IIT Guwahati, February 11-13, 2019
- ggg. IMNANARO an M.Tech student, under the supervision of Prof. Rakhi Chaturvedi, received Best Interactive Poster Presentation Award on title 'Exploring totipotency in *Musa balbisiana* (Bhimkol) as a method for development of clonally propagated viable plants' at the International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), held at IIT Guwahati, February 14-16, 2019
- hhh. IMNANARO, an M.Tech student, under the supervision of Prof. Rakhi Chaturvedi, received Best Poster Presentation Award on title 'In vitro micropropagation and clonal fidelity assessment of plantlets in *Musa* spp. at the Research Conclave, IIT Guwahati, India, March 14-17, 2019.
- iii. Ms. Bethsebie Laldusaki Sailo, Ms. Shabnam Bano and Ms. Sosmitha Girisa were selected for attending the 6th AIST International Imaging Workshop held by DAICENTER at Biomedical Research Institute, Tsukuba Science City, Japan from January 20-27, 2019.
- jjj. Ms. Amrita Khwairakpam Devi, Mr. Kishore Banik and Mr. Krishan Kumar Thakur were chosen to join an invitation program carried out under the framework of Japan Asia Youth Exchange program in Science (Sakura Exchange Program in Science) administered by Japan Science and Technology Agency. They have also attended 8 days workshop on "Introduction to basic and advanced biomedical approaches for enhancing QOL in ageing societies" at National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, October 14-21, 2018.

- kkk. Ms. Harsha Choudhary got selected for 'DBT STAR training program' for an advanced training in Bioimaging and Biotechnology at DBT-AIST International Laboratory for Advanced Biomedicine at Biomedical Research Institute, Tsukuba, Japan from 18<sup>th</sup> June-10<sup>th</sup> September, 2018.
- lll. Ms. Sosmitha Girisa got selected for 'DBT STAR training program' for an advanced training in Bio-imaging and Biotechnology at DBT-AIST International Laboratory for Advanced Biomedicine (DAILAB), National Institute of Advanced Science and Technology (AIST) from 8th April- 5th July, 2019.
- mmm. Ms. Amrita Khwairakpam Devi received the 'Best Oral Presentation award' in the workshop on "Introduction to basic and advanced biomedical approaches for enhancing QOL in aging societies", held at Biomedical Research Institute, AIST, Tsukuba Science City, Japan; October 14-21, 2018.
- nnn. Ms. Amrita Khwairakpam Devi received the 'Best oral presentation award' in the workshop on "Recent Advances in Cancer Research" organized by Department of Biosciences and Bioengineering, IIT Guwahati, March 26-28, 2019.
- ooo. Ms. Amrita Khwairakpam Devi received 'Second Best poster presentation award' for the paper at International Conference on Nutraceuticals and Chronic Diseases (INCD-2018), Swami Rama Himalayan University, Rishikesh, Dehradun, September 14-16, 2018.
- ppp. Ms. Bethsiebe L Sailo received "Best Oral Presentation Award" at the Indo-Japan Symposium on "Recent Advances in Biomedical Research (RABR-2019)" jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, March 26-27, 2019.
- qqq. Ms. Bethsiebe L Sailo received "First Prize In Poster Presentation Category" at the National conference on "Ethno-medicine and Traditional Health Practices In North-East Region of India" organized by National Institute of Pharmaceutical Education and Research (NIPER) Guwahati, Assam, India, 25<sup>th</sup> August 2018.
- rrr. Ms. Devivasha Bordoloi received 'Best Oral Presentation Award' at the Indo-Japan Symposium on "Recent advances in Biomedical Research- 2019 (RABR-2019)" jointly organized by Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati and National Institute for Advanced Industrial Science and Technology, Tsukuba, Japan, March, 2019.
- sss. Ms. Devivasha Bordoloi got selected to participate in DAILAB (DBT AIST International Laboratory for Advanced Biomedicine) CAFÉ PLUS (Classroom for Advanced and Frontier Education Presentation Learning for YOUng Scholars) program organized by DICENTER.
- ttt. Ms. Devivasha Bordoloi received 'Second prize in Oral Presentation' at Research Conclave'19 organized by Students Academic Board, Indian Institute of Technology Guwahati, March, 2019.
- uuu. Ms. Harsha Choudhary received 'Best Poster Award' at the Indo-Japan Symposium on 'Recent Advances in Biomedical Research (RABR-2019)' jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, March 26-27, 2019.
- vvv. Mr. Kishore Banik received 'Best Poster Award' for the paper at the Indo-Japan Symposium on "Recent Advances in Biomedical Research (RABR-2019)" jointly organized by Indian Institute of Technology Guwahati and National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, March 26-27, 2019.
- www. Mr. Kishore Banik received "Second Prize In Poster Presentation Category" at Ethno-medicine and Traditional Health Practices In North-East Region of India" organized by National Institute of Pharmaceutical Education and Research (NIPER) Guwahati, Assam, India, 25th August, 2018.
- xxx. Mr. Krishan Kumar Thakur received 'Best Poster Award' at "Recent Advances in Cancer Research (RACR-2019)", organized by Department of Biosciences and Bioengineering, IIT Guwahati, 28<sup>th</sup> March, 2019.
- yyy. Mr. Vikkurthi Rajesh received the 'Best oral presentation award' in the workshop on "Recent Advances in Cancer Research" organized by Department of Biosciences and Bioengineering, IIT Guwahati, March 26-28, 2019.
- zzz. Muthuvel J (PhD student) got the first prize for best poster presentation on his PhD thesis work "Physiological and molecular responses to boron deficiency influenced by genotypic variation in Indian mustard" in the International Conference on Trends in Plant Sciences and Agrobiotechnology (*ICTPA 2019*) held at IIT Guwahati during Feb
- aaaa. Marak K CN, Baruah D and Ngiimei SD; Attended a Workshop cum lecture series on "Skill Development in Molecular Strategies for Understanding Biodiversity and Human Diseases". Bioinformatics Centre, NEHU, Shillong (NEHU- CSIR IGIB collaboration) February 28 – March 2, 2019.
- bbbb. Shokeen S and Bania NM, Attended a Symposium on Biomolecular Interaction Techniques National Centre for Biological Sciences, Bangalore, February 18-19, 2019.
- cccc. Roy, A, Participated in the Xth Bangalore Microscopy Course 2018, National Centre for Biological Sciences (NCBS), Bangalore, India, September 16-23, 2018.

## 17. Any Other (Special Mention)

1. Dr. Pranjal Chandra:  
Both print and digital media coverage for the work on “Paper-Based Miniaturized Immunosensor for Naked Eye ALP Detection Based on Digital Image Colorimetry Integrated with Smartphone” reported in more than 65 national and international global news / media agencies. The article also featured in two highly viewed news programs including Science Monitor and Gyan-Vigyan, aired on National broadcaster “DD science” and “Rajya Sabha Television”, Govt. Of India. Few selected news articles and their titles are listed below.
  - a. Indian Science Wire ( Vigyan Prasar: An Autonomous Organization, Under the Department of Science and Technology, Govt. of India): A paper sensor that can detect freshness of milk
  - b. The Hindu Businessline (A reputed and widely read print media across the country): A paper sensor that can detect freshness of milk.
  - c. Science Trends, USA (Reputed Science news agency): A Disposable Biosensing Device for Naked-Eye Detection of Milk Pasteurization Indicator.
  - d. FSSAI, India (Food safety and standards authority, India): The news appeared in the official social networking page “IIT Guwahati researcher develop ALP testing kit for milk analysis”
  - e. Asia Pasic News Agency, Singapore (Global science news agency): When milk turns sour: A miniaturised paper-based kit for milk freshness analysis by the determination of alkaline phosphatase levels.
  - f. Nature India (Global science news agency): Filter-paper-based biosensor for testing milk quality.
  - g. India Science Journal: IIT scientists develop paper sensor that can detect freshness of milk.
  - h. NEWS Highlights, India’s Latest News, Embassy of India in Jakarta, Malaysia: Paper sensor to detect freshness of milk.
  - i. Cowsmopolitan Dairy Magazine (Funded by Government of Canada): Paper sensor created to ensure freshness of milk.
2. Prof. Arun Goyal:  
PhD Thesis Evaluated
  - a. Kamalpreet Kaur, Biotechnological strategies for conversion of lignocellulosics into ethanol and biodiesel, Department of Microbiology, Guru Nanak Dev University Amritsar, May 2018.
  - b. Sampurna Datta, Characterizing the role of Nitric oxide and reactive nitrogen species in cellular autophagy, Department of Biochemistry University of Calcutta, Sep 2018.
  - c. Thota Sai Praneeth, Hydrolysis of groundnut shell to sugars and biomass-derived carbon materials for renewable energy applications, Department of Chemistry, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, AP. Oct 2018.
  - d. Rohit Rai, Bioprospecting fungal strains for diverse and catalytically efficient lignocellulolytic glycosyl hydrolases and auxiliary enzymes, Department of Microbiology, Guru Nanak Dev University Amritsar, Sep 2018
3. Dr. Ajaikumar B. Kunnumakkara
  - a. Was appointed as a Visiting Scientist at AIST, Japan.
  - b. is the Executive Secretary of Society for Nutraceuticals and Chronic Diseases.
  - c. is the Joint Secretary of Society for Translational Cancer Research.
  - d. Dr. Ajaikumar B. Kunnumakkara: Ph.D thesis examiner (Pondicherry University, Banaras Hindu University, Sri Ramachandra Medical College, Madras University, Gandhigram University & Gauhati University).
4. Dr. Cota Navin Gupta: PhD Thesis Evaluated
  - a. R. Dhanush, Studies of Motor sequence learning using Finger Thumb opposition movements, Indian Institute of Technology, Madras, 2019.

## 18. Faculty Members (In alphabetical order according to surname)

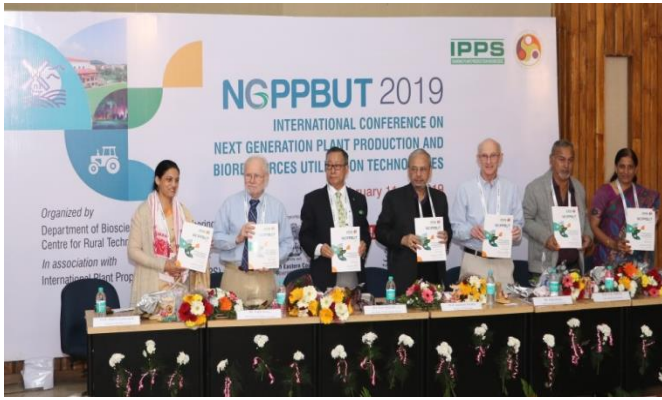
Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest	Date of joining (Not Internal Promotion) for the faculty members who joined during the reporting year
1	B. Anand	Indian Institute of Technology Kanpur, Kanpur	Associate Professor	Structural Biology, Bioinformatics & Computational Biology, RNA Biology, Molecular Evolution and Synthetic Biology	25-02-2010
2	Bora Utpal	Institute of Genomics and Integrative Biology, Delhi	Professor	Biomedical Engineering, Biodiversity and Bio-entrepreneurship	22-12-2004
3	Bose Biplab	All India Institute of Medical Sciences	Associate Professor	Systems Biology, Cell signaling, Recombinant therapeutics	30-06-2006
4	Chanda Souptick	Indian Institute of Technology Kharagpur, India	Assistant Professor	Biomechanics, implant design and optimization, surgical simulations and soft computing	02-05-2017
5	Chandra Pranjali	Pusan National University, Busan, South Korea	Assistant Professor and Ramanujan Fellow	Clinical Bio-sensors, Paper-based bio-sensors, Nano-medicine, Material engineering, Microfluidics and Nanomachines.	21-07-2015
6	Chaturvedi Rakhi	University of Delhi, Delhi	Professor and Dean, Alumni and External Relations (AER)	Plant Cell, Tissue & Organ Culture, Protoplast Isolation and Regeneration, Isolation, Purification and Characterization of Plant Secondary Metabolites	17-06-2004
7	Chaudhary Nitin	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Associate Professor	Peptide self-assembly and amyloid aggregates, Peptide-membrane interactions Curvature inducing proteins	28-03-2011
8	Das Debasish	Indian Institute of Technology Bombay	Professor	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel	17-02-2010
9	Dasu V. Venkata	Indian Institute of Technology Madras	Professor	Bioprocess Development, Metabolic Engineering	22-07-2004
10	Dubey Vikash Kumar	Banaras Hindu University	Professor	Biochemistry, Molecular Parasitology, Drug Discovery	25-09-2006
11	Ghosh Siddhartha S.	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Cancer Gene Therapy, Nanobiotechnology, Molecular Pathways Involving Drug Resistance	10-03-2003
12	Goswami Pranab	Gauhati University	Professor (HAG)	Biosensors and Biofuel cells	16-12-2002
13	Goyal Arun	Indian Institute of Technology Kanpur, Kanpur, India	Professor and Former Head	Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes and other industrially important microbial enzymes	25-08-2003
14	Gupta Navin	Brain Computer Interfaces and Neural Engineering (BCI-NE)	Assistant Professor	Imaging Genetics, Biomedical Signal/Image Processing, Multimodal Analysis, Computer	23-01-2017

		Group, University of Essex		Aided Diagnosis, Biomedical Instrumentation	
15	Jaganathan Bithiah G.	Johann Wolfgang Goethe University, Frankfurt, Germany	Associate Professor	Stem Cell Biology, Cancer signaling	15-01-2009
16	Kanaujia Shankar Prasad	Indian Institute of Science Bangalore	Associate Professor	Structural Biology and Bioinformatics Studies	23-04-2012
17	Kumar Manish	University of Maryland, College Park, USA	Associate Professor	Molecular interaction of host-pathogen-vector of infectious diseases	25-06-2012
18	Kumar Sachin	University of Maryland, College Park, USA	Associate Professor	Molecular biology of paramyxoviruses	24-04-2012
19	Kunnumakkar a A. B.	University of Calicut, Kerala	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	01-08-2012
20	Limaye Anil Mukund	Indian Institute of Science Bangalore	Associate Professor	Hormonal regulation of gene expression	17-11-2008
21	Maiti Soumen Kumar	Indian Institute of Technology Bombay	Assistant Professor	Bioprocess Engg, biofuel	18-03-2014
22	Mandal Biman B	Indian Institute of Technology Kharagpur	Associate Professor	Cell based tissue engineering, Biomaterials, Stem cells, Drug delivery systems	31-05-2011
23	Nagotu Shirisha	University of Groningen, Groningen, The Netherlands	Assistant Professor	Organelle biology and Inter-organelle communication, Cellular Ageing, Membrane fission and fusion	23-07-2015
24	Pakshirajan Kannan	Indian Institute of Technology Madras	Professor	Environmental Technology	12-07-2004
25	Pandey Lalit Mohan	Indian Institute of Technology Delhi	Associate Professor	Surface and interfacial science particularly in the area of Bio-interfaces and Biomaterials Protein's adsorption and aggregation, Environmental Biotechnology	19-03-2014
26	Patra Sanjukta	Central Food Technological Research Institute, Mysore	Professor	Enzymes - applications in pharma and food industry	01-10-2007
27	Ramesh Aiyagari	CFTRI, Mysore (Degree awarded by Mysore University)	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors	06-01-2003
28	Ramakrishnan Vibin	Indian Institute of Technology Bombay	Associate Professor	Computational Biology, Bioinformatics, Biophysics, Bio-Organic Chemistry, Bio-nanotechnology	12-07-2011
29	Rangan Latha	University of Madras (Research work carried at IRRI, Manila)	Professor	Molecular systematics, Biofuel, IPR	29-11-2004
30	Sahoo Lingaraj	Maharshi Dayanand University, Rohtak, India	Professor	Genetic engineering and functional genomics of plants	23-12-2002
31	Saini Gurvinder Kaur	Andhra University, Visakhapatnam	Professor	Fungal Biotechnology, Biological Control, DNA fingerprinting and Transformation studies, Studies on extracellular enzymes and	17-12-2002

				toxic metabolite production, Development of a potent biopesticide	
32	Satpati Priyadarshi	Indian Institute of Science Bangalore	Assistant Professor	Classical molecular dynamics (MD) free energy simulation, Electronic Structure calculations that predict the structure, properties, reactivity, bonding etc. of small molecules	01-06-2015
33	Selvaraju Narayanasamy	Indian Institute of Technology Madras, India	Assistant Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering	24-04-2017
34	Senthilkumar S	Central Leather Research Institute, Chennai	Associate Professor	Biocalorimetry, BioPAT, Real-time monitoring and control of bioprocess systems	15-06-2011
35	Singh Kusum K	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Post-transcriptional gene regulation by RNA binding Proteins	13-07-2015
36	Swaminathan Rajaram	Tata Institute of Fundamental Research, Mumbai	Professor	Intrinsically Disordered Proteins, Protein Aggregation	16-04-1999
37	Tamuli Ranjan	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Professor	Calcium signaling, Genetics, DNA repair	26-12-2008
38	Rajkumar P. Thummer	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Engineering and Regenerative Medicine	23-07-2015
39	Trivedi Vishal	Central Drug Research Institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum	13-07-2009



Photographs of 20th INDO-US flow cytometry symposium cum workshop on "Applications of Flow Cytometry in Biotechnology", IIT Guwahati, 13-16 March 2019.



**Inaugural Session of NGPPBUT 2019 & NGPPBUT 2019: Field Trip to Horticulture**



**Group photo during the valedictory Function of NGPPBUT 2019 (Feb 11-13, 2019)**



**Group photo during the valedictory function of Vigyan Jyoti program (Vigyan Jyoti Program August 29-September 14, 2018)**





Photographs of participants (left) and invited foreign speakers (right) (Dr. KH Lau 2<sup>nd</sup> from left and Dr. Aruna Ivaturi in the center)



Prof. Utpal Bora Presenting his talk "Aptamers in India" at University of Bordeaux



Prof. Utpal Bora with Prof. Jean Jaques Toulmé (in the middle) at the University of Bordeaux