



भारतीय प्रौद्योगिकी संस्थान गुवाहाटी

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

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ANNUAL REPORT

2021-2022



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Indian Institute of Technology Guwahati

Guwahati 781039, INDIA

Indian Institute of Technology Guwahati was established in the year 1994 and has completed 25 years of glorious existence. IIT Guwahati is the only academic institution in India that occupied a place among the top 100 world universities – under 50 years of age – published by London based Times Higher Education (THE) in the year 2014 and continues to do this even today in various International Rankings. In the recently announced QS Ranking 2023 IIT Guwahati has secured 37th rank globally (41st in 2022) in the 'Research Citations Per Faculty' category. The Institute has gained rank =384 in World University Ranking globally. This marks an improvement of 11 places by the IIT Guwahati, which was ranked 395 in the 2022 edition of the QS World University Rankings. IIT Guwahati has retained the 7th rank among the best engineering institutions of the country in the 'India Rankings 2021', achieved rank of 8th in the 'Overall' category this year (2021) and in the newly introduced 'Research' Category achieved 9th rank, declared by National Institutional Ranking Framework (NIRF). IIT Guwahati also ranked 3rd in the category of 'Residential University - AICTE' in the third edition of annual 'Swachh Campus Ranking 2019' for higher educational institutions organised by MoE. IIT Guwahati has one of the most beautiful educational campuses in the country that provides an ideal setting for learning and research. It is strongly believed that IIT Guwahati has been able to fulfill the aspirations of people of the North East region to a larger extent, since its birth was through Assam Accord signed in 1985. The institute is fully residential for the students, enriched with world-class facilities and is empowered with a young and dynamic faculty and staff. The vision of IITG is to become a preferred destination of seeking best science, engineering and technology education and to be recognized internationally for excellence in research, pursuit for developmental activities and deep concern for students' care. An important feature of academic excellence is the continuous replenishment of ideas and creation of new areas of research and innovation, attracting organizations seeking collaboration in education, research and development as well as product development. In a fast changing world, keeping pace with the ever-increasing number of areas of research and application poses a major challenge to this Institute. IIT Guwahati is trying to augment the research initiatives in all the areas of Sciences and Technology in general and in Nano-science & technology, Bioengineering and Data sciences in particular. Initiation of research in some of the cutting edge areas of Biological sciences namely Genomics, Developmental Biology, Health Care and Bioinformatics, Flexible Electronics, Advanced Functional Materials, Sustainable Polymers, Water Resources and Management is a testament to the aspiration of IIT Guwahati to excel in research. The Scope of Environmental Science and Data science is inherently interdisciplinary and expanding rapidly. Recognizing the challenges for environmentally sustainable development, IIT Guwahati emphasizes an interdisciplinary research paradigm in Energy and Environment. There is a pressing need to integrate environmental engineering and sciences across various disciplines to solve problems that have important societal impact. It is indeed a challenging task to match the ever-increasing need for funds and providing infrastructure for these emerging and futuristic research areas, and IIT Guwahati has resolutely taken this challenge in its stride.

Further, IIT Guwahati has set goals to be recognized as one of the world's top 150 Institutes/Universities within the next five years. This will include attracting external grants and research funding at the level of internationally well ranked Institutes, to furnish state-of-the-art facilities for all programs, attract International faculty and students to spend time at IIT Guwahati, enhance the perception globally, fostering academic excellence and freedom while maintaining rigorous academic standards and to become a preferred destination for transformative educational experience.

Growth

Particulars	2020-21	2021-22	Growth Percentage
Student Strength	6959	7430	6.77
Faculty Strength	410	435	6.10
R &D Funds Received (In crores)	291.30	478.55	64.28
Total Research Publications	1969	2073	5.28

Major R&D Project Received:

Sl. No.	Principal Investigator	Project Title	Duration	Sanction Value	Funding Agency
01	HoC, Nanotechnology	SWASTHA Smart Wearable Advanced nano Sensing Technologies in Healthcare ASICs	48	420000000	DEITY
02	HoD, Design	M. Des Programme / Executive Development Programme in Electronics Product Design	60	180211000	MIETY
03	Dipankar Bandyopadhyay	Centre for Excellence in Disruptive Innovations and Product Development for Affordable Rural Healthcare	60	150694315	ICMR
04	Dipankar Bandyopadhyay	Indian Nanoelectronics Users Programme - Idea to Innovation (INUP-i2i)	36	92300000	DEITY

05	Vimal katiyar	DSIR-Common Research & Technology Development Hub (CRTDH) in the area of New materials/ Chemical Process under DSIR-BIRD-CRF-CRTDH Programme	60	87000000	DSIR
06	Arun Goyal	DBT PAN IIT Centre for Bioenergy: Phase II	60	21932720	DBT
07	Sanasam Ranbir Singh	Unified platform for Social Media Content Analytics	36	17650000	DEITY
08	Siddhartha Sankar Ghosh	Mechanistic investigation on EMT targeted nanotherapeutics for drug-resistant triple-negative breast cancer cells	36	14787600	DBT
09	Sajan Kapil	Multi-Axis Multi-Material Wire Arc Additive Manufacturing	36	13252270	DST
10	Senthilmurugan Subbiah	Study on the effect of H ₂ blending in Natural Gas	13	12839223	OIL India Ltd

MAJOR NATIONAL AND INTERNATIONAL CONFERENCES ORGANIZED

Sl. No.	NAME OF CONFERENCE / SEMINAR/WORKSHOP	Department/ Centre	DATE
1	MACRO 2020	Chemical	December 2021
2	Advances in Algal Research 2021	Energy	November 2021
3	7 th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN 2021)	Nanotechnology	December 2021
4	28 th CRSI National Symposium in Chemistry (NSC-28) and 15 th CRSI-RSC Joint Symposium	Chemistry	March 2022
5	The 18 th IEEE Council International Conference (INDICON) 2021	Computer Science	December 2021

Sl. No.	NAME OF CONFERENCE / SEMINAR/WORKSHOP	Department/ Centre	DATE
6	Vibration Engineering and Technology of Machinery VETOMAC -2021	Mechanical	December 2021
7	Impact of Innovation and opportunities for agritech startups in NE region	TIC	June 2021
8	Webinar on full Spectrum flow Cytometry	Bioscience & Bioengineering	August 2021
9	Antaaya 2021 : Design Education Symposium -Online	Design	August 2021
10	Indian International Conference on Air Quality Management (ICCAQM 2021) AND Winter School	Civil	December 2021
11	Gramotthan 2021	Disaster Management & Research	December 2021
12	The Indian National Army and the Hill Tribes of Northeast India in India's Freedom Movement	Humanities & Social Sciences	February 2022
13	International Conference of the Tibeto-Burman Linguistics Association of North East India	Linguistic Science & Technology	March 2022
14	Science Communication 2022: The Art of Story Telling	Environment	January 2022



Annual Report 2021-22: A Quick Look

Department/Centre/School	
Academic Department	11
Academic Centre	05
Schools	04
Service Centre	05

Students Admitted	
Preparatory	43
BTech/BDes	981
MTech/MDes	585
MSc/MA	223
PhD	435
MS (R)	34
Dual Degree	07
Total	2308

Student Strength	
Preparatory	43
BTech/BDes	3596
MTech/MDes	1121
MSc/MA	436
PhD	2147
MS (R)	55
Dual Degree	32
Total	7430

Number of degree awarded in 23 rd Convocation	
BTech/BDes	649
MTech/MDes	322
MSc	136
MA	51
MS (R)	5
PhD/Dual Degree	175
Total	1338

Staff Strength	
Academic Staff/ Faculty	435
Technical Staff (Group A)	53
Administrative Staff (Group A)	40
Technical & Administrative Staff (Group B&C)	409
Total	942

Research Papers	
Research Publications	2073
Total	2073

Grants (In Crores)	
Revenue	315.97
Capital	45
Total	360.97

Consultancy Projects	
New Projects	195
Total	195

Sponsored Research Projects	
New Projects	322
Total	322

CONTENTS

PART I

Organisation
IIT Council
Board of Governors
Senate
Finance Committee
Building & Works Committee
Executive Summary

PART II

ACADEMIC DEPARTMENTS

Biosciences and Bioengineering
Chemical Engineering
Chemistry
Civil Engineering
Computer Science and Engineering
Design
Electronics and Electrical Engineering
Humanities and Social Sciences
Mathematics
Mechanical Engineering
Physics

ACADEMIC CENTRES

Centre for Disaster Management and Research
Centre for the Environment
Centre for Indian Knowledge Systems
Centre for Linguistic Science and Technology
Centre for Nanotechnology
Centre for Sustainable Polymers

EXTRAMURAL CENTRES

Centre for Education Technology
Central Instruments Facility
Lakshminath Bezbaroa Central Library
Centre for Career Development

SCHOOLS

School of Agro and Rural Technology
Mehta Family School of Data Science and Artificial Intelligence
School of Energy Science and Engineering
School of Health Science and Technology

PART III

RESEARCH PUBLICATIONS

Research Publications

Books

Book Chapters

DETAILS OF RESEARCH AND DEVELOPMENT

PART IV

Status Report related to Special Recruitment Drive

Administrative and Technical Staffs (Group A)

Degree Awarded

Progress of Construction Work

Summary of Institute Accounts

PART I

Organisation

IIT Council

Board of Governors

Senate

Finance Committee

Building & Works Committee

Executive Summary



ORGANISATION

Chairman, Council of IITs

Union Minister for Ministry of Education

Chairman, Board of Governors

Dr. Rajiv I. Modi

Director

Prof. T. G. Sitharam

Dy. Director

Prof. Sashindra Kr. Kakoty

Dean, Academic Affairs

Prof. Chitrlekha Mahanta

Dean, Faculty Affairs

Prof. T. Punniyamurthy

Dean, Research & Development

Prof. Vimal Katiyar

Dean, Students' Affairs

Prof. V. Venkata Dasu

Dean, Infrastructure Planning & Management

Prof. Sukumar Nandi (up to 24.02.2022)

Prof. M. K. Bhuyan (from 24.02.2022)

Dean, Alumni and External Relations

Prof. Mihir Kumar Purkait

Dean, Outreach Education Programme

Prof. A. S. Achalkumar (from 16.03.2021)

Dean, Public Relations, Branding and Ranking

Prof. P. K. Iyer

Dean, Industrial Interactions & Special Initiatives

Prof. G. Krishnamoorthy

Dean, Resource Generation and Finance

Prof. Sajal Kanti Deb (up to 01.09.2021)

Prof. Rajib Kr. Bhattacharjya (from 01.09.2021)

Registrar

Dr. Suresh S. M. (up to 16.08.2021)

Registrar (Interim)

Prof. A. Srinivasan (from 16.08.2021)

Head, Department of Biosciences and Bioengineering

Prof. Latha Rangan (up to 28.12.2021)

Prof. Rakhi Chaturvedi (from 29.12.2021)

Head, Department of Chemical Engineering

Prof. Anugrah Singh (up to 04.04.2022)

Prof. Kaustubha Mohanty (from 05.04.2022)

Head, Department of Chemistry

Prof. Gopal Das

Head, Department of Civil Engineering

Prof. Sharad Gokhale

Head, Computer Science & Engineering

Prof. J. K. Deka

Head, Department of Design
Dr. D Uday Kumar (up to 17.03.2022)
Dr. Sougata Karmakar (from
17.03.2022)

**Head, Department of Electronics &
Electrical Engineering**
Prof. Roy P. Paily

**Head, Department of Humanities &
Social Sciences**
Prof. Sukanya Sharma

Head, Department of Mathematics
Prof. Kalpesh Kapoor

**Head, Department of Mechanical
Engineering**
Prof. S. Senthilvelan (up to
18.07.2021)
Prof. K. S. R. K. Murthy (from
19.07.2021)

Head, Department of Physics
Prof. Perumal Alagarsamy

**Head, Computer and
Communication Centre**
Prof. Ratnajit Bhattacharjee

**Head, Centre for Disaster
Management and Research**
Dr. Sudip Mitra

**Head, Centre for Intelligent Cyber-
Physical Systems**
Prof. S. K. Dwivedi

**Head, Centre for Central
Instruments Facility**
Prof. G. Pugazhenth

Head, Centre for Environment
Prof. Utpal Bora

**Head, Centre for Educational
Technology**
Prof. Hemant B. Kaushik

Head, Centre for Nanotechnology
Prof. Akshi Kumar A. S. (from
01.04.2022)

**Head, Centre for Indian Knowledge
System**
Prof. Uday Shanker Dixit (from
24.04.2021)

**Head, Centre for Linguistic Science
and Technology**
Prof. Rohit Sinha

**Head, Centre for Career
Development**
Prof. Abhishek Kumar

Head, Centre for Creativity
Dr. Manoj Majhi

**Head, Centre for Sustainable
Polymers**
Prof. Vimal Katiyar (up to
16.03.2022)
Prof. Amit Kumar (from 17.03.2022)

**Head, School of Agro and Rural
Technology**

Prof. Sanjukta Patra

Head, School of Business

Prof. L. Boeing Singh (from
08.11.2021)

**Head, Mehta Family School of Data
Science & AI**

Prof. Ratnajit Bhattacharjee (from
11.03.2021)

**Head, School of Health Science &
Technology**

Prof. Dipankar Bandopadhyay
(from 26.04.2021)

**Head, School of Energy Science
and Engineering**

Prof. Kaustubha Mohanty



IIT COUNCIL

Minister in charge of Technical Education in the Central Government (Ex-Officio)	Chairman
Chairman of Board of Governors of all Indian Institutes of Technology (Ex-Officio)	Member
Director of all Indian Institutes of Technology (Ex-Officio)	Member
Chairman, University Grants Commission (Ex-Officio)	Member
Director General, Council of Scientific and Industrial Research (Ex-Officio)	Member
Chairman, Indian Institute of Science, Bangalore (Ex-Officio)	Member
Director, Indian Institute of Science (Ex-Officio)	Member
Three nominees of the Central Government	Member
To represent the Ministry concerned with Technical Education	Member
To represent the Ministry of Finance	Member
To represent any other Ministry	Member
Nominee of the All India Council for Technical Education (AICTE)	Member
Nominees of the Visitor (minimum 3 and maximum 5)	Member
Three Members of Parliament (two from Lok Sabha and one from Rajya Sabha)	Member
Secretary to the Council	Secretary

BOARD OF GOVERNORS

Dr. Rajiv I. Modi

Chairman

Chairman & Managing Director
Cadila Pharmaceuticals Limited
Cadila Corporation Campus,
Sarkhej-Dholka Road, Bhat,
Ahmedabad – 382 210, Gujarat

Prof. T. G. Sitharam

Member, ex-officio

Director, IIT Guwahati

Dr. Prahlada Rama Rao

**Member Nominees of the IIT
Council**

Pro Chancellor S-VYASA , Director, Centre
for Energy Research
Former Distinguished Scientist & CC R&D
DRDO
Former Vice Chancellor, DIAT(DU), Pune.
DRDO, Min of Defence
Adjunct Faculty, Dept. of Management IISc
and NIAS, Bengaluru. Member, IISc Court

Prof. S. K. Srivastav

Member

Vice Chancellor
North Eastern Hill University
Shillong – 793 022

Prof. Varadraj B. Bapat

Member

Faculty in Accounting and Finance
SIM School of Management
Indian Institute of Technology Bombay
Powai, Mumbai – 400 076

Sh. Rakesh Ranjan (from 09.07.2021)

Member

Additional Secretary (TE)
Ministry of HRD, Shastri Bhawan
New Delhi

Commissioner & Secretary to the Govt. of Assam

**Member Nominee from Govt. of
Assam**

Higher Education (Technical) Department
Dispur, Guwahati – 781 006

Er. Vikeduosie Kehie (up to 08.08.2021)

Retired Engineer-in Chief (NPWD)
House No. – 174
Kohima Science College Road
JOTSOMA, Kohima, Nagaland

Member **Nominee from North
Eastern Region**

Shri Neel Prakash Chhetri (from 09.08.2021)

Proprietor, SIBIN Group
Gangtok, Sikkim-737 101

Prof. Diganta Goswami (up to 31.12.2021)

Department of Computer Science &
Engineering
IIT Guwahati
Guwahati 781039

Member **Nominees of the
Senate**

Prof. Tamal Banerjee (from 01.01.2022)

Dept. of Chemical Engineering
IIT Guwahati 781039

Prof. Pranab Goswami

Dept. of Biosciences and Bioengineering
IIT Guwahati 781039

Member

Dr. Suresh S. M. (up to 16.08.2021)

Registrar, IIT Guwahati

Secretary (Ex-officio)

Prof. Ananthkrishnan Srinivasan (from
16.08.2021)

Registrar (Interim), IIT Guwahati

Prof. Sashindra Kumar Kakoty

Deputy Director
IIT Guwahati

Special Invitee

E T A N E S	The Director	Chairman (Ex-Officio)
	The Deputy Director	Member (Ex- Officio)
	All Professors of the Institute	Member
	Three persons, not being employees of the Institute, to be nominated by the Chairman, BOG In consultation with the Director, from among educationists of repute, one each from the fields of Sciences, Engineering and humanities	Board Nominee
	Dr. NARAHARI SASTRY GARIKAPATI	Member
	Director of the North East Institute of Science and Technology Jorhat, Assam	
	Prof. PRADYUT KUMAR GOSWAMI	Member
	former Vice Chancellor of Assam Science and Technology University former Vice Chancellor University of Science & Technology, Meghalaya	
	Prof. DIPAK KUMAR SHARMA	Member
	Vice Chancellor, Kumar Bhaskar Varma Sanskrit and Ancient studies University, Nalbari, Assam	
Head of the Academic Departments, Academic Centres and Academic Schools	Member	
Librarian of the Institute	Member	
Chairman, Hostel Affairs Board	Member	
Registrar of the Institute (Ex-Officio)	Secretary	

FINANCE COMMITTEE

DR. RAJIV I. MODI Chairman & Managing Director Cadila Pharmaceuticals Limited Cadila Corporation Campus Sarkhej-Dhokla Road, Bhat Ahmedabad – 382210 Gujarat	Chairman
PROF. T. G. SITHARAM Director, IIT Guwahati Guwahati-781039	Member
DIRECTOR (IITs) Dept. of Higher Education MHRD, Shastri Bhawan New Delhi-110 115	Member
DIRECTOR (FINANCE) Integrated Finance Division MHRD, DoHE IF-I Section, Shastri Bhawan New Delhi-110 115	Member
PROF. GAUTAM BARUA Director, IIIT Guwahati IT Park Street Bongora Guwahati-781015	Member
DR. U. S. N. Murty Director National Institute of Pharmaceutical Education and Research Guwahati (NIPERG), Sila Katamur (Halugurisuk) P.O.: Changsari, Guwahati-781101	Member (up to 28.12.2021)
DR. BIREN DAS Registrar, Tezpur University, Napaam, Tezpur-784028	Member (from 28.12.2021)
PROF. S. K. DEB Professor, Dept. of CE & Dean, Resource Generation and Finance IIT Guwahati, Guwahati-781039	Special Invitee (up to 01.09.2021)
PROF. RAJIB KR. BHATTACHARJYA Professor, Dept. of CE & Dean, RGF, IIT Guwahati, Guwahati-781039	Special Invitee (from 01.09.2021)
DR. SURESH S. M. Registrar & Secretary Finance Committee IIT Guwahati Guwahati-781039	Secretary (up to 16.08.2021)
PROF. A. SRINIVASAN Registrar (Interim) & Secretary Finance Committee IIT Guwahati Guwahati-781039	Secretary (from 16.08.2021)

BUILDING & WORKS COMMITTEE

Prof. T. G. SITHARAM The Director, IIT Guwahati	Chairman
Prof. Sashindra Kumar Kakoty The Deputy Director, IIT Guwahati	Member
The Chief Engineer PWD (Building), Assam	Member
Mr. Ajoy Chandra Bordoloi Retired Commissioner & Secretary PWD, Govt. of Assam Sarumotoria, Guwahati-781036	Member
Mr. Kamal Bhuyan Retired Chief General Manager Power Grid Corporation of India	Member
The Dean, Infrastructure, Planning and Management IIT Guwahati	Member
The Associate Dean(IPM) IIT Guwahati	Special Invitee
The Registrar IIT Guwahati Member	Secretary

INTRODUCTION

The year 2021 saw IIT Guwahati's twenty third batch of students taking their degrees in the month of July. The Institute takes pride in the achievements of its students and gladly announces that almost all the graduated students have been well placed in various government organisations and multi-national companies in India and abroad. All the achievements in academic and research areas have been successful only because of the relentless efforts of dedicated faculty members, students and the commendable cooperation of all other non-teaching employees of the Institute.

Here is a brief report on the activities and achievements of the Institute during the year 2021-22.

BOARD OF GOVERNORS

Shri Neel Prakash Chhetri, Proprietor, SIBIN Group, Gangtok, Sikkim, joined the Board in August 2021. Er. Vikeduosie Kehie, Jatsoma Kohima, Nagaland, has completed his tenure in August 2021. On behalf of the Board, I welcome Shri Chhetri to the Board and thank Er. Kehie for his valuable contributions.

ACADEMIC ACTIVITIES

The Institute has 11 Academic Departments, 7 Inter-disciplinary Academic Centres, 5 Schools and 5 Extramural Centres. They are –

Departments

Biosciences and Bioengineering (BSBE)
Chemical Engineering (CL)
Chemistry (CH)
Civil Engineering (CE)
Computer Science and Engineering (CSE)
Design (DD)
Electronics and Electrical Engineering (EEE)
Humanities and Social Sciences (HSS)
Mathematics (MA)
Mechanical Engineering (ME)
Physics (PH)

Academic Centres

Centre for Disaster Management and Research
Centre for the Environment
Centre for Indian Knowledge Systems
Centre for Intelligent Cyber Physical Systems

Centre for Linguistic Science and Technology
Centre for Nanotechnology
Centre for Sustainable Polymers

Schools

School of Agro and Rural Technology
School of Business
Mehta Family School of Data Science and Artificial Intelligence
School of Energy Science and Engineering
School of Health Science & Technology

Extramural Centres

Computer and Communication Centre
Central Instruments facility
Centre for Educational Technology
Centre for Career Development
Centre for Creativity

The Institute offers academic programmes covering a wide range of science, engineering and humanities disciplines as given below:

Bachelor of Technology (BTech) Programmes in Biotechnology (BT), Chemical Engineering (CL), Chemical Science and Technology (CT), Civil Engineering (CE), Computer Science and Engineering (CS), Electronics and Communication Engineering (EC), Electronics and Electrical Engineering (EE), Engineering Physics (EP), Mathematics and Computing (MC), and Mechanical Engineering (ME);

Bachelor of Design (B.Des) programme in Design (DD);

Master of Technology (M.Tech) programmes in BT, CL, CE, CS, EE, ME, RT;

Master of Design (M.Des) programme in Design;

Master of Science by Research [MS(R)] programme in Energy (EN);

Master of Science (MSc) programmes in Chemistry (CH), Mathematics and Computing (MC), and Physics (PH);

Master of Arts (MA) programme in Development Studies (DS) in the Department of Humanities and Social Sciences (HS);

Doctor of Philosophy (PhD) programmes in BSBE, CL, CH, CE, CSE, DD, EEE, HSS, MA, ME, PH, ENC, ENV, LST, RT, DMR, ICPS, DS, IKS, SP, HST

Dual (MTech + PhD) programme in the Department of Computer Science and Engineering (CS);

and

Dual [MS (Eng.) + PhD] programme in Electronics and Electrical Engineering (EEE).

The total number of enrolled students in 2021-2022 is 7430. Of these, 51.02% are postgraduate students.

The detailed break up is –

Preparatory Programme: 43

Four-year B.Tech and B.Des: 3596

Batch	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME	DS	Total
Fourth Year (2018 Batch)	44	81	66	99	44	44	90	54	45	64	95	0	726
Third Year (2019 Batch)	65	86	74	112	49	56	102	62	54	68	108	0	836
Second Year (2020 Batch)	66	105	86	126	56	52	115	69	58	80	123	0	936
First Year (2021 Batch)	85	118	98	113	65	60	102	62	68	71	119	20	981
From earlier batches													117
Total													3596

Two-year MSc: 341

Batch	CH	MC	PH	Total
Second Year (2020 Batch)	59	53	56	169

First Year (2021 Batch)	55	57	57	168
From earlier batches				4
Total				341

Two-year MA: 95

Batch	DS	Total
Second Year (2020 Batch)	54	54
First Year (2021 Batch)	41	41
From earlier batches		0
Total		95

Two-year M.Tech: 1058

Batch	BT	CE	CL	CS	EE	ME	RT	DS	FST	ICPS	Total
Second Year (2020 Batch)	44	101	57	64	73	102	11	16	3	0	471
First Year (2021 Batch)	51	121	62	65	95	116	12	23	8	18	571
From earlier batches											16
Total											1058

Two-year M.Des: 63

Batch	DD	Total
Second Year (2020 Batch)	31	31
First Year (2021 Batch)	32	32
Total		63

Two-year MS(R): 55

Batch	EN	EM	DM	Total
Second Year (2020 Batch)	12	9	0	21
First Year (2021 Batch)	16	8	10	34
From earlier batches				0
Total				55

Dual Degree: 32	
(MTech + PhD) in CS	6
[MS(Eng.)+PhD] in EEE	26
Total	32

PhD:

BSBE	CE	CH	CL	CS	DD	EE	EN	EV	HS	MA	ME	NT	PH
219	207	260	154	89	82	185	86	65	138	98	230	41	195
RT	CLST	DS	IKS	SP	HT	CDMR	ICPS						
42	30	4	3	3	1	7	8						

The academic session: 2021-2022 commenced from July 2021. 2283 students were admitted in various programmes across all the Departments/Academic Centres/Schools during the reporting year. The department/centre/school-wise details of new admissions, excluding the preparatory students, are given in the table below:

Department/Centre/Program	BTech/ BDes	MSc/ MA	MTech/ MDes	MS (R)	PhD	Dual Degree
Biosciences and Bioengineering (BSBE)	85	-	51	-	50	-
Chemical Engineering (CL)	98	-	62	-	32	-
Chemistry (CH)	65	55	-	-	57	-

Department/Centre/Program	BTech/ BDes	MSc/ MA	MTech/ MDes	MS (R)	PhD	Dual Degree
Civil Engineering (CE)	118	-	121	-	39	-
Computer Science & Engineering (CS)	113	-	65	-	15	3
Design (DD)	60	-	32	-	18	-
Electronics and Electrical Engineering (EE)	164*	-	95	-	43	4
Humanities & Social Sciences (HS)	-	54	-	-	35	-
Mathematics (MA)	71	57	-	-	19	-
Mechanical Engineering (ME)	119	-	116	-	22	-
Physics (PH)	68	57	-	-	40	-
Centre for Energy (EN)	-	-	-	16	9	-
Centre for the Environment (EV)	-	-	-	-	12	-
Centre for Nanotechnology (NT)	-	-	-	-	8	-
Centre for Rural Technology (RT)	-	-	12	-	5	-
Linguistic Science and Technology (LST)	-	-	-	-	5	-
Centre for Linguistic Science and Technology (LST)	-	-	-	-	7	-
Data Science (DS)	20	-	23	4	4	-
Food Science and Technology (FST)	-	-	8	-	-	-
E-Mobility (EM)	-	-	-	8	-	-
Intelligent Cyber Physical Systems (ICPS)	-	-	18	-	8	-
Disaster Management and Research	-	-	-	10	7	-
Indian Knowledge System	-	-	-	-	3	-
Health Science and Technology	-	-	-	-	1	-
Sustainable Polymer	-	-	-	-	3	-
Total	981	223	603	34	435	7

* BTech in Electronics and Communication Engineering: 102, and BTech in Electronics and Electrical Engineering: 62.

Twenty Third Convocation

Since last convocation, a total of 1387 students have successfully completed their programmes. Among, 4 students enrolled in International Joint MTech in Food Science and Technology at Gifu University as Home Institute were awarded the degrees by

Gifu University, Japan in March 2021. Also, as per Institute procedure 45 students were awarded PhD degree in the interim period after the 23rd Convocation of the Institute. A total of 1338 students received their degrees during the Twenty Third Convocation as per the following details:

Course	2021-22
BTech and BDes	649
MTech and MDes	322+4*
MSc	136
MA	51
MS	5
Dual Degree (MTech+PhD)	3
PhD	172
Total	1342

Programme	Nos.
BTech/BDes	
Biotechnology	58
Chemical Engineering	64
Chemical Science and Technology	40
Civil Engineering	65
Computer Science and Engineering	81
Design	38
Electronics and Communication Engineering	88
Electronics and Electrical Engineering	46
Engineering Physics	32
Mathematics and Computing	59
Mechanical Engineering	78
Total	649
MTech/MDes	
Biotechnology	42
Chemical Engineering	46

Design	36
Civil Engineering	31
Computer Science and Engineering	36
Electronics and Electrical Engineering	58
Mechanical Engineering	53
Rural Technology	4
Data Science	12
Food Science and Technology	4+4*
Total	322+4*
MSc	
Chemistry	52
Mathematics and Computing	36
Physics	48
Total	136
MA	
Development Studies	51
Total	51
MS(R)	
Centre for Energy	5
Total	5
Dual Degree (MTech+PhD)	
Computer Science and Engineering	2
Electronics and Electrical Engineering	1
Total	3

PhD**	
Biotechnology	16
Chemical Engineering	17
Chemical Science and Technology	23
Civil Engineering	13
Computer Science and Engineering	7
Design	8
Electronics and Communication Engineering	17
Humanities & Social Sciences	11
Physics	11
Mathematics and Computing	9
Mechanical Engineering	21
Rural Technology	2
Centre for Energy	10
Centre for the Environment	5
Centre for Nanotechnology	2
Total	172

**The number of PhD and Dual PhD degrees awarded after 22nd convocation: 45.

Total number of PhD and Dual PhD degrees since last convocation: 220 (175+45)

MHRD-NIRF INDIA RANKINGS

IIT Guwahati has retained the 7th rank among the best engineering institutions of the country in the 'India Rankings 2021', achieved rank of 8th in the 'Overall' category this year (2021) and in the newly introduced 'Research' Category achieved 9th rank, declared by National Institutional Ranking Framework (NIRF).

QS RANKING

In the recently announced QS Ranking 2023 IIT Guwahati has secured 37th rank globally (41st in 2022) in the 'Research Citations per Faculty' category. The Institute has gained rank =384 in World University Ranking globally. This marks an improvement of 11 places by the IIT Guwahati, which was ranked 395 in the 2022 edition of the QS World University rankings.

TIMES HIGHER EDUCATION "THE" IMPACT GLOBAL RANKING 2021

Top 200 Globally (First time IITG has been ranked)

SDG 4 Quality Education
 SDG 7 Affordable and Clean Energy
 SDG9 Industry, Innovation and Infrastructure

Top 400 Globally

SDG 6 Clean Water and Sanitation
 SDG 10 Reduced Inequalities

SWACHHTA RANKING

IIT Guwahati was ranked Third in the category of 'Residential University - AICTE' in the third edition of annual 'Swachh Campus Ranking 2019' for higher educational institutions organised by HRD ministry.

SETTING UP OF NEW SCHOOL/CENTERS

SCHOOL OF BUSINESS

Indian Institute of Technology Guwahati has commenced its academic activities at the newly initiated School of Business and will soon be admitting the first batch of students at its flagship programme, namely, the Masters of Business Administration (MBA).

The admission process for the MBA programme, will open in January 2022, and the first batch is expected to commence their studies from July 2022. The admission to the MBA programme will be in line with the admission process adopted by other IITs offering MBA programmes, with the requirement of opening this programme to prospective applicants who have qualified the Common Admission Test (CAT) 2021.

The admission process will take place in two stages. In Stage 1, the shortlisting of applications for the Personal Interview (PI) will be done. This will be followed by Stage 2, where the final selection will be made based on the PI, along with a few other parameters.

The School of Business, the first of its kind in the region, currently has several faculty members associated with it, from various Departments of IIT Guwahati, who represent the various functional areas of management, including, Project Management, Organizational Behaviour, Human Resource Management, Finance, Economics, Operations Management, Information Systems, and Strategic Management. Some of the unique expertise offered by the School include niche areas of Business Analytics, Human Resource Analytics, and Sustainable Finance. Finally, in the

spirit of the continued commitment of IIT Guwahati towards the improvement of its geographical neighbourhood, the School is expected to lend support to skill development and empowerment in the region, especially for small and women entrepreneurs.

CENTRE FOR INTELLIGENT CYBER PHYSICAL SYSTEMS

Indian Institute of Technology Guwahati launched the Centre for Intelligent Cyber Physical Systems (CICPS), aimed at developing indigenous technologies. The Centre will target developing a minimum of five technologies a year. These technologies will be developed indigenously and will generate direct and indirect employment opportunities.

As many as 13 Ph.D. students and 18 M. Tech students have already joined the CICPS and these students will particularly work on the technologies for underwater exploration. The TIH – IIT Guwahati will fund the center for the first five years, after which the Centre is intended to become self-sustaining.

The Centre for Intelligent Cyber Physical Systems (CICPS) will have following major components:

- Technology Development,
- Center of Excellence,
- Human Resource Development,
- Technology Business Incubation,
- M.Tech Program in Robotics and Artificial Intelligence

The Human Resource Development and Skill Development programs in the CICPS will provide Fellowships for Doctoral, Post-Doctoral, and Faculties. It will provide a platform for organizing the preliminary and advanced skill development workshops.

Robotics and Artificial Intelligence is a major enabler for Industry 4.0. It is a blend of almost all the engineering streams and science. The new Master's program, initiated at CICPS, is designed to address advanced engineering topics and help to meet the growing need for industries.

Graduates will be able to use scientific methods to solve complex problems in both research and practice, particularly for industrial automation, to improve productivity significantly. The involved technological development will lead to the establishment of training schools related to manufacturing and robotics.

RESEARCH AND DEVELOPMENT

The other component of the Institutes research program is sponsored (or directed) research. There are 301 research projects in progress with a total sanctioned value of about Rs. 350.00 crore. In the year under report, we received 123 new projects with a sanctioned value of Rs. 114.45 crore. The R&D projects are mainly sponsored by Government Ministries and Departments with major support coming from the Department of Higher Education (DHE), the Departments of

Science and Technology (DST) and Biotechnology (DBT), the Science and Engineering Research Board (SERB), the Board of Research in Nuclear Sciences (BRNS), the Defense Research and Development Organization (DRDO), and the Indian Council of Medical Research (ICMR). We also have a considerable number of industry-supported research projects. There are about 100 Principal Investigators involved in carrying out the research work of the Institute.

It is noteworthy to mention that the research dimension of IIT Guwahati is broadening significantly and the same is now reflected in terms of multiple Industrially funded collaborative research with close cooperation with Industry partners. Both private and government funded companies have funded various sponsored research projects to IIT Guwahati. These companies include, TATA Steel, ONGC, North East Electrical Power Corporation., Indian Space Research Organization, Purple Patch Services (an International company), Elint Technologies, HPCL Green, Agriculture and Rural Development Bank, National Rural Infrastructure Development Agency, Numaligarh Refinery Limited, OIL, INAE etc.

MoU/ MoA ESTABLISHED

Sl. No.	MoU/MoA	Details
01	Research Agreement between KTH Royal Institute Of Technology And IIT Guwahati Signed on 23/06/2021	This Research Agreement has been signed to perform the Research Project titled " Examining Nature-Society Relations Through Urban Infrastructure"
02	MoU between Sociograph Solutions Pvt. Ltd. And IIT Guwahati signed on 25/06/2021	This MoU has been signed to promote Co-Operation in Collaborative Research, Design and Development of relevant resources.
03	MoA between DBT And IIT Guwahati signed on 05/07/2021	This MoA defines the Role and Responsibilities of the Participating Agencies, Monitoring and other matters related to 'DBT's twining programme for the NE titled 'Isolation, Synthesis, and Structure Function Analysis of Frog and Toad-Skin Derived Antimicrobial, Anticancer and Wound-Healing Peptides.'
04	MoA between DBT And IIT Guwahati signed on 16/07/2021	This MoA defines the role and responsibilities of the participating agencies, monitoring and other matters related to Design and Characterization of Peptide Based Cell Targeting Domains with Live Cell and Animal Imaging Methods
05	MoA between DBT And IIT Guwahati signed on 25/07/2021	This MoA defines the role and responsibilities of the participating agencies, monitoring and other matters related to Lignocellulosic Biomass Utilization for Lactic Acid and Bioethanol Production
06	MoA between DBT And IIT Guwahati signed on 10/08/2021	This MoA defines the role and responsibilities of the participating agencies, monitoring and other matters related to 'Continuous Fermentative Production of D (-) Lactic Acid using whey as a feedstock in Automated Membrane Integrated Bioreactor
07	MoU between Pollution Control Board Assam And Indian IIT Guwahati and Guwahati Municipal Corporation, Guwahati signed on 03.09.2021	Under the NCAP, City Specific Interventions and Action Plans will be formulated for implementation by the PCBA and GMC, along with IIT as a technical partner for The City Of Guwahati. The National Knowledge Network (NKN), Central Pollution Control Board(CPCB) And MoEF & CC Will Be Overseeing The Coordination And Technical Compliance.
08	Memorandum of Understanding Between Panchayat & Rural Development, Government Of Assam and IIT Guwahati signed on 07/09/2021	This MoU Has Been Signed For The Treatment Of Polluted "Panchnoi River Under DRDA, Udalguri" In The District Of Udalguri

09	Memorandum of Agreement Between DBT and IIT Guwahati signed on 08/09/2021	This MoA defines the role and responsibilities of the participating agencies, monitoring and other matters related to the Creation of Bioinformatics Infrastructure Facility (BIF) for the promotion of Biology Teaching through Bioinformatics (BTBI) Scheme of Btiset.
10	Memorandum of Understanding Between North Eastern Regional Load Despatch Centre (Nerldc), Posoco and IIT Guwahati for Knowledge Sharing and Capacity Building in the Concern Areas signed on 16/09/2021	For knowledge sharing and capacity building in the concern areas
11	MoU between Central Ayurveda Research Institute (CARI), Kolkata under Central Council for Research in Ayurvedic Sciences (CCRAS) and IIT Guwahati signed on 28/09/2021	To carry out the collaborative research project entitled 'Mechanistic Investigations on the Efficacy and Mode of Action of Ashwagandha And Yogaraj Guggulu, Using a Hybrid Proteomics-Cheminformatics-Network Medicine Approach for the Treatment of Osteoarthritis'.
12	MoU between OIL India Limited and IIT Guwahati signed on 11/11/2021	Memorandum of Understanding (MoU) signing ceremony was held on 11 th November 2021 between OIL India limited and IIT Guwahati. The Hon'ble Director of IIT Guwahati, Prof. T.G. Sitharam and Mr. Sasanka Pratim Deka, Executive Director of Oil India Limited, Duliajan, Assam, India were the signing dignitaries on both sides. In principle, the MOU was basically for Research & Development, Technology and Innovation, Training and Skill development collaboration in the R&D sector of non-conventional fuels. Oil India Limited (OIL) is the second largest government owned hydrocarbon exploration and Production Corporation under the ownership of Ministry of Petroleum and Natural Gas, Government of India. Indian Institute of Technology Guwahati, the sixth member of the IIT fraternity which is officially recognized as an Institute of National Importance will join hands together to cooperate and collaborate Technological development/Transfer in existing technology/process/ services, introduction of new technology in the field of engineering services, knowledge upgradation and innovation partnership, Design & Development, Joint New Technology Development in the area of non-conventional fuel, Training and Skill Development Support and any other area mutually agreed by OIL

		and IITG with the recommendation of APEX STEERING COMMITTEE. Oil sector is a prime focused sector for the growth of India and the outcome of this MOU will benefit the country's future growth and all its stakeholders. It is expected that the research findings of IITG in OIL sector with Oil India limited interventions gets thoroughly dispersed across academic and research institutions in India and worldwide.
13	MoU between Central Power Research Institute (CPRI), Bangalore And IIT Guwahati signed on 20/12/2021	For the Project on "AI and IoT Based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters" Under RSOP Scheme of Ministry of Power, Govt. of India
14	MoA between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi and IIT Guwahati signed on 24/12/2021	For the project on the roles and responsibilities of the participating agencies, monitoring and other matters related to the (Repurposing Endogenous CRISPR-Cas Type-I Machinery for Efficient Markerless Genome Editing Tool in <i>Leptospira Interrogans</i>)
15	Non-Disclosure Agreement between Hindustan Petroleum Corporation Limited and IIT Guwahati and IIT Madras signed on 09/12/2021	For the Project Titled "Catalytic Hydrodeoxygenation of Pyrolytic Oil Produced from Coprolysis of Agricultural Residue and Plastic Waste"
16	MoA between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi and IIT Guwahati signed on 29/12/2021	For defining roles and responsibilities of the participating agencies monitoring and other matters related to the "Technology Development & Innovation Engineering for Value Chain Development for Citrus Fruits of NE Region"
17	MoA between Dept. of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi And IIT Guwahati signed on 16/12/2021	For defining roles and responsibilities of the participating agencies monitoring and other matters related to the "Creation of Bioinformatics Infrastructure Facility 9BIF) for the Promotion of Biology Teaching Through Bioinformatics (BTBI) Scheme of Btisnet"
18	MoU Between Central Power Research Institute (CPRI) and Indian Institute of Technology Guwahati signed on 11/01/2022	Memorandum of Understanding for the Project on "AI and IoT Based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters"
19	MoU between I-Hub Foundation for Cobotics (IHFC) and Indian Institute of Technology Guwahati signed on 09/02/2022	The objective is that the parties shall collaborate for investment in Research and Development of the innovation being developed by the students, faculty and start-ups etc. Under The Aegis Of The Second Party

20	General/ Tripartite Agreement between Indo-German Science & Technology Centre (IGSTC), M/S Ace Manufacturing Systems Ltd. , IIT Kanpur and IIT Guwahati signed on 16/02/2022	Design and Analysis of a New Robot - Cell Configuration consisted of two 6 -Axis Robotic Arms Mounted on two Curved Tracks
21	MoU between Centre for Cellular and Molecular Platforms – C – CAMP and IIT Guwahati signed on 26/02/2022	Setting up “IIT-G C-CAMP Centre for Bio-Entrepreneurship (ICCB)” At IITG to build an Entrepreneurship Ecosystem at IITG to nurture and promote Entrepreneurship and Entrepreneurs in the Field of Life Sciences
22	MoU between IIT Guwahati and IIT Dharwad and Signoff Semiconductor Pvt Limited signed on 11/03/2022	The objectives of this Memorandum of Understanding are: To Promote Interaction Between IIT Guwahati, IITdh and Signoffsemi in execution of SMDP C2S proposal
23	Agreement Between Wageningen University and IIT Guwahati signed on 23/03/2022	To facilitate a research internship as part of a new Collaborative Research Initiative on River Management and Infrastructural Policies around the World, Entitled “Engineered Land : Terrestrial Imaginaries and Realities”
24	MoU between Mission Director Samagra Shiksha Assam Kahilipara and IIT Guwahati Signed on 31/03/2022	The objectives of this Memorandum of Understanding is to strengthen the activities related to Rashtriya Avishkar Abhiyan to promote Science and Technology at both Elementary and Secondary Level Schools of Assam both the parties will collaborate for conducting various activities Under Rashtriya Avishkar Abhiyan

INDUSTRIAL INTERACTIONS AND SPECIAL INITIATIVES

The office of the Dean, Industrial Interactions and Special Initiatives (II&SI), has been established at IIT Guwahati to fulfil the twin objectives of enriching the research infrastructure and enhancing the interaction and collaboration with industry exclusively. II&SI encourages both consultancy and research from industry. The main functions of the office include administrative and accounts support for fully/partially industry funded projects and consultancy, short term courses and other programs for and from industry, projects and activities related to Entrepreneurship, Start-up company etc., projects/programs with Honorarium/Chair-Professorship, MoU/MoA with industries and funding agencies, technology transfer, Intellectual Property Rights (IPR) cell, Institute affairs related to IIT Guwahati Research Park and other companies of the Institute and IIT Guwahati Technology Incubation Center (TIC) and other societies of the Institute.

TRANSFER OF TECHNOLOGY

Total 07 numbers of technology transfer have been registered in the financial year 2021-22.

Department	Name of Technology	Principal Inventor
CLE	Solar integrated membrane process for treatment and resource recovery from pharmaceutical effluent/ down stream of fermentation process.	Dr. Senthilmurugan S.
CLE	Low cost energy system to produce biochar from biomass (Project No. CLE/TOT/SAMK/SS/003)	Dr. Senthilmurugan S.
CLE	Low cost energy system to produce biochar from biomass (Project No. CLE/TOT/SKBL/SS/002)	Dr. Senthilmurugan S.
Physics	Process development for sputtering targets/ceramic discs (Project No. PHY/TOT/APTP/DP/001)	Dr. D. Pamu
Physics	Process development for sputtering targets/ceramic discs (Project No. PHY/TOT/JBE/DP/002)	Dr. D. Pamu
Mechanical Engg.	Highly efficient and Less Polluting Porous Radiant Burners for LPG, PNG, CNG, Bio-gas Method and Ethanol based stoves for both cooking and industrial Applications (by using the porous medium combustion technology) (Project No. ME/TOT/TBPL/PMK/003)	Prof. P. Muthukumar
Mechanical Engg.	Highly efficient and Less Polluting Porous Radiant Burners for LPG, PNG, CNG, Bio-gas Method and Ethanol based stoves for both cooking and industrial Applications (Project No. ME/TOT/QBO/PMK/002)	Prof. P. Muthukumar

INDIAN PATENT

- An Indian Patent was granted on "Polymer Composite Membrane for Water Purification", (364136, dated 06.04.2021) Vimal Katiyar and Narendren Soundararajan
- An Indian Patent was granted on "Dual Drive Surface Acoustic Wave Motor and the Package", (369369, dated 15.06.2021), by Harshal B. Nemade and Basudeba Behera
- An Indian Patent was granted on "A Transmittance based System/Kit for Point-of-care Quantification of Biomarkers Sample and Use thereof", (372924, dated 27.07.2021), by Dipankar Bandyopadhyay, Nilanjan Mandal and Satarupa Dutta

- An Indian Patent was granted on “Poct Device to Detect Cervical Cancer Specific Biomarker”, (374832, dated 18.08.2021), by Dipankar Bandyopadhyay, Mitali Basak, Shirsendu Mitra, Surjendu Maaity, Nayanjyoti Kakati, Ankita Jain (CSIR), Saurabh Kumar Agnihotri (KGMU), Akanksha Vyas (CSIR), Madan Lal Brahma Bhatt (KGMU), Rekha Sachan (KGMU) and Monika Sachdev (CSIR)
- An Indian Patent was granted on “A System and Method for Laser Beam Scanning with Periodic Switching of Polarization of the Beam”, (377789, dated 24.09.2021), by Bosanta Ranjan Boruah, Ranjan Kalita and Satya Siddhartha Goutam Buddha
- An Indian Patent was granted on “A Flexible Paper-touchpad for Low-cost Electronic Appliances”, (378636, dated 05.10.2021), by Dipankar Bandyopadhyay, Harshal B. Nemade and Mitradip Bhattacharjee
- An Indian Patent was granted on “A Novel Processing Technique for the Development of Machining Free Acetabular Cup from Ultra-High Molecular Weight Polyethylene Powder to be Used in total Hip Replacement Surgeries”, (379704, dated 21.10.2021), by Subramani Kanagaraj, Selvaraj Senthilvelan and Ashirbad Jana
- An Indian Patent was granted on “A Microfluidic Electrical Energy Harvester”, (385045, dated 23.12.2021), by Tapas Kumar Mandal, Dipankar Bandyopadhyay, Seim Timung and Mitradip Bhattacharjee
- An Indian Patent was granted on “An Environmentally Sustainable Algal Process for Remediation of Phenol Pollution Coupled to Bioenergy Production”, (385194, dated 27.12.2021), by Sanjukta Patra and Bhaskar Das
- An Indian Patent was granted on “A Process for Preparation of Ultrafiltration Membrane from Waste Polyvinyl Chloride for Separation, (388901, dated 10.02.2022), by Vimal Katiyar, Narendren Soundararajan
- An Indian Patent was granted on “Triazole Derivatives and a method of its preparation”, (391942, dated 14.03.2022), by Debasis Manna, Subhankar Panda, Nirmalya Pradhan, Ashalata Roy and Sachin Kumar

PATENT APPLICATIONS

During the Financial Year 2021-2022, II&SI received total 55 new patent applications and overall, a total of 73 applications were approved for filing by the Chairman, IPR Committee.

IPR POLICY

The Institute IPR policy guidelines Have been created. To create awareness and encourage the faculty members about IPR, workshops are organized from time to time. The Institute also provides financial support up to Rs.2,00,000/- per annum per faculty member as reimbursement towards patent filing charges. To look after the IPR activities of the Institute, an Intellectual Property Rights (IPR) cell has been created

under the Dean, II&SI, with Dr. Sougata Karmakar, Dept. of Design and Dr. Manish Kumar, Dept. of Biosciences & Bioengineering as Faculty Coordinator-1 and Faculty Coordinator-2, respectively.

CONSULTANCY

Office of II&SI has implemented new Consultancy rules from 1st May 2020 approved by the Board of Governors, IIT Guwahati. During the year under report, the Institute received approximately 195 Consultancy projects with a sanctioned value of ₹11.64 crores.

OFFICE AUTOMATION

IIS&SI section has initiated an in-house office automation system named ProMAN. It helps the project investigations in following activities – Project Submission & Registration, Purchase, Recruitment, Travel, Disbursal / Assistantship, Leave, etc

MOU AND MOA

A total number of 14 MoU and MoAs were signed during the year under report. The following table shows the detail of the signed MoU & MoA:

Sl. No.	Date	MoU / MoA details	Initiated By (Name / Dept.)
01	24.05.2021	Research Agreement Between IITG and Prism Johnson Limited, Maharashtra	Dr. Senthilmurugan S., Chemical Engg.
02	10.08.2021	MoU between IITG and Nisarg Ispat Pvt. Ltd.	Dr. Harsh Chaturvedi
03	13.08.2021	MoU between IITG & Bennet, Coleman & Co. Ltd. (Times Professional Learning Division)	Prof. P.K. Iyer, Chemistry
04	14.08.2021	MoU Between IITG & North eastern Indira Gandhi Regional Institute of Health & Medical Sciences (NEIGRIHMS)	Prof. S. Kanagaraj, Mechanical Engg.
05	23.08.2021	Collaboration Agreement between Ioligos Technologies Pvt. Ltd. and The Children's Hospital Corporation IITG	Dr. Hanumant S. Shekhawat, EEE Dept.
06	27.08.2021	MoU between Higher Education Financing Agency (HEFA) and IITG	Prof. T.G. Sitharam, Director, IITG
07	04.10.2021	Research Agreement between TATA Steel limited & IITG	Dean (II&SI)
08	05.10.2021	Tripartite Royalty Agreement between IIT Roorkee, TIH, IITG	Dr. Debabrata Sikdar, EEE Dept.
09	19.11.2021	MoU between ChemDist Membrane Systems Pvt. Ltd. and IITG	Prof.D.Bandyopadhyay, Dr. Akshai Kumar

10	25.11.2021	Collaborative Research Agreement between Affine and IITG	
11	09.12.2021	MoU between Water Resource Department and IITG	Prof. Subasisha Dutta, Dr. R. Bharti
12	2021	MoU between IITG and Intel Technologies	Dr. Gaurav Trivedi, EEE
13	22.03.2022	MoU between IITG and Rites Ltd.	Dr. Arunasis Chakraborty, Civil Engineering
14	22.05.2022	MoU between ARAI and IITG	Prof. T.G. Sitharam, Director, IITG

MAJOR PROJECTS UNDER II&SI

INNOVATION AND ENTREPRENEURSHIP PROJECTS

IIT GUWAHATI TECHNOLOGY INNOVATION AND DEVELOPMENT FOUNDATION:

IIT Guwahati has been selected to develop the Technology Innovation Hub (TIH) in the vertical of "Technology for Underwater Exploration" by the National Mission for Interdisciplinary Cyber-Physical Systems (NM-ICPS), Department of Science and Technology (DST) of the Government of India, New Delhi. This TIH consisted of 68 faculty members from IIT's like Guwahati, Roorkee, Bhubaneswar, Ropar, Indore, Dharwad, Palakkad, Jodhpur and NIT Rourkela besides all the NITs from Northeast Region. Several programs are intended under this sub-mission, such as Technology Development, Human Resource Development & Skill Development, Centre of Excellence on Manufacturing of Cyber-Physical Systems, Innovation, Entrepreneurship, and Start-up Ecosystem, International Collaborations. Numerous technologies (more than 25 technologies, 30 products, and 100 Publications, IPR and other Intellectual Activities) are intended to be developed in five years of this project, particularly in the area of (i) Defense Research and Development, (ii) Earth Science, (iii) Health research, (iv) New and Renewable energy, (v) Tourism, (vi) Shipping (vii) Manufacturing and (viii) Skill development and Entrepreneurship in the above-mentioned areas. In all these areas, many cyber-physical systems will play a significant role. Some of them include (i) Underwater computer vision system, (ii) Wired and wireless communication, (iii) Artificial intelligence, (iv) Internet of Things, (v) Development of various types of robotic systems for underwater exploration. The HRD sub-mission will support more than 500 individuals during the project. Similarly, BioNEST, the Bio-Incubation Centre has been set up with a vision to foster innovative research and entrepreneurial activities in Healthcare and Industrial biotechnology related areas. The main focus area of the facility is the incubation of a host of entrepreneurs to commercialize an array of healthcare products in the area of traditional and modern Biomaterials, Industrial Biotechnology and state-of-art frugal Diagnostics so as to establish a benchmark especially in NE. It provides Mentorship, Collaboration, Entrepreneurship ecosystem, Infrastructure, market access etc. To carry out all the activities under TIH and BioNEST, a Section-8 Company, IIT Guwahati Technology Innovation and Development Foundation (IITGTIDF) has been formed.

NEW GEN IEDC

New Generation Innovation and Entrepreneurship Development Centre (NewGen IEDC) is the programme launched by National Science and Technology Entrepreneurship Development Board (NSTEDB), Department of Science & Technology (DST), Government of India. NewGen IEDC aims to inculcate the spirit of innovation and entrepreneurship amongst the young students, encourage and support start-up creation through guidance, mentorship and support. The programme is implemented in academic institutions. Students are encouraged to take up innovative projects with possibility of commercialization. NewGen IEDC attempts to spread the message of entrepreneurship and create culture for that at IIT Guwahati. The presence of NewGen IEDCs would create a vibrant entrepreneurial culture amongst the students. IEDC strives hard to convert Job-Seekers to Job Generators through the entrepreneurial route. At IIT Guwahati, NEWGEN IEDC is opened up for all the students and faculties to submit project proposals on innovative technologies. The aim of the projects is to develop prototypes that can be commercialized at the end. Projects were selected under various research fields such as health care, solar energy, materials, product design, education, waste treatment, and other prominent sectors. The student team have faculty mentors to provide mentorship for successful completion of the project. Some of the projects were proposed to a venture fund company for helping in commercialization. Till Feb 2022, 45 projects were funded from the centre. In February to March 2021, Entrepreneurship Development Program was held in collaboration with IIMCIP/ASSAM NEST. After that, few workshops were organized on rural technology, agritech startups, market intelligence, and fund raising during March to Aug 2021. Panel discussions, startup pitching, hackathon were also organized as part of RIC 2022 in Jan-Feb 2022. NEWGEN IEDC, IIT Guwahati has got excellent advisory board members and their suggestions are taken at regular intervals and in the board meetings.

TOCIC-IIT GUWAHATI

IIT Guwahati in collaboration with Department of Scientific & Industrial Research (DSIR) established TePP Outreach cum Cluster Innovation Centre (TOCIC) in October 2016. It is an outreach center of the DSIR, Ministry of Science and Technology. The Centre has been established to promote innovation in the North East region of India. Scheme for Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM) is aimed at promoting innovation and individual innovators to become technology-based entrepreneurs. There are various schemes under the PRISM programme to fund at various stages of technology development. Sixteen proposals with a total budget around 80 lakhs have been supported so far and another 30-40 proposals will be supported in Financial Year 2020-21. Any Indian citizen having innovative idea and wishing to translate these ideas into working prototypes/models/processes can apply for support under the PRISM scheme. Prof. Pinakeswar Mahanta and Prof. Sukhomay Pal from the Department of Mechanical Engineering are the Coordinator and Co-coordinator of the Centre.

E&ICT ACADEMY

As an initiative of Ministry of Electronics & Information Technology (MeitY), the Academy was setup at IIT Guwahati under the scheme of “Financial Assistance for setting up Electronics and ICT Academies”. On 26 March, 2015 the project started at IIT Guwahati and the Academy was inaugurated by the honourable Prime Minister Shri. Narendra Modi on 19 January, 2016. The objective of the Academy is to provide skill training to the Faculty Members (Engineering & Non-engineering) in the area of recent trends in engineering & ICT applications. The Academy has designed many specialised modules for imparting quality training for enhancing employability and capacity building in the area of Electronics & ICT. In the past 07 years, the Academy has successfully conducted 307 Faculty Development Programme through conventional classroom teaching and NKN virtual classroom mode in different Institute/University of North Eastern States in particular and few in other states of India. Till date, the Academy has successfully trained 17,678 participants. The Academy is also offering online Advance Certification Course in the area of Data Science, Artificial Intelligence & Machine Learning, Big Data, Cloud Computing, etc. From 7th February to 19th March 2022, a full-time residential training was conducted for the Assam Police officials on cybercrime concepts where more than 90 officials participated. The E&ICT project at IIT Guwahati has been extended up to 30th September 2022. The Academy has been given a target to train 13,019 faculties till 30th September 2022 whereas the Academy has already achieved the same by 31st March 2022.

NORTH EAST CENTRE FOR BIOLOGICAL SCIENCES AND HEALTHCARE ENGINEERING, IIT GUWAHATI

North East Centre for Biological Sciences and Healthcare Engineering (NECBH) is the most recent endeavour envisioned to bolster the scientific framework in the field of biological sciences and healthcare engineering. NECBH was established at IIT Guwahati in 2018 with the support of the Department of Biotechnology, Government of India for the entire north-eastern region by providing operating infrastructure facilities at IIT Guwahati and by promoting collaborative research activities with IIT Guwahati.

To provide exposure to the latest advances in the techniques in modern day research of biological sciences and healthcare engineering, various trainings and workshops have been conducted for the researchers of North Eastern region.

So far, NECBH has conducted 14 workshops and Training programs and could connect over 1000 researchers from 59 different institutions of North East and 144 institutions across India.

The most recent workshop conducted was “On Advanced Training for X-ray Single Crystal Operation and Application” from 23 – 25 February 2022.

NECBH has established a centralized, sophisticated instruments facility with variety of Instruments (Field Emission Scanning Electron Microscope, Flow Assisted Cell Sorter, Powder and Single Crystal X-Ray Diffractometer, NMR Spectrometer, Atomic Force Microscope, GAIT Analysis Facilities, etc.) relevant for research in the area of biological sciences and healthcare engineering.

To promote the Research Activities of North East Academic and Research Institute a Special Scheme of 80% concession has also been given for researchers of North East India.

In addition to the above mentioned activities, so far more than 125 articles, 11 book chapters were published and has filed 04 patents with the support of NECBH.

IIT GUWAHATI RESEARCH PARK

The research park at IIT Guwahati is the first park to be set up in NE India approved by the Ministry of Human Resource & Development. IITG is one of the most scenic campuses in the whole of India with the research park located adjacent to it. The mission is to create a world class ecosystem for fostering leading edge innovation in the country. The vision is to promote the advancement of technology-based innovators, entrepreneurs and small & large companies through customised space, shared equipment, incubation, mentorship and funding. Industries can set up their offices at IIT Guwahati Research Park to carry R&D activities and this will allow them to be part of a vibrant community and gain access to R&D professionals, students and state-of-the-art R&D. Partnering with the park will enable industries to access the laboratories, high-end equipment and other resources at IITG. During the year under report, six training programmes, six conferences/seminars and four events on Start-ups, innovation exhibition and model presentation, hackathon and technical presentation were organised by IIT Guwahati Research Park. The first ever Research and Industrial Conclave was organised during 20-23 January 2022.

IIT GUWAHATI TECHNOLOGY INCUBATION CENTRE

The Technology Incubation Centre of IIT Guwahati has become a hub of enterprising young minds who are enthusiastically pursuing their dreams and turning them into reality. At present 15 incubatees and 02 virtual incubatees are active in the TIC and 11 have already graduated from the Centre. A few applications for new incubates are under process.

As part of IIT Guwahati and Numaligarh Refinery Limited MoU, the first students' start-up has been set-up at IITG-TIC.

Under the Women StartUp Program (WSP), that aims at aspiring women entrepreneurs to convert their ideas into sustainable ventures and support early stage entrepreneurs to grow effectively, the following incubated ventures under WSP 3.0 have connected with IITG-TIC through virtual mode:

Founder	Venture Name
Tanmana Sarma	Apaapi Threads of Glory
Sharbani Sengupta	Progeny
Paulmie Gogoi	Woven Tales of North East
Dhwani Shree	Silpakarman
Sayari De	All About Architecture
Vinita More	Les Aider Wellness LLP
Shruti Rastogi	Catharsis

RESEARCH & INDUSTRIAL CONCLAVE INTEGRATION 2022

OVERVIEW

From 2015, Research conclave is organized at IIT Guwahati to nurture young minds towards research, innovation and entrepreneurship. This year, to enhance Industry-Academia collaboration, the first ever Industrial Conclave of its kind was organized along with Research Conclave during 20th – 23rd January, 2022 as Research and Industrial Conclave – INTEGRATION 2022. The aim was to provide an exclusive platform for Students, Young Entrepreneurs, Industry Experts, Professionals, Academicians, Policy Makers, Investors and Exhibitors to exchange innovative ideas, knowledge sharing, showcasing product/services collaborating and networking along with excellent re-education opportunities as well as to Meet, Interact, Connect, and Exchange ideas, knowledge and build new collaborations with a special focus on North Eastern States. The conclave also included dedicated networking schedules, mentoring sessions and showcasing of innovations that provided new entrepreneurs and students investment opportunities for product development and scaling up.

Due to the pandemic situation of Covid 19, the entire event was conducted in online mode where around 1,500 people including 1,119 students and 73 faculty members participated in various events. Prof. Lars Peter Hansen, Nobel Laureate in Economic Sciences in 2013, was the Chief Guest in the inauguration ceremony and he delivered a talk on the topic “Macroeconomic Consequences of Uncertain Climate Change”. Prof. T.G. Sitharam, Director, IIT Guwahati, also addressed the audience and released the Souvenir.

Different Events were conducted as part of Research and Industrial Conclave INTEGRATION 2022. They are:

DISCUTIR- Panel Discussions on (1) Food Technology with the theme Agri-entrepreneur’s business concept in North East India, (2) E-Mobility with the theme Electric vehicles - the stake holders' perspectives, (3) Agriculture and Allied Sectors with the theme Production to commercialization - the journey of farm produce, (4) Healthcare with the theme Prospects of rural healthcare sector in India and (5) Entrepreneurship and Startup with the theme.

ENTREPRENEURSHIPS & STARTUPS – Factors influencing sustenance and growth.

SCIENTIFIQUE- Oral and Poster Presentation and three-minute thesis presentation.

CONNAISSANCE- Lecture series and talks by eminent academicians and industry experts.

ATELIER- 3 Workshops with immersive learning and discussions were held on (1) Legal Patent Filing Process in India, (2) Writing for getting published in International Academic Journals and (3) Transitioning to Deep Learning.

EMPRENDIMIENTO-the Startup fund raising event was a closed door one enabling participants to pitch their novel business ideas without hesitations. The set up provided

an enormous opportunity for novice entrepreneurs to look for future partners and set a competitive stage among their peers. A moderator and four jury members heard the pitching of the startup ideas of the 19 participants and chose three winners - Manoj Kumar Maity, Nestcare Techserv Pvt. Ltd; Ranjit Baruah, Aromica Tea and Sumit Das, Bikozee Ecotech Pvt. Ltd. Each winner was awarded with a cash prize and a certificate.

INDSOL- Industrial problem presentation

HACKATHON- Thinkers and makers - The challenge was to design and develop a Web based Desktop/Mobile enabled COVID-19 management system in the event of an outbreak. Six groups participated and the first prize was given to Mr. Gunjan Dhanuka and Mr. Pranjal Singh, the second prize was awarded to Ms. Surbhi Jain and Mr. Anuraag Tiwari and the third prize was given to Mr. Soumadip Das, Mr. Ankit Guha and Mr. Mrpit Sureka. The winners were rewarded with cash prizes and certificates.

INOVATION EXHIBIT and MODEL PRESENTATION - Product Display to provide a platform for Corporates, PSUs, MSMEs, Startups, Entrepreneurs, Students to showcase, display their products, prototypes and services and promote, raise fund and take their prototype to the next level. A total of 11 participants presented their products in front of the jury and the winners of the event were Anurag Ramrao Lambor and Runner up was Sandeep Singh who were given cash prizes.

TECHTALK- Technical solution presentation was a platform to enable Researchers, Research Scholars, Academicians, Faculties, Corporate Experts from various institutions/organizations of the region to present their research work/research based paper to the Industry and Government representatives. Three participants delivered talks and presented their ideas to the jury and Anurag Tiwari was selected as the winner with a cash prize.

Entrepreneurship Development Program (EDP)

With a vision to promote startups and entrepreneurship, Entrepreneurship Development Program (EDP) was conducted as a Pre-Conclave event in association with India Accelerator, consisting of the two key elements: (1) Startup Awareness Workshops and (2) Startup

ACADEMIC INFRASTRUCTURE DEVELOPMENT

A number of new equipment have been added to the laboratories of the Departments and Centres. Some of the major equipment and facilities acquired by the Institute during the year under report are:

- Dynamic Light Scattering System (DLS), Make: Anton Paar GmbH- Austria, Model: LITESIZER 500
- Rheometer, Make: Anton Paar GmbH- Austria, Model: MCR 102e
- Autoclave (113 L), Make: Equitron, Model: No: #7441 SLEFA
- 1550 laser, Fiber Femtosecond Laser Calmar Optcom, Model No: FPL-04CFF
- Thermogravimetric Analyzer Make: PerkinElmer Model: TG4000
- DUCTIMETER, High Performance Ductility machine, 4 briquettes capacity, 1500 mm carriage travel. 230V/50-60/Hz/lph. (Make: Controls; Model: 81-PV10B02)
- Handheld Optical Spectrum Analyser
- LED Solar Simulator

- 6-axis Robotic Arm, FANUC
- Industrial Robotic System (DOBOT, CR-5)
- Mini-CTA

MEMORANDA OF UNDERSTANDING (MOUs)

The AER office currently handles MoUs for Academic and Research Collaborations with International academic institutions and organizations. At present there are 78 MoU active with institutions and organization from all over the world. During this coronavirus pandemic, IIT Guwahati have signed and renewed MoU with 13 International university/institutes/organizations. The following are the names:

- Curtin University, Malaysia
- University of Connecticut, USA
- Dalhousie University, Canada
- South Dakota School of Mines and Technology, USA
- University of Stavanger, Norway
- University of Geneva, Switzerland
- University of Technology Sydney, Australia
- The Institute of Physical and Chemical Research (RIKEN), Japan
- Gachon University, South Korea
- Universidade Federal De Santa Catarina (UFSC), Brazil
- University of Glasgow, UK
- Polytechnique Montreal (PM), CANADA
- Shibaura Institute of Technology, JAPAN

MEMORANDUM OF UNDERSTANDING SIGNED WITH UNIVERSITY OF ST. ANDREWS, SCOTLAND

Indian Institute of Technology Guwahati signed a Memorandum of Understanding on 06.12.2021 with University of St. Andrews, Scotland on Academic and Research Collaboration for the exchange of Faculty, Student and staff and virtually shared the MoU on 09th of December, 2021. Discussions are also going on to start a Joint Degree Programme with the University of St. Andrews.



University of St. Andrews founded in 1413, with its headquarters in College Gate, St Andrews and is Scotland's first University, and the third oldest in the English-speaking world. St Andrews occupies a place in the top 100 in the 2022 QS rankings, and 1st place in the Times and Sunday Times Good University Guide 2022.



MEMORANDUM OF UNDERSTANDING SIGNED WITH INDIA JAPAN LAB (IJL) OF KEIO UNIVERSITY, JAPAN

IIT Guwahati has signed an MoU with the India Japan Lab (IJL) of Keio University, Japan to collaborate on various issues. As per the MoU, IIT Guwahati and IJL will encourage faculty and students to work jointly for various capacity building activities, besides developing new certificate courses on specific topics related to Disaster Management.



The MoU was signed on 15 March, 2022 by the Director, IIT Guwahati and Prof. Rajib Shaw, Director, IJL, Keio University, in the presence of Dr. Sudip Mitra, Head of CDMR, IIT Guwahati and Dean, AER. Prof. Mihir Purkait. In his speech, Prof. Shaw said that the MoU would provide exposure to the IIT Guwahati students to get into various Japanese companies and learn the essence of entrepreneurship. Prof. Sitharam, Director, IIT Guwahati said that collaboration between Keio University and IIT Guwahati will not only be a technical one but a social one.

ON GOING JOINT MASTERS' DEGREE /JOINT Ph.D PROGRAMME

In collaboration with six foreign Universities, IIT Guwahati has created joint degree programs designed to prepare students for acquiring balanced expertise with effective understanding on various aspects of Science and Engineering. The following are some of the ongoing Masters and Ph.D. programme:

- Joint Academic Program (M Tech) in Food Science and Technology with GIFU University of Japan as the partner
- Joint PhD Program with GIFU University of Japan in Mechanical Engineering
- Joint PhD Program in Bio Informatics with Heidelberg University of Germany, BSBE
- Collaborative PhD Program with Curtin University of Australia in Civil Engineering
- Collaborative PhD Program with National Institute of Material Science (NIMS) Japan.
- Joint PhD supervision Program with Shantou University, China

VISIT OF HIGH COMMISSIONER OF AUSTRALIA TO INDIA MR. BARRY O FARRELL AND HIS DELEGATION

The Hon'ble High Commissioner of Australia to India Mr. Barry O Farrell and his delegation comprising of Ms. Rowan Ainsworth, Consul General for the Australian Consulate-General, Ms. Mish Khan, third secretary for the Australian High Commission, Angelina Nair, Senior Research and Visits Officer, Australian Consulate-General visited IIT Guwahati on 22.02.2022. The delegation have shown their interest to know more about Water Centre (AIWC) and our other activities in the line of NEP like opening of schools, centers and course like Liberalized Arts etc.at IIT Guwahati and their scope for prospective academic and research collaboration.

The Australia India Water Centre, a virtual joint centre established by a consortium of Australian and Indian universities, research institutions and water businesses to promote cooperation and collaboration in water research, education, training and capacity building. The visit of this high powered delegation marks yet another landmark for such collaboration that will continue to create more possibilities for research.

VISIT OF FRENCH DELEGATION LED BY DR FABIEEN CHAREIX, ATTACHÉ FOR UNIVERSITY AND SCIENTIFIC COOPERATION, FRENCH INSTITUTE IN INDIA

A French delegation led by Dr Fabien Chareix, Attaché for university and scientific cooperation, French Institute in India visited IIT Guwahati on 25.03.2022 at 1 PM. He was accompanied by Miss Noémie GICQUELET, Attachée for the French language promotion, French Institute in India, Mr Sourav Bhowmik, Manager, Campus France-Kolkata, French Institute in India, Mr Amitava Das, In-charge of university and scientific cooperation, Miss Leah Paul, In-charge of university and scientific cooperation.

The Director of the Institute has given a brief Presentation on the vision and goals of IIT Guwahati. He also emphasised on the need for more research and academic collaboration with Universities across the world. Dr Fabien Chareix, Attaché for university and scientific cooperation, French Institute in India assured that more



discussion in this line will create more avenues for such scientific and academic cooperation. Mr Sourav Bhowmik, Manager, Campus France-Kolkata, French Institute in India delivered a presentation that was meant for Final Year students of IIT Guwahati who would aspire for higher education in France. The presentation was

live streamed for the students of IIT Guwahati. The meeting ended with a vote of thanks by Prof. Hemangee K. Kapur, Associate Dean, Alumni & External Relations

THE FOLLOWING ARE THE LIST OF FULL TIME/EXCHANGE FOREIGN STUDENT REGISTERED AT IIT GUWAHATI IN 2021-22 (INBOUND):

The year 2021-22 saw a steep drop in students' mobility, all over the world, due to the Pandemic. There were some 8 students from various countries who registered for full time courses at IIT Guwahati. Following is the list of the same:

SL NO.	NAME (FULL TIME STUDENTS)	Country	Programme	Department/Centre
1.	Ms. TCHUMMEGNE KOUAM IDA	Cameroon	Full time Ph.D Fellowship	Environment
2.	Mr. Manjeet Khadka	Nepal	M.Tech	Civil
3.	Mr. Mohamed Alhady Mohamed Ali	Sudan	M.Tech	Mechanical
4.	Mr. Mohammed Tawfig Mohammed Ahmed	Sudan	M.Tech	Civil
5.	Mr. Thomas Greg Sophola	Seychelles	Ph.D	Design
6.	Mr. Desta Sodano Sheiso	Ethiopia	Ph.D	Mathematics

APPOINTMENT OF HONORARY FACULTY

Based on the approval of the 106th Meeting of the Board of Governor dated 22.04.2021 for appointment of Honorary Foreign Faculty, the AER office, Indian Institute of Technology has awarded the position of Honorary Faculty to as many as 42 faculty members. The following faculty members from various prestigious foreign university, institute and organizations in various departments/centres at IIT Guwahati:

Sl.No.	Name of the Faculty	Department
1	Dr. Srikanta Mishra	Chemical
2	Prof. Chang-Tang Chang	Chemical
3	Prof. Chi-Min Shu	Chemical
4	Prof. Enrico DRIOLI	Chemical
5	Prof. Chin-Tsan, Wang	Chemical
6	Prof. Bart Van der Bruggen	Chemical
7	Prof. Oren A. Scherman	Chemistry
8	Prof. Werner Nau	Chemistry
9	Prof. Daniel B. Werz	Chemistry
10	Prof. Sai Vanapalli	Civil
11	Prof. Anand J. Puppala	Civil
12	Prof. Sudhanshu Sekhar Panda	Civil
13	Prof. Tribikram Kundu	Civil
14	Prof. Tony Hadibarata	Civil
15	Prof. V. Amarjit Singh	Civil
16	Prof Laura U. Marks	Design
17	Prof. LYLA MEHTA	HSS
18	Prof. Raghu Echempati	Mechanical
19	Prof. Sivasankaran Harish	Mechanical
20	Prof. Partha P Mukherjee	Mechanical
21	Prof. M. A. Zikry	Mechanical
22	Prof. Arunachalam Rajendran	Mechanical
23	Prof. Ravi Fernandes	Mechanical
24	Prof. José António de Oliveira Simões	Mechanical
25	Prof. Mathew Mathew	Mechanical
26	Prof. Saurav Goel	Mechanical
27	Dr. Roger A. Sauer	Mechanical
28	Prof. Yuya Sakuraba	Physics
29	Prof. Alex Hansen	Physics
30	Prof. Victoria Martin	Physics
31	Prof. Srinivasu Vallabhapurapu	Physics
32	Prof. Roberto Petti	Physics
33	Prof. Pulickel Ajayan	Nanotechnology
34	Prof. David L. Kaplan	Nanotechnology
35	Dr. Meyya Meyyappan	Nanotechnology
36	Prof. Aditya Mohite	Nanotechnology

37	Prof. Lidong Li	Nanotechnology
38	Prof. Andrew Weller	Nanotechnology
39	Prof. Dr. Michael Hirtz	Nanotechnology
40	Prof. Irini Angelidaki	Energy
41	Prof. Soteris A Kalogirou	Energy
42	Dr. Gavin R. Sim	CLST

On joining at IIT Guwahati, the Honorary Faculty member will get associated with the Regular Faculty member of IIT Guwahati, as nominated by the concerned Center. Both the faculty members will contribute in a planned manner in teaching of regular/specific subject/s in a semester in which the subject is being taught. The Honorary faculty may also contribute to the Institute's instructional program, invited lectures or research by advising students and helping to develop new courses/programs.

ALUMNI AWARD 2021

The Institute's Alumni Award 2021 was held online on 08.12.2021. This event was hosted by the Alumni and External Relations office of IIT Guwahati and assisted by the Student Alumni Interaction Linkage team of IIT Guwahati. The Director, IIT Guwahati, Prof. T.G. Sitharam attended the event as the Chief Guest and announced the winners of the awards.

Mr. Aman Mathur, the President of IIT Guwahati Alumni Association chaired the event as the Guest of Honour.

The event Dean, Alumni and External Relations, Prof. Mihir Kumar Purkait inaugurated the session and welcomed the august audience. The event was also attended by the Dean, Resource Generation & Finance and Associate Dean, Alumni and External Relations, Prof. Rajib Kumar Bhattacharjya.

The winners of IIT Guwahati Alumni Awards 2021 are:

- Mr. Archit Gupta, CEO, Clear Tax. Mr. Gupta has been awarded with the Distinguished Alumni Award and honoured with a citation, trophy and a shawl.
- Dr. Ankit Garg, Associate Professor in the Department of Civil and Environmental Engineering at Shantou University has been awarded with the Young Alumni Achiever Award and honoured with a citation and a trophy.

The winners shared their experiences at IIT Guwahati and expressed their gratitude to their alma mater for recognising their achievements. Mr. Archit Gupta encouraged the present students and alumni of the Institute to take up entrepreneurship for a better future and help in building up the nation. Dr. Garg in his address emphasised on the need for collaboration for dissemination of the culture of scientific research worldwide. He urged the students and alumni of the Institute to be a part of research journey and thereby contribute fruitfully to the society.



Mr. Archit is a graduate from IIT Guwahati in Computer Science and Engineering in 2006, the founder and CEO at clear tax. Inspired by Silicon Valley's start-up environment, he decided to solve people's problems and serve his country through his start-up clear tax. Archit has a unique ability to identify opportunities in areas that would at first look tedious and it thus led to ClearTax which has put the Indian startup ecosystem in global spotlight and built the foundation of FinTech innovation in India. Archit belongs in that rare category of outstanding individuals who excel in every domain, showcasing the highest levels of creativity, technical vision, leadership, execution, innovation, and mentoring.

His work has received significant recognition as an outstanding entrepreneur, including the prestigious Fortune India's 40 under 40 list.



Dr. Ankit Garg, graduated with a degree in Civil Engineering from IIT Guwahati in 2010, Dr. Ankit Garg is an Associate Professor in the Department of Civil and Environmental Engineering at Shantou University (STU). He has completed his PhD from Hong Kong University of Science and Technology (HKUST). He has published more than 90 Web of Science publications and is a proud recipient of a prestigious International award from British Civil Engineering Associations UK. His perseverance and a proactive attitude helped in establishing people to people exchange. He was the main organizer of the 1st Indo-China Research Webinar series featuring more than 5000 participants in 16 technical sessions and 12 guest speaker highlights.

Currently, he is presiding over the National Natural Science Foundation of China Project.

Mr. Neeraj Kumar, General Secretary, Student Alumni Interaction Linkage Cell, IIT Guwahati addressed the gathering and requested the alumni community to lend a helping hand to the present students of IIT Guwahati, as and when appealed for.

The event ended with a vote of Thanks from the Head of the Section, Alumni and External Relations, IIT Guwahati.

A REPORT ON INTERNATIONAL STUDENTS' DAY 2021 CELEBRATION AT IIT GUWAHATI



The AER office of IITG along with SAIL organized the International Students' day on 12th November, 2021. Like previous years, the day celebrated the international diversity of the student community of the institute. The event was attended by the Director, Deans of Academic Affairs, Students' Affairs, Resource Generation & Finance and Alumni & External Relations and nearly 35 International students from Syria, Ethiopia, Seychelles, Sudan, Cameroon and Spain and a few of their family members.

The students from Syria presented a buffet of special Syrian sweets and snacks. The day also saw the students of Ethiopia prepare a coffee ceremony which served the gathering with an Ethiopian brew of coffee and bread and showed a short video on Ethiopia. A few students also shared their stories and experiences in the campus.



The new incoming students of the institute were felicitated with the traditional Assamese fulaam gamosa and the final year students graduating in 2022 were felicitated with a fulaam gamosa and a memento as a souvenir. It was a lovely evening, commemorating the day in a grand manner. The event ended with a Vote of Thanks from Prof. Rajiv Kumar Bhattacharjya, Dean, Resource Generation & Finance and Alumni, who is also the Associate Dean of Alumni & External Relations.

INFRASTRUCTURE DEVELOPMENT IN THE INSTITUTE

The Institute has been continuously developing since its inception. The development of infrastructure to meet the fast expanding ACADEMIC Activities along with accommodation facilities for the students as well as faculty members, officers and

staff in the campus has been a great challenge. The Institute has been successfully implementing projects in order to fulfill all the requirements.

The following are ongoing projects in the Campus:

Construction of Boys' Hostel-11: The Boys' hostel 11 has been completed on 31.11.2021. To accommodate the increasing nos. of Girl students, the right wing of the hostel has been converted to a Girls' Hostel.

Expansion of academic complex Phase-V: The work has been completed on 31.12.2021 and is under use.

Expansion of Academic Complex Phase-VI: The works were commenced from April'2019. Super structure works upto G+5 has been completed. Finishing works are in progress. The work is expected to be completed by next year.

Construction of 160 units of F-type residential quarters: The present scope of work covers construction of 160-units of F-Type residential quarters in 4 towers having 40 units in each tower having all basic amenities. It is a B+G+9 Storied building with 42.35m height. The project was started in July' 2018. The total progress achieved so far is 68%. The schedule date of completion of the towers is December 2022. Now, RCC, Brickwork, Superstructure works is completed in Tower 1,2 and 3. Super structure work of Tower 4 is 80% completed. Action has been initiated to complete Tower 3 work in all respect by August 2022 for occupation.

Research Park: The Ministry of Human Resource & Development (Deptt. of Higher Education) on 03.10.2017, sanctioned for establishment of Research Park at IIT Guwahati. The Ministry of Education (MoE) allocated Rs. 7500.00 lakhs for the construction of the Research Park at IITG. The building has been planned with total built up area of 19663.00 sqm. This will house one Research Block of G+ 9 floors and an Office block of G+7 floors.

The structural framework upto G+8 level has been completed. Effort is made to complete the Research block ready by July 2022.

Economically weaker section Students' Hostel: With the increase in intake of girl students' due to super numeric quota for Girls, Institute has decided to Construct a Girls' hostel of 500 seater with the funds for Economically Weaker Section (EWS) in Central Educational Institutions sanctioned by the Ministry of Education (MoE). After tendering process and receipt of funds from the Ministry, the construction work of the hostel has been started from January 2022. At present site development work and piling works is in progress. The work is scheduled to be completed by January 2024.

Electrical infrastructure: At present Institute have one 33 /11 KV sub station with capacity of 17.5 MVA comprising of 1 X 7.5 MVA and 2 X 5 MVA transformers in the campus to provide power supply to the Academic Complex, hostels, residential area including other Institute Buildings. This 33KV sub station is connected from 132KV sub station of APDCL near the IITG Campus. Institute has 11 numbers of 11KV distribution sub stations in various locations in the Campus through which the power supply is distributed to the entire Campus.

Considering the power requirement for various upcoming Academic Departments(BSBE) and other buildings such as Research park, Nano Technology Centre etc. one new 11KV distribution substation has been considered for which the tendering process is going on and likely to be completed soon.

Simultaneously upgradation of existing 11KV/0.44 substations at various locations inside Institute campus are considered and under progress.

To cater electrical additional load, a solar system of about 2 MW has been installed in the Campus.

AC infrastructure: Due to Rapid expansion IIT Guwahati academic complex augmentation of air conditioning system become essential. Today IIT Guwahati have two HVAC plants having total 3000TR capacity provide air-conditioning facility to most areas like whole academic complex, lecture hall complex auditorium, CCC, conference center, lecture hall complex, and library building etc.

In addition to this, other types of air-conditioning like VRV air conditioning system (1050TR capacity) is an energy efficient AC system installed in buildings like NEW SAC, new guest house, Research building and estate office building.

Moreover, there are another 1000TR capacity of allied AC systems comprising of window splits, Ductable ACs are also installed in Admin. Building, Central Workshop, B type community hall, Technology complex, Old Guest House and some labs in Academic complex.

In view of the growing Academic expansion, HVAC infrastructure facility is also considered for upgradation from time to time.

Considering futuristic demand, the Competent authority has approved in first phase to upgrade the HVAC central plant with 1 No. of 600 TR centrifugal water cooled chiller to cater the AC load in the campus. Accordingly, tender for the work has been invited through e-tendering and LOI was issued.

However, due to some discrepancies the order has been cancelled against the LOI bidder and re-tendering has been initiated through e-tendering procedure which is likely to be completed soon.

Data Centre: IIT Guwahati intends to develop a Data Centre of 200 KW IT Load on turnkey basis under NSM Project in association with CDAC. The system was finalized in consultation with CDAC to implement DLC based HPC racks as well as standard Storage & Networking subsystems. Accordingly, tender was floated through e-tendering and the work was allotted. The work is in progress and about to be completed soon.

SAMEER Building: The Architect has submitted the design and drawing of the building. Draft MoU has been received from Society for Applied Microwave Electronics and Research and is under vetting from the Institute Audit and Legal Cell.

Bio Science & Bio Engineering (BSBE) Building: The proposed BSBE building is G+5 storied of area 12,500 sqm of value Rs. 4500.00 lakhs. The building consisting of 25 Research Laboratories, 6 other Laboratories including office, store, DCIF, Autoclave room, High end equipment, conference room etc.

Core Laboratory for 1st yearities: This work will be of value Rs. 1500.00 lakhs of G+2 floors and about 3630 sqm area. There are 6 laboratories, 6 store rooms and 2 faculty rooms in the building.

International students' Hostel: This hostel is of G+2 of an approximate area of 3310 sqm and value is Rs. 1500.00 lakhs. Total occupancy of the hostel is 91 with attached washroom and kitchen. The hostel includes, Multipurpose hall, Media/study room, office room, warden room and electrical room etc. The site for proposed Hostel is located at the back side of New Guest House and Hospital having access from the main road of the serpentine Lake.

The structural drawing submitted by the Architect is under vetting process at Civil Engineering Department, IITG for vetting. Once the vetting is complete tenders will be invited for BSBE, Core Laboratories and International students' hostel by EPC mode.

Extension of Mechanical Department: The scope of this work includes extension of two storey over the Mechanical Annexed building. The area of each floor is about 1760 sqm.

Extension of Research building, SAC, Class room: The scope of this work includes finishing works in top 4 floors of Research Building, top floor of New SAC building and top two floors of class room complex.

Tender process has been completed and the work will be allotted shortly.

Mehta Family School of Data Science and Artificial Intelligence: The Mehta Family has agreed to fund for construction of Academic Building for Data Science and Artificial Intelligence in IITG Campus. The approximate area of the building is 4784 sqm.

EQUAL OPPORTUNITIES

The Equal Opportunity Cum Special Reservation Cell (EO-cum-SRC) has been constituted in the year 2015 and presently EOCSRC committee is headed by a Chairman, a Member Secy. And 7 other members, from which three Faculty Members, and four staff members. The cell comprises a Liaison Officer and three administrative staff. The Liaison Officer is to ensure enforcement of Gov orders of reservation in posts and services.

Some glimpse of the activities, the cell has initiated during 2021-2022 are given below-

CELEBRATION OF INTERNATIONAL DAY OF PERSONS WITH DISABILITIES

Though the last two years the cell was not able to observe the day for the Covid-19 Pandemic, this year the International Day of Persons with Disabilities was observed on 3rd December' 2021, where, Shri Debeswar Bora, Commissioner for PwDs, Govt. of Assam and Mr. Kishor Mohan Bhattacharyya, Assistant Professor of Gauhati University were invited as Chief Guest and Guest of Honour respectively.



ORIENTATION MEETING

Orientation meeting via online mode (through Microsoft Teams) was held for fresher SC/ST/PwDs students both for UG & PG programmes of 2021 batch to acclimatize with the Institute activities/ life in campus and the facilities the cell provides to SC/ST/PwD students.

IMPLEMENTATION OF SCHEDULED CASTES SUB PLAN (SCSP) AND TRIBAL SUB PLAN (TSP) IN IIT GUWAHATI

EXTENSION OF PHD ASSISTANTSHIP

"Assistantship and their Extension", under this programme assistantship is provided to those regular SC/ST/PwD Ph.D students who could not complete their PhD programme as per IIT Guwahati, norms but continuing the same. There are 28 & 16 beneficiaries from July 2016, December 2016 batches respectively.

LEARNING EQUIPMENT

Every year, Laptop (As an important learning equipment) is provided to the first year batch of B.Tech./B.Des/MA/MSc of SC/ST/PwD category, under SCSP & TSP scheme. During this year, the policy for distribution of laptop has been changed by the Competent Authority. For the batch of 2020, laptops are to be purchased by students themselves and later the reimbursement of 90% of the laptop price would be done subject to a maximum of Rs. 36,000/- per student as per the guidelines of Govt. of India. Under this Laptop scheme, total 126 numbers of student are benefited during 2021-2022.

BOOK ALLOWANCES

As per SCSP & TSP scheme Book Allowance is provided to SC/ST/PwDs undergraduate students, MSc & MA (Development Studies) in two sessions i.e. July-November & January-May @₹2500/- per session. Applications are invited for the session July-November'21 and Jan-May 2022 batch and total 54 students has been registered for the same.

COMPLAINTS AGAINST CASTE BASED DISCRIMINATION

In the last year there is no case reported against caste based discrimination. There is a provision for online Complaints Registration for Prevention of Caste Based Discrimination in IIT Guwahati through intranet website (<https://intranet.iitg.ernet.in/cbd/>). In addition to that, for offline registration EOCSRC office maintains a Grievance Register for the same.

INTERNAL TRANSPORT FOR PWDS STUDENTS

The Nodal Officer in respect of SC, ST, OBC (non-creamy layer), PWDs & Minorities (MHRD) has taken steps especially for the PWDs students based on their requirement in order to arrange transport (i.e. plying of E-Rickshaw) for their smooth movement in campus.

GUIDELINES FOR CONDUCTING WRITTEN EXAMINATION FOR PERSONS WITH DISABILITIES

On persuasion of this office the Academic Affairs Section issued a Notice in February 2019 on Guidelines for Conducting Written Examination for Persons with Disabilities as per Office Memorandum issued by Ministry of Social Justice Empowerment, Department of Disability Affairs.

STUDENTS' ACTIVITIES

CULTURAL BOARD

ALCHERINGA 2022

Alcheringa 2022-Voyage to Neoterra was the 26th edition of IIT Guwahati's Annual Cultural Festival. Conducted from 11 to 13 March 2022, Alcheringa 2022 was the first Hybrid Cultural festival of all the IITs. Alcheringa 2022 had both the online and offline modules this year.

The event was inaugurated by Prof. U. S. N. Murty, Director, NIPER Guwahati. He was also accompanied by Professor T.G. Sitharam, Director, IIT Guwahati, Dean of Student Affairs, Prof. V. Venkata Dasu and Chairman, Cultural Board Prof. Ashwini Kumar Sharma.



Online mode consisted of

- 22 Competitions under eight modules for which we had a participation of around more than 4000.
- Creators' Camp in which Content Creators from various fields interacted with the audience and guided the budding youtubers and Content Creators.
- Proshows had International Artists from over more than ten countries performing for Alcheringa 2022.

Online Module had a total viewership of around 15,000 for the 3 days of the festival.

Offline module of Alcheringa 2022 was organised exclusively for the campus fraternity due to the ongoing pandemic situations. Offline module consisted of the following events

Saaz- the Classical Night: Alcheringa hosted Grammy Award winner Vikku Vinayakram and his three generations along with his band for its Classical Night-Saaz.



Takahiro on the Santoor, and Zuheb on the Tabla, also performed on the musical night Saaz. Takahiro, the Japanese artiste who is a disciple of Pandit Shiv Kumar Sharma, is known to win the audience over with his performance and his simplicity. Zuheb Ahmed Khan is one of the leading torchbearers of the famous Ajrada Gharana and a rising star of Hindustani classical music.



Pronites: This time Alcheringa 2022 had two pronites, Crescendo (Day 1) and Juggernaut (Day 2). On day 1 the Campus Fraternity witnessed the mesmerising performance of renowned Musician and Composer Amaal Malik. The last day of Alcheringa had enchanting performances of the popular band, Underground Authority and an electrifying performance of DJ Paranox.

STUDENTS' WELFARE BOARD

Students' Welfare Board has taken various initiatives for the welfare of the student community of IIT Guwahati. The major initiatives and activities are listed below

- Formed a new club named "Substance Abuse Awareness Club" on June 26, 2021. The objective of the club is to spread the awareness about the ill effects of the substance abuse amongst the student community. The club was inaugurated by Hon'ble Director, Prof. T. G. Sitharam. Shri Rakesh Chandra Shukla, Zonal Director of Narcotics Control Bureau, Guwahati, also graced the occasion and gave a talk
- Provided financial support to the students with financial need through Students' Brotherhood Fund and Students' Contingency Fund
- Provided active support, counselling, and follow-up to the students facing issues with mental and emotional health through on campus Centre for Holistic Wellbeing and online platform YourDost. Regularly sent emails to the students to address their emotional, mental, personal, professional, interpersonal, and carrier, issues

- Organized Muskan for underprivileged children and celebrated Diwali with them
- Organized talks and webinars to address various issues related to the student community

SCHOLARSHIPS

- Mr. Akshat Arun, Roll No. 190101007 & Mr. Mohit Agarwal, Roll No. 190102109 has been selected for prestigious Tower Research Capital Scholarship 2021. The scholarship amount is Rs. 2,00,000/- per student
- Mr. Pranav Jain, Roll No. 210101078, B.Tech., CSE, Mr. Sreehari C, Roll No. 210101101, B.Tech., CSE and Mr. Aditya Prasad Mohanty, Roll No. 210107006, B.Tech. CL has been selected for prestigious Aditya Birla Scholarship for the session 2021. The scholarship amount is Rs. 1,00,000/- per annum for 4 years.
- Mr. Animesh Kumar, Roll No. 190104011, B.Tech., Civil Engineering 4th year, Mr. Goutham Jyothilal, 200103047, B.Tech., Mechanical Engineering, Mr. Harsh Govil, B.Tech., Electrical, 3rd year & Mr. Krishna Khakholia, Roll No. 200103069, B.Tech., ME, 4th year have been selected for prestigious OPJEMS Scholarship 2021. The scholarship amount is Rs. 80,000/- for a year
- Mr. Rohit Kumar, Roll No. 170103057, B.Tech ME has been recommended by the Institute for prestigious ONGC Gold Medal. ONGC Gold medal include Rs. 1,00,000/- and a gold plated medallion. The ONGC Gold Medal is awarded to the topper of B.Tech, ME course after final completion
- Mr. Kunal Bansal, Roll No. 180103096, B.Tech ME, Mr. Kumar Sree Sai Diddharth Lolla, Roll No. 204103215, M.Tech ME, Mr. P George Christopher, Roll No. 202121027, MSc Physics & Ms. Poulami Mukherjee, Roll No. 202122032, MSc Chemistry has been recommended by the Institute for prestigious ONGC Scholarship. The scholarship amount is Rs. 5,000/- per month for a year

STUDENT ACHIEVEMENT

- Neha Mariam Unnoony: Received the Prime Minister Research Fellowship from the Ministry of Education for Excellence in Research
- Sunanda Chhetry: Received the Oral Presentation Award (1st Position) at the Research and Industrial Conclave-2022, IIT Guwahati
- Alok Senapati: NEWGEN-IEDC Project at IIT Guwahati for Prototype development
- Manish Kumar Gupta: NEWGEN-IEDC Project at IIT Guwahati for Development of a Cosmeceutical as a Skin Care Product from Plant Source
- Tania Sarkar: Received the Prestigious Samsung Fellowship Award, 2021 for Master's Research project
- Madhurima Chaudhary: Received the Best Thesis Award, 2021 from the Department of BSBE, IIT Guwahati

- Parmeshwar Gavande: Received the RIC 2022, 2nd prize in Best oral presentation organized by Indian Institute of Technology Guwahati jointly with IIT Guwahati Research Park
- Vartika Srivastava: Received the Hope E. Hopps Student Award from Society for In Vitro Biology 2021: In Vitro Online! for Achievements in the field of in vitro biology
- Vartika Srivastava: Received 2nd Prize in Three Min. Thesis presentation at Research and Industrial conclave, IIT Guwahati
- Vinod Kumar: Received Best Poster Presentation Award (1st Prize) at International Conference on Advances and Innovations in Biotechnology and Allied Sciences-2022 (IC-AIBAS-2022), University Institute of Biotechnology, Chandigarh University, India
- Krishna Kant Pachauri: Received the Best Oral presentation award in allied sciences category (1st prize) at International Conference on Advances and Innovations in Biotechnology and Allied Sciences-2022 (IC-AIBAS-2022), University Institute of Biotechnology, Chandigarh University, India
- Anjali Gupta: Received 2nd Best Oral Presentation Award at Advances in Basic and Translational Research in Biology (ABTRiB) from Department of Molecular Biology and Biotechnology, Tezpur University
- Kamal Shokeen: Received the Deepika Phukan Oncology Research Award from Dr. B. Borooah Cancer Institute
- Dr. Suraj Kumar Mandal: Received the Best Oral Presentation Award at IIT Roorkee, Uttarakhand, India
- Angshu Dutta: Received the Best Oral Presentation Award at IIT Roorkee, Uttarakhand, India
- Angshu Dutta: Received the Best Poster Award at PDBj and Institute for Protein Research, Osaka University, Japan
- Chandi Patra, Tasrin Shehnaz and Harish Kumar: A project by IIT Guwahati-DST NEGWEN-IEDC (2022); IIT Guwahati-DST; Cleaner production of porous carbon using Surgical/N95 masks for wastewater treatment: A circular economy approach
- Chandi Patra: Received the Best Rapid Presentation & Poster Award at the International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021), organized by CSIR-INDIA, CSIR-Indian Institute of Petroleum Dehradun and The Biotech Research Society-India (BRSI)
- Chandi Patra: Received the Second-best Poster Award at the Research and Industrial Conclave (RIC 2022) held at the Indian Institute of Technology Guwahati, Guwahati, Assam, India
- Satakshi Hazra: Received the Best Oral Presentation Award at the Indian Consortium for Research & Innovation in Biology (ICRIB)
- Satakshi Hazra: Received First Place for Poster presentation: Scientifique at IIT Guwahati.
- Sandhya S: Received All India 3rd Prize at New Generation Ideation Contest from Hindustan Petroleum Green R&D centre
- Aravind R.: Received Samsung Fellowship Award for M. Tech. students from Samsung for M. Tech Project
- H. Krishna Kumar: Received the Augmenting Writing Skills for Articulating Research (AWSAR) Award from Department of Science and Technology, Government of India for Popular Science Article

- Pratik Nag: Received the Hridayantra Fellowship from IIT Kanpur to develop advance artificial heart
- Rachayeeta Deb: Received Oral Prize at Research conclave, IIT Guwahati
- Nayan Moni Deori: Oral Prize for Oral Presentation at Research conclave, IIT Guwahat
- Pratap Chandra: Received the 3rd Prize in Best Poster Award in the Original Research Category at National Conference on CRISPR/Cas: From Biology to Technology held at Institute of Bioinformatics and Applied Biology (IBAB) and SRM University
- Vishal Dhar: Selected for PMRF (December 2021) under lateral entry
- Pramod Madhukar Gawal: Selected for PMRF (December 2021) under lateral entry
- George Varghese P. J.: Selected for PMRF (December 2021) under lateral entry
- Dharanikota Naga Phani Sai: Selected for PMRF (December 2021) under lateral entry
- Somen Mondal: Received the best PhD thesis award in Chemical Engineering
- Riya Mallik: Received the Young Scientist Award from the Indian Chemical Society
- Monikha Chetia: Awarded the Best Flash Oral Presentation at IIT Mumbai
- Eileen Yasmin: Selected for Oral Presentation during the 15th RSC-CRSI symposium at the Royal Society of Chemistry
- Arshdeep Kaur, Subham Das and Param Aryan Singh: Received 3rd Prize at HeLLO: CTF 21, A worldwide competetifion on Hardware Logic Locking and Obfuscation
- Pooja Gajendra Bhagat: Received the Samsung Fellowship 2021
- Jayprakash Patidar: Received the Best MTech Thesis Award 2021 at CSE, IIT Guwahati
- Harsh Gupta: Received the Samsung Fellowship 2021
- Gali Jaya Prakash Reddy: Received the Samsung Fellowship 2021
- Panthadeep Bhattacharjee: Received the Best Ph. D Thesis Award ICDCIT-22 Conference, a Ph. D Research Symposium
- Divya D. Kulkarni: Received the Best Student Paper Award at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland for paper titled: An Immuno-Inspired Transfer Learning Paradigm
- Divya D. Kulkarni: Chaired the session "Evolved Neural Networks - II" at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland
- Divya D. Kulkarni: Won the participation grant to attend workshop at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland
- Gurdeep Singh: Received the IEA-Kingfar Award at International Ergonomics Association, Switzerland for Innovative safety- enriched hand tool for FMCG industries
- Achyut Shanbhag: Received the Lexus Design Award India 2021
- Prashant Patil: Received the Green Concept Award Pre-Selection 2022 for Furniture Design
- Vigneshkumar C.: Received the National Scholarship Programme of the Slovak Republic from Technical University of Kosice
- Abhishek Singh (co-authored with Dr. Pratul Ch Kalita): Received the Best Paper award for paper entitled Hybrid Infrastructure for Effective Sustainable Growth

- in the in the Track: Transportation and Mobility Systems at the International Conference on Infrastructure Development (ICID): Theory, Practice and Policy
- Anurag R. Lambor, Shashank Satish Kulkarni, Amarnath Kumar, and Sisir Kumar NayakL Received Prof. S. K. Mukharjee Gold medal for National Winner, First Prize in Engineering & Technology at National Student Research Convention Anveshan 2021-2022, Association of Indian Universities, India
 - Ashish Kumar Chowdhary: Received the AWSAR Award 2021 from DST, Govt. of India
 - Ashish Kumar Chowdhary: Received the Best Poster Award at American Physical Society (APS) Division of Laser Science (DLS)
 - Ashish Kumar Chowdhary: Received 2021 Incubic Milton Chang Travel Grant CLEO from Milton and Rosalind Chang, Optical Society of America (OSA)
 - Ashish Kumar Chowdhary: Received the Student Delegate Grant at IEEE, Organizing committee of Metamaterials-2021 Congress
 - Tanmay Bhowmik: Received the ONR and NSF Student Grant from the Office of Naval Research (ONR) and the National Science Foundation (NSF), USA
 - Dwijasish Das: Received the Intel India Research Fellowship 2021 from Intel India
 - Hrishikesan V M: Received the POSOCO POWER SYSTEM AWARDS (PPSA)-2022. This is a CSR activity of Power System Operation Corporation Limited (POSOCO) – a Government of India Enterprise
 - Rajdip Dey: Awarded the Best Oral Presentation Award at 5th International Conference on Smart Grid and Smart Cities (ICSGSC 2021, organized in Tokyo, Japan
 - Chayasmitha Deka: Received Young Scientist Summer Program (YSSP)'s Jyoti and Kirit Parikh Fellowship at International Institute for Applied Systems Analysis (IIASA), Vienna, Austria
 - Kashmiri Das: Received the NEEA Best Paper Presenter Award from the Department of Economics, Rajiv Gandhi University
 - Rahul Meel: Received Samsung Fellowship from Samsung India Electronics Limited
 - Ambrish Singh: Third place in the verbal presentation category at University of Waterloo, Canada in Online Mode
 - Dr. Harshad Sanjay: Received the Humboldt Post Doctoral Fellowship from Humboldt Foundation
 - Dhiraj S. Bombarde: Received the Best Paper Award from Alvas Institute of Engineering & Technology.
 - J. Sunku Prasad (Prof. Muthukumar): Received the Best Paper Award at NCRAC 2022
 - Abhishek Parida (Prof. Muthukumar): Received PMRS Doctoral Fellowship from MHRD
 - Tat Suraj Arun (Prof. Muthukumar): Received the Mitacs Gobalink Research Award from Simon Fraser University, Canada
 - Arnob Dutta, Kishore Kumar Padi and Z. Aparna: Selected for Tata steel-MaterialNext Program, 2021
 - Ashirbad Jana: Received the Best Presentation Award at India International Science Festival IISF
 - Arnab Sarmah: Received 1st Prize in Oral presentation-Scientifique at Research and Industrial conclave 2022, IIT Guwahati
 - Sreetama Das Choudhury: Received the Prime Minister's Research Fellowship (PMRF) 2021

- Mouli Roy Chowdhury: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Anterdipan Singh: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Dipankar Barman: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Aritra Ray: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Rajnandan Choudhury Das: Received the AWSAR Award 2021 from DST, Govt. of India, for Story on "Laser Cooling Mysteries & Harry's Heroics in Quantumverse" in the "Best Popular Science Stories" under the Ph.D. category
- Rajnandan Choudhury Das: Selected for SHYAMA PRASAD MUKHERJEE (SPM) Fellowship in Physical Science by CSIR-HRDG
- Apurba Das: National Bio Entrepreneurship Competition (NBEC 2021)
- Samik Mitra: Received the Young Researcher Award from Physics Academy of North-East (PANE) for Best oral presentation in the ASTROPHYSICS & COSMOLOGY section of the Physics Academy of North-East conference held at Tripura University
- Anterdipan Singh: Received the award for Best Oral presentation at "Recent Advances and Innovations in Solar Energy (RAiSE)-2021", IIT Madras
- Manvendra Singh Gangwar: Received Best Poster Award (1st rank) at "Recent Advances and Innovations in Solar Energy (RAiSE)-2021", IIT Madras
- Manvendra Singh Gangwar: Received Best Oral Award (2nd Rank) at Research and Industrial Conclave (RIC 2022), IIT Guwahati
- Manvendra Singh Gangwar: Received Best Poster Award (2nd Rank) at International Conference on Current Trends in Advanced Materials and their Applications for Societal Development (ICTAMASD 2022), Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P.
- Gajendra Singh Bisht: Received the award for Best Oral presentation International Conference on Advanced Materials and Mechanical Characterization (ICAMMC-2021)" held virtually
- Pragya Gupta: Best Presentation Award at 2021 Around-the-Clock Around-the-Globe Magnetism Conference (AtC-AtG)
- Angana Bhattacharya: Received the award for Best Oral Presentation at IIT Guwahati
- Bhairav Kumar Bhoumik: Received Best Poster award at (FTTA-2021) at CSIR – National Physical Laboratory
- Bhagwat Singh Chouhan: Received Best Poster award at (FTTA-2021) at CSIR – National Physical Laboratory
- Bhagwat Singh Chouhan: Received Best Poster award at WRAP 2022, IIT Bombay
- Shubham Maurya and Debdut Sengupta: Received 3rd position in INNOVATION CHALLENGE, GRAMOTTHAN_2022 at VNIT Nagpur, IJL Keio University Japan, CSP IISc Bangalore, IIT Guwahati, for project titled "Development of a Monitoring Application used for systematic Pre-Disaster Management to develop a Self-Sustaining Disaster Resilient Community'
- Prithwi Chayan Chatterjee: Awarded 2nd Prize for Oral presentation: Scientific at Research & Industrial Conclave 2022, IIT Guwahati
- Sayantan Sinha: Selected Fellow of Bose Science Society for Outstanding contribution in the field of Nanochemistry and Chemical Biology
- Prangan Duarah: Received the Prime Minister's Research Fellowship (PMRF) 2021

- Debolina Ghosh: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Sumona Koley: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Arnab Ghosh: Received the Best Thesis Award ,2021 at IIT Guwahati for thesis titled "Environmentally benign synthesis of Sn(II) based metal-organic-framework and its derivative SnO₂ nanoparticles for the decontamination of water"
- Sayantan Sinha: Selected Fellow of the Linnean Society of London
- Manideepa Paul: Secured Second place in Poster Presentation: Scientifique under the Department of Chemistry, IIT Guwahati
- Manideepa Dhar: Received Best Poster Award at International Conference on Advanced Materials and Mechanical Characterization (ICAMMC-2021) held at SRM Institute of Science and Technology
- Manideepa Dhar: Received Best Poster Award at 28th CRSI National Symposium in Chemistry, IIT Guwahati

FACULTY AND STAFF

The regular faculty strength at the end of March 2022 was 435, with strength of Visiting/ Honorary faculty being 70+. The number of non-teaching staff at the end of March 2022 was 507.

FACULTY ACHIEVEMENTS

- Prof. B. Anand: Received the Merck Young Scientist Award-2021 (Runners-up) from Merck Life Sciences for Excellence in Research
- Prof. Latha Rangan: Received the Dr. P. Sheel Memorial (Young Women Scientist) Lecture Award 2021 from National Academy of Sciences, India (NASI) for Contribution in the field of Biological Sciences (Plant Biotechnology)
- Prof. Rakhi Chaturvedi: Received the Prof. F.C. Steward Memorial Lecture Award from Plant Tissue Culture Association (India) for Outstanding achievements in the field of plant tissue culture and in vitro biology
- Prof. Rakhi Chaturvedi: To commemorate India's 75th year of Independence, the Office of the Principal Scientific Advisor, Government of India and British High Commission, New Delhi, has recognised and honoured Prof. Rakhi Chaturvedi among top 75 women in STEAM. She will be featured in the Second edition of the book "She Is" series - 'She Is – 75 Indian Women in STEAM', 2022
- Prof. Biman B. Mandal: Chosen one amongst "75 under 50 Scientists Shaping Today's India" by DST/Vigyan Prasar in a book released by Hon. Science and Technology Minister, Govt of India for Scientific Excellence and contribution
- Prof. Biman B. Mandal: Received the SWARNAJAYANTI Fellowship in Life Science from Department of Science and Technology, Govt of India for Scientific Excellence and contribution.
- Prof. Biman B. Mandal: Received the Ramachandran NATIONAL BIOSCIENCE AWARD for Career Development from Department of Biotechnology, Govt. of India
- Prof. Sachin Kumar: Received the F.M. Burnett Award from the Indian Society for Veterinary Immunology and Biotechnology

- Prof. Shankar Prasad Kanaujia: Appointed as Adjunct Faculty at the Centre of Biotechnology, University of Allahabad
- Dr. Selvaraju Narayanasamy: Has been invited to the Editorial Board of Nature Publishing Group Journal "Scientific Reports"
- Prof. Utpal Bora: Appointed as Chairman, Research Advisory Committee, Gauhati Medical College and Hospital for the period of 2021-22 to 2025-26
- Prof. Utpal Bora: Appointed as Member of Screening Committee for Technology Information Forecasting and Assessment Council (Department of Science and Technology, Govt. of India) academic partners under TIFAC-MSE program, attended a meeting on 13.04.2021
- Prof. Utpal Bora: Appointed as External Member in Institutional Biosafety Committee 14.12.2021 at College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati
- Prof. Utpal Bora: Appointed as a Member of Augmenting Writing Skills for Articulating Research (AWSAR) at Department of Science and Technology (DST), Govt. of India, New Delhi
- Dr. Selvaraju Narayanasamy: Received the Research Concept Grand Challenge Award (RCGCA) 2022 from Indian Institute of Technology Guwahati
- Prof. V. Venkata Dasu: Has been elected as a Fellow of the Royal Society of Biology
- Dr. Lalit M Pandey: Received the Malaviya Memorial Award from the Biotech Research Society (BRSI), India
- Prof. Sandip Paul: Received the Chemical Research Society of India (CRSI) Bronze Medal from Chemical Research Society of India (CRSI) for Outstanding contribution in the field of Computational Biophysics and Chemistry
- Prof. Debapratim Das: Has become as an Associate Editor in the journal Frontiers in Chemistry, "Supramolecular Chemistry"
- Prof. Sandip Paul: Joined as Editorial Advisory Board Member at the Journal of Chemical Information and Technology
- Dr. Akshai Kumar: A S has been selected as Fellow of Indian Chemical Society (FICS - Life Fellow)
- Prof. Sudip Talukdar: Outstanding Research Paper Award at the International Conference on Futuristic Technologies held at IIT Delhi
- Prof. Bimlesh Kumar: Appointed to the Editorial Advisory Board of Earth Surface Processes and Landform
- Dr. Chandan Karfa: Received the Qualcomm Faculty Award 2021
- Dr. John Jose: Received the Qualcomm Faculty Award 2021
- Prof. Shivashankar B. Nair: Best Student Paper Award, IEEE Congress on Evolutionary Computation, CEC 2021
- Dr. Rashmi Dutta Baruah: Selected for Marie Curie (CONEX-Plus) Fellowship at University Carlos III of Madrid
- Prof. Hemangee K. Kapoor: Appointed as Associate Editor IEEE design and test
- Prof. Hemangee K. Kapoor: Appointed as Member of ACM DEI council
- Prof. Hemangee K. Kapoor: Appointed as Guest editor CACM India region special issue
- Dr. Sougata Karmakar: Received ICOH-2022 Paper presentation grant from ICOH - International Commission on Occupational Health
- Dr. Urmi R. Salve: Prof. Satpati Chatterjee Oration; Physiological Society of India for Research Achievements
- Dr. Ramesh Kumar Sonkar: Selected as Senior Member of Optica

- Prof. Swaroop N. Bora: Elected as President of Indian Society of Theoretical and Applied Mechanics (ISTAM)
- Prof. Uday S Dixit: Received the Best Teacher Award by the Department for Teaching Continuum Mechanics, IIT Guwahati
- Dr. Pranab Kumar Mondal: Top cited article at The Canadian Journal of Chemical Engineering.
- Dr. Pranab Kumar Mondal: Top cited article at Electrophoresis
- Prof. P. Muthukumar: Received the Outstanding Engineering Service Award from Institution of Engineers (India) for Contributions to the country's science and technology
- Prof. P. Muthukumar: Received Abdul Kalam Technology Innovation National Fellowship 2021 from Indian National Academy of Engineering
- Prof. P. Muthukumar: Received the BIRAC-Innovation Challenge Award-SoCH Stage –1 from Department of Biotechnology, Govt. of India
- Prof. P. Muthukumar: BIRAC-Innovation Challenge Award-SoCH Stage –2 from Department of Biotechnology, Govt. of India
- Dr. S. Kanagaraj: Invited as a member of Technical Expert Committee in the area of Medical Biotechnology-I (Biomedical Engineering and Bio-design), NER-DBT, Department of Biotechnology, Govt. of India
- Dr. S. Kanagaraj: Invited as a member of Technical Expert Committee on Biomedical Engineering and Bio-Design (Devices, diagnostics and implants), Department of Biotechnology, Govt. of India
- Dr. S. Kanagaraj: Invited as Guest faculty at NIPER-Guwahati
- Dr. S. Kanagaraj: Invited as Expert, Faculty selection NIPER Guwahati
- Dr. S. Kanagaraj: Invited as Expert, Faculty selection NIPER Kolkata
- Dr. S. Kanagaraj: Invited as Chairman, Early Translation Accelerator (ETA) Expert Committee -BIRAC-BETiC
- Dr. S. Kanagaraj: Invited as Member of the Screening Committee for "SERB-SUPRA"- (Scientific and Useful Profound Research Advancement), DST
- Dr. Biranchi Panda: Became the Editorial Board member of Springer Journal "Materials Circular Economy"
- Dr. Debasish Borah: Visiting Associateship at IUCAA Pune for 2021-24
- Prof. P. K. Giri: Fellow of the West Bengal Academy of Science & Technology (WAST)
- Prof. Utpal Bora: Selected as External Member (Expert from Academia) at Kaziranga University, course/syllabus review meeting
- Prof. Utpal Bora: Appointed Member of Research Committee at Nowgong College
- Prof. Utpal Bora: Served as Jury member in "Brainstorming Conclave on Atmanirbhar North East through S&T Interventions" at Cotton University
- Prof. Arun Goyal: Received the BHU Centennial Award from Biotech research society, India, for outstanding contribution to microbial biotechnology
- Dr. Uttam Manna: Prof. Dilip Kumar Mukherjee Memorial Lecture; Ramakrishna Mission Vidyamandira
- Dr. Sudip Mitra: Has been invited to the Editorial Board of PLOS Climate international journal

INSTITUTE EXPENDITURE

The details of expenditure (provisional) during the year 2021–2022 are as follow (in crores):

Revenue expenditure	: 378.51
Capital	: 35.09
R&D	: 79.64
Total Expenditure	: 493.24

CAMPUS PLACEMENT

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2021-22 has been impressive so far. A total of 180 companies/organizations from various categories [Private, MNC (Indian origin and Foreign origin), Govt., PSU, NGO, etc.] and sectors (Sector wise- IT, R&D, Core Engineering, Consulting, Analytics, Finance, Oil & Gas, Educational, etc.) participated in the virtual recruitment process.

The total no. of registered students for virtual campus placement in the year 2021-22 is 1243 students.

The overall placement of B.Tech and B.Des students is 88.05%. For B.Tech and B.Des., number of total job offers is 575 out of 653 students. An average package offered for B.Tech. and B.Des. students is Rs.26.33 Lakhs per annum (treated as CTC).

The overall placement of M.Tech. and M.Des. students is 65.27%. For M.Tech. and M.Des., number of total job offers is 282 out of 432 students. An average package offered for M.Tech. and M.Des. students is Rs. 17.77 Lakhs per annum (treated as CTC).

For M.Sc. programs, 33 students have been placed out of 47 registered candidates.

For M.S.R. program, 9 students have been placed out of 20 registered candidates.

For M.A. programs, 12 students are placed out of 24 registered candidates.

Overall placement of all programs (B.Tech. & B.Des., M.Tech. & M.Des., MSc, MSR, MA, PhD) is **73.29%**.

The program and branch-wise placement details are:

UG (B.Tech. & B.Des)

Department	No of Students Registered	No of Students Placed	% of Students Placed
CSE	97	93	95.88
ECE	83	79	95.18
EEE	47	44	93.61
ME	88	72	81.81
CE	73	58	79.45
BSBE	33	28	84.85

CL	60	53	88.33
EP	34	31	91.18
CST	38	33	86.84
MNC	62	57	91.94
DOD	38	27	71.05
Overall	653	575	88.05

PG (M.Tech. & M.Des)

Department	No. of students Registered	No. of students placed	% of students placed
BSBE	19	4	21.05
CE	83	29	34.93
CL	52	23	44.23
CSE	59	59	100.00
DD	31	23	74.19
EEE	68	58	85.29
ME	95	71	74.73
Interdisciplinary (Data Science)	14	14	100
Rural Technology(CRT)	8	1	12.50
Interdisciplinary (Food Science and Technology)	3	0	0
Total	432	282	65.27

PG [M.S.(R)]

Department	No of Students Registered	No of Students Placed	% of Students Placed
School of Energy Sciences and Engineering	11	3	27.27
E-Mobility	9	6	66.66
Overall	20	9	45.00

PG (M.Sc.)

Department	No of Students Registered	No of Students Placed	% of Students Placed
Chemistry	19	9	47.36
Mathematics	23	19	75.00
Physics	5	5	100.00
Overall	47	33	70.21

PART II

ACADEMIC DEPARTMENTS

Biosciences and Bioengineering
Chemical Engineering
Chemistry
Civil Engineering
Computer Science and Engineering
Design
Electronic and Electrical Engineering
Humanities and Social Sciences
Mathematics
Mechanical Engineering
Physics

ACADEMIC CENTRES

Centre for Disaster Management and Research
Centre for the Environment
Centre for Indian Knowledge Systems
Centre for Linguistic Science and Technology
Centre for Nanotechnology
Centre for Sustainable Polymers

EXTRAMURAL CENTERES

Centre for Education Technology
Central Instruments Facility
Lakshminath Bezbaroa Central Library
Centre for Career Development

SCHOOLS

School of Agro and Rural Technology
Mehta Family School of Data Science and Artificial Intelligence
School of Energy Science and Engineering
School of Health Science and Technology

LABORATORY FACILITIES

MAB (Mechanistic Approaches to Biology) Laboratory (Dr. B. Anand): The current focus of our vibrant research group is directed towards addressing fundamental and important questions in the area of RNA biology by employing an eclectic mix of modus operandi that is drawn from biochemical, biophysical, computational and molecular genetics approaches. Our immediate obsession is to resolve the mechanistic questions pertaining to CRISPR Biology and Ribosome Biogenesis.

BERL (Bioengineering Research Laboratory) (Prof. Utpal Bora): The research interests of this Laboratory include Biomedical Engineering, Seri-biodiversity, Seri-bioinformatics and Bio-entrepreneurship.

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.

Plant Tissue Culture & Secondary Metabolite Production Laboratory (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 vigor 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.

Biophysical Chemistry Laboratory (Dr. Nitin Chaudhary): The Laboratory focuses on understanding the molecular self-assembly and amyloid diseases, protein/peptide membrane interactions, and developing peptide based antibiotics.

Bioprocess Development Laboratory (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.

Prof. V. V. Dasu Laboratory: The Laboratory focuses on Bioprocess development (upstream to downstream), metabolic engineering, and bioenergy.

Prof. Siddhartha Sankar Ghosh Laboratory: 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.

Biosensor and Biofuel Cell Research Laboratory (Prof. Pranab Goswami): The lab is involved in the development of novel bio-recognition system 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.

Prof. Arun Goyal Laboratory: The lab research interests include Molecular Biology, Protein Engineering, Rational Enzyme Engineering, 3-Dimensional Structure (In silico, crystal and solution) and Function analysis of enzymes and their industrial (Biorefinery, therapeutic, food, Pulp and paper) applications.

Neural Engineering Laboratory (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.

Stem Cell and Cancer Biology Group (Dr. Bithiah Grace Jaganathan): The current focus of the research group is to understand the role of mechanotransduction in stem cell differentiation and cancer metastasis. The group also studies various signaling pathways and microenvironment mediated chemoresistance in leukemia and breast cancer.

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.

Molecular Microbiology Laboratory (Prof. 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 a vaccine against outer membrane proteins of *Leptospira interrogans* and *Borrelia burgdorferi*, and (iv) Vector-borne diseases of Zoonotic importance.

Viral Immunology Laboratory (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.

Cancer Biology Laboratory (Prof. 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.

The Molecular Endocrinology Laboratory (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.

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.

Biomaterials and Tissue Engineering Laboratory (A DBT Unit of Excellence) (Prof. Biman B. Mandal): Tissue engineering has emerged as a potential way to regenerate/treat tissue damage or organ failure as a result of injury and/or disease. Our Laboratory majorly focusses on using silk biomaterials for developing affordable and functional lab grown tissue/organ replacements for human transplantation. The lab research is directed towards the following areas of importance i.e. Tissue Engineering of Grafts and Implants, Stem Cell Based Regenerative Medicine, Biomaterials, 3D Bioprinting, Drug Delivery Systems, 3D In Vitro Disease Models for high throughput drug screening applications. More than 160 research articles have been published with very high impact and citations, 23 patents, 03 technology licensed, 01 product launched in market.

Organelle Biology and Cellular Ageing Laboratory (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.

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.

Bio-interface & Environmental Engineering Laboratory (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.

Enzyme and Microbial Technology Laboratory (Prof. Sanjukta Patra): The EMT research group studies the microbes and their applications in different spectrums of Metagenomics, Industrial Microbiology, Extremophiles, Environmental Biotechnology, Disease Therapeutics and diagnosis.

Prof. Aiyagari Ramesh Laboratory: Biocompatible hydroxyapatite-based nanocomposites have been generated using secreted proteins of probiotic lactic acid bacteria (LAB) as biomineralization scaffolds. The antibiotic loaded nanocomposites exhibited bactericidal activity against *Pseudomonas aeruginosa* biofilm. A gastric fluid tolerant bacteriocin-loaded nanocomposite was generated as an antiadhesion agent to reduce *in vitro* colonization of intestinal cells by pathogenic bacteria and support adhesion of beneficial probiotic LAB. In another research endeavor, low molecular weight synthetic amphiphiles having multimodal chemistry have been rationally designed to promote interaction with staphylococcal lipoteichoic acid and facilitate metal sequestration. The amphiphile could render a profound effect on cell growth and metallophore gene expression in methicillin-resistant *Staphylococcus aureus* (MRSA).

Molecular Informatics and Design Group (Prof. 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.

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.

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.

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.

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.

Bio Process Analytical Technology (BioPAT) Laboratory (Dr. Senthilkumar Sivaprakasam): Our research area is in line with Process Analytical Technology (PAT), an US FDA initiative emphasizing "Building Quality into Products with Innovative Process Design." PAT is an emerging area of research with the biopharmaceutical industry employing it at different stages such as raw material characterization, in-process monitoring, and final product analysis. Due to the complex and nonlinear characteristics of any bioprocess, monitoring, measuring, modelling, and controlling (M3C) are critical in bioprocess development. We, as a crew, study the robust manufacturing of bio-therapeutics, biopolymers, and nutraceuticals. Based on the notion of revamping the microbial cells as factories by manipulating their metabolic pathway, optimizing the process conditions, real-time monitoring, and controlling the critical process parameters (CPPs) to boost productivity and achieve consistent product quality. In our BioPAT lab facility, bioprocess development of a product is facilitated via M3C technique. Employing PAT tools such as fermentation calorimeter, dielectric spectroscopy, exhaust gas analyzer, and optical density probe provides real-time metabolic insights into a bioprocess. These tools aid in identifying critical process parameters of the processes. Combining real-time measurements obtained from PAT tools with robust control strategies such as inferential control, adaptive control, model predictive control, and data-driven control ensures a consistent quality of the final product.

RNA Binding Proteins 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.

Protein Biophysics Laboratory (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. Intrinsic electronic absorption and luminescence spectra in proteins originating from photoinduced electron transfer and charge recombination, respectively are actively studied. These novel spectra discovered in our lab are employed to monitor events like protein folding or aggregation in a label-free approach.

Calcium Signaling Laboratory (Dr. Ranjan Tamuli): We are 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. We hope to extend our research to understand the role of calcium signaling in memory, learning, and other related areas in future.

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.

Malaria Research Group (Prof. 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.

Dr. Selvaraju Narayanasamy Laboratory: The research interest of the lab includes Environmental Biotechnology, Bioprocess Engineering, and Biochemical Engineering.

Biomechanics and Simulations Laboratory (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.

Computational Laboratory: The computational lab is used for carrying out the Bioinformatics and Computational Biology Lab, a lab courses of the B. Tech. curriculum.

Experimental Teaching Laboratory: The Laboratory is used to conduct the experimental course of the B. Tech. and M.Tech. curriculum.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED DURING

- Dynamic Light Scattering System (DLS); Make: Anton Paar GmbH- Austria, Model: LITESIZER 500
- Rheometer; Make: Anton Paar GmbH- Austria, Model: MCR 102e
- Autoclave (113 L); Make: Equitron, Model: No: #7441 SLEFA
- Inverted Fluorescence Microscope; Make: Olympus, Model: CKX53SF + DP23M
- Multi-function Printers; Make: hp, Model: M226dw
- Analytical Balance; Make: A&D, Model: HR-250 AZ
- Laminar Hood
- Make: Icon Instruments Company, Model: IIC 124-1A
- Dr. Arun Goyal: Thermal cyclers for PCR, FPLC, Robotics for automated crystal formation, Crystal incubator and FTIR
- Dr. Sachin Kumar: Biorad 2D gel electrophoresis, Biorad Real Time PCR, Beckman Cytoflex, Beckman Ultracentrifuge
- Dr. Manish Kumar: NGC Quest 10 plus chromatography system

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Cell signaling, Systems Biology, Plant Tissue Culture & Secondary Metabolites Production, 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, Enzyme and Microbial Technology, Metagenomics, Environmental Biotechnology, Applied Biodiversity, Biosensors, Systems Biology, Bioprocess Engineering, Cancer Biology, Bio/Physio Sensors and Nanobioengineering, Biosensors and bio-fuel cells, Neural Engineering. Network medicine, Bio-Nano catalysis, Drug delivery vehicles, Preparation of polypyrrole embedded nanocellulose and surfactant (CTAB) modified carbon adsorbent for efficient elimination of azo-anionic dyes. Elimination of pharmaceutical wastes viz. antibiotics using carbon and grass based nanocellulose adsorbents. Phyto, microbial and fish toxicity studies for ecotoxicological assessment of the prepared adsorbents to understand its significance in eliminating pollutants from aqueous bodies, Biomechanics, Soft computing, Artificial intelligence, Machine learning, Implant design.

Initiatives of DBT programme Support: Prof Ghosh as a PI along with other faculty members, involved in DBT Program Support Phase –II project at IIT Guwahati, received project support from the DBT India on “Translation Research Programme for Developing Diagnostics and Nano-based Sensors”. This multidisciplinary programme was formulated based on the major leads of the existing DBT Programme Support project. Besides manpower training and basic research, this new project is aimed to develop sensors and Transfer of Technology (ToT) to the Start-Up companies. Prof. Ghosh has also received a multi-institutional grant on "mechanistic Investigation for EMT targeted nanotherapeutics".

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

Dr. A Ramesh:

- A biomineralization-based approach was deployed to generate biocompatible nanoscale hydroxyapatite, which could support growth and differentiation of bone cells. A urea-based ligand was developed as an efflux pump inhibitor that could potentiate the activity of ciprofloxacin in combinatorial treatment and hinder adhesion of Methicillin-resistant *Staphylococcus aureus* (MRSA) onto collagen

Dr. L. Rangan:

- Complete chloroplast genome of potential biofuel crop *Pongamia* undertaken and was successfully completed. Genome sequence was deposited to NCBI GenBank (Pongamia_pinnata_IITG Contig1 MW752444; 152940 bp).
- Design and construction of a customizable model for evaporation and recovery of organic solvents using simple labwares was done. This is on the construction of an easy-to-assemble model for evaporation and recovery of organic solvents using simple Laboratory materials and glassware, working on the principle of evaporation under reduced pressure

Dr. Manish Kumar:

- Developed diagnostic antigen for *Theileria annulata* infection in bovines
- Demonstrated novel role of trigger factor of *Leptospira* in modulating caseinolytic protease
- Deciphered the processing of CRISPR array transcript of *Leptospira* by Cas6 to form mature crRNA

Dr. Arun Goyal:

- Computational and SAXS based structure insights of pectin acetyl esterase (CtPae12B) of family 12 carbohydrate esterase from *Clostridium thermocellum* ATCC 27405
- Cloning, expression and molecular structure analysis by computational modeling and SAXS based structure development of an endoglucanase, CtGH9C from *Clostridium thermocellum*
- Established the multifunctionality and processivity of an endoglucanase, RfGH5_4 from *Ruminococcus flavefaciens* by TLC and MALDI-TOF MS
- Structure and dynamics analysis of multi-domain putative β -1,4-glucosidase of Family 3 Glycoside Hydrolase (PsGH3) from *Pseudopedobacter saltans*

Dr. Navin Gupta:

- A team from Neural Engineering Lab, Dept. of BSBE, IIT Guwahati was placed in the top ten teams of the world in an international brain computer interfaces competition

Dr. Senthil Kumar:

- Successfully completed a MHRD-UAY project, which involves process optimization of Ranibizumab production from recombinant *E.coli*. It is a multi-institutional project involving M/s Biocon as Industrial partner
- THREE doctoral students successfully graduated. TWO got placed in Industry R&D and ONE secured post-doctoral position at UCL, London

Dr. Souptick Chanda:

- The Double Oblique Device for Osteosynthesis (DODO) of hip, a novel femur fracture plate, was developed in collaboration with NEIGRIHMS Shillong, considering the regional morphometry of the indigenous Northeast (NE) population of India. A design patent (Indian) application is currently under review

Prof. S. S Ghosh:

- Our group has been working on understanding signaling events in co-targeting triple negative breast cancer cells, movement of hydrogel in constricted microchannel and drug resistant behavior of EMT cells during deformation. In device front, our collaborative work on development of FET-based POC devices for detection of biomarkers and nanotheranostics are being progressed. Our group was actively involved in Transfer of Technology of a sensor device

Dr. L M Pandey:

- Physicochemical factors of bioprocessing impact the stability of therapeutic proteins
- Antibacterial nano-biocomposite scaffolds for bone tissue engineering
- Hydrophobic Surface Induced Biosorption and Microbial Ex Situ Remediation of Oil-Contaminated Sites
- Microbial Enhanced Oil Recovery

Dr. S Nagotu:

- A role for peroxisomes in replicative ageing of yeast cells was deciphered

- Post-translational modification of the peroxisomal protein Pex30 was identified and its role in organelle biogenesis was elucidated

Dr. K. K. Singh:

Recent Research development:

- Generated CRISPR-Cas9 mediated KO of UPF3B gene
- Elucidated the functional role of UPF3B in NMD and neuron-related pathways
- Estimated the strengths of the donor and acceptor splice sites of UPF3B minigene construct
- Elucidated miRNA-mediated regulation of RNPS1 protein
- Investigated the functional role of RNPS1 deregulation in cervical cancer
- Reported multiple novel isoforms of MAGOH paralogs

Dr. Biman B. Mandal: Biomaterials and Tissue Engineering Laboratory (A DBT Unit of Excellence):

- The lab research is directed towards the following areas of importance i.e. Tissue Engineering of Grafts and Implants, Stem Cell Based Regenerative Medicine, Biomaterials, 3D Bioprinting, Drug Delivery Systems, 3D In Vitro Disease Models for high throughput drug screening applications. More than 160 research articles have been published with very high impact and citations, 23 patents, 03 technology licensed, 01 product launched in market.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
1	Prof. Latha Rangan	BREEECH 2021	IITR, Dehradun	02/12/2021	International
2	Prof. Latha Rangan	BASEH 2021	NIT Jaipur	06/04/2021	International
3	Prof. Manish Kumar	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health	Online mode, CSIR Dehradun	01/12/2021 – 04/12/ 2021	International
4	Prof. Manish Kumar	Serine Proteases in Pericellular Proteolysis and Signaling	Online mode, Rockville, Maryland	28/10/2021 - 30/10/2021	International
5	Prof. Manish Kumar	National Bioengineering Conference- 2022	Online mode, NIT Rourkela	06.01.2022 - 07.01.2022	National
6	Prof. Rajaram Swaminathan	BPS2022 66th Biophysical Society Meeting (participated ONLINE only)	San Francisco, USA	19/2/2022 - 23/2/2022	International
7	Prof. Rakhi Chaturvedi	42nd Annual Meeting of Plant Tissue Culture Association – INDIA (PTCA-I) & International Symposium on “Advances in Plant Biotechnology and Genome Editing” (APBGE-2021)	ICAR-Indian Institute of Agricultural Biotechnology, Ranchi, Jharkhand, INDIA	08/04/2021 - 10/04/2021	International
8	Prof. Rakhi Chaturvedi	International Conference on Plant Physiology and Biotechnology (ICPPB-2021)	Lovely Professional University,	10.09.2021 - 12.09.2021	International

			Phagwara, Punjab, INDIA		
9	Prof. Rakhi Chaturvedi	International Symposium on Plant Biotechnology Towards Improving Agri-Food Industry and Healthcare Products” (ISPB-2021)	Birla Institute of Technology, Mesra Ranchi, Jharkhand, INDIA	27.10.2021 - 30.10.2021	International
10	Prof. Rakhi Chaturvedi	International training program on plant tissue culture for entrepreneurship and sustainable development	SAGE School of Agriculture Sciences, SAGE University, Bhopal, INDIA	10.11.2021- 23.11.2021	International
11	Prof. Rakhi Chaturvedi	International Conference on Advances and Innovations in Biotechnology and Allied Sciences-2022 (IC-AIBAS-2022)	University Institute of Biotechnology, Chandigarh University, INDIA	24.03.2021 - 25.03.2021	International
12	Prof. Sachin Kumar	Ethics in the age of synthetic biology	AICTE ATAL FDP on Computational Synthetic and Systems Biology	26/07/ 2021 - 30/07/ 2021	National
13	Prof. Shankar Prasad Kanaujia	National Conference on Computational and Biochemical Drug Discovery [NCCBDD-2021]	I-DAPT HUB FOUNDATION IIT (BHU), VARANASI and Bioinformatics and Drug Discovery Society, India	11.09.2021 - 12.09.2021	National
14	Dr. Selvaraju Narayanasamy	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021). (Ajit Kumar, Chandi Patra, Selvaraju Narayanasamy) “Effect of magnetization on activated carbon for the remediation of antibiotics from aqueous solution”	CSIR-Indian Institute of Petroleum Dehradun (Uttarakhand), India	01.12.2021 – 04.12.2021	International
15	Dr. Selvaraju Narayanasamy	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021). (Chandi Patra, Ajit Kumar, Selvaraju Narayanasamy) “Polypyrrole doped acid activated carbon for efficient removal of emerging antibiotic contaminant from simulated wastewater setups”	CSIR-Indian Institute of Petroleum Dehradun (Uttarakhand), India	01.12.2021 - 04.12.2021	International

16	Dr. Selvaraju Narayanasamy	1st International Virtual Conference on Sustainable Water 2022 (ICSW-2022) (Vishnu Priyan V. and Selvaraju Narayanasamy) "Elimination of pharmaceutical drug Ibuprofen by Polypyrrole modified Carboxymethylcellulose (CMC/PPY): Evaluation and Toxicological assessment"	Department of chemical Engineering, KPR Institute of Engineering and Technology, Coimbatore, Tamil Nadu, India	22.03.2022 - 23.03.2022	International
17	Dr. Selvaraju Narayanasamy	Research & Industrial Conclave 2022 (RIC-2022) (Nirvesh, Ajit Kumar, Selvaraju Narayanasamy) "Removal of dye from aqueous solution by CMC/CH beads"	Indian Institute of Technology Guwahati, Assam, India	20.01.2022 - 23.01.2022	National
18	Dr. Souptick Chanda	Double Oblique Device for Osteosynthesis (DODO) of Hip: an indigenous implant for the northeast (NE) population of India. 66th Annual Conference of Indian Orthopaedic Association (IOACON 2021)	Goa, India	21.12.2021 - 25.12.2021	National
19	Prof. Vibin Ramakrishnan	ATAL FDP Faculty Development Program	NIT Surathkal	12/07/2022	National
20	Prof. Vibin Ramakrishnan	National Workshop on Research Methodology	CARI Guwahati	23/03/2022	National
21	Prof. Ranjan Tamuli	Molecular Intricacies of Plant Associated Microorganisms (MIPAM-2022)	Hyderabad	17/02/2022 - 20/02/2022	International
22	Dr. Lalit M. Pandey	International Conference on Colloid and Interface Chemistry (CIC 2021),	Xi'an, China	23/04/2021 - 25/04/2021	International
23	Dr. Lalit M. Pandey	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health	Dehradun, India	01/12/2021 – 04/12/2021	International
24	Dr. Lalit M. Pandey	Chemcon-2021	Bhubaneswar, India	26/12/2021 - 30/12/2021	International
25	Dr. Kusum Singh	RNA Binding Proteins: From RNA binding to condensation and aggregation	National Centre For Cell Science (Virtual mode)	07/02/2022 - 11/02/2022	International
26	Dr. Kusum Singh	The Non-coding Genome	University of Rome, Italy (Virtual mode)	13/10/2021 - 15/10/2021	International
27	Dr. Kusum Singh	Systems Biology-Global regulation of gene expression	Cold Spring Harbor, NY, USA (Virtual mode)	09/03/2021 - 12/03/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Prof. B. Anand	Molecular Mechanism of CRISPR Adaptation	iCRISPR-2021, SRM-AP	Virtual mode	26/11/2021
2	Prof. Kannan Pakshirajan	Syngas fermentation	Shiksha 'O' Anusandhan Deemed to be University, Bhubaneswar, Odisha	Online	07/01/2022
3	Prof. Kannan Pakshirajan	Wastewater biorefinery: Future green industry	Rajiv Gandhi University of Knowledge Technologies, Nuzvid, Andhra Pradesh	Online	18/09/2021
4	Prof. Kannan Pakshirajan	A biorefinery approach toward biofuels and other value added products from biomass gasification waste	National Institute of Technology Andhra Pradesh	Online	13/09/2021
5	Prof. Latha Rangan	Introduction to IPR and its various domains	Dept. of Applied Biology, USTM	Online Webinar	22/03/2022
6	Prof. Latha Rangan	Rendezvous with Zingiberaceae- Mining Plastome	NASI Allahabad	Online Webinar on occasion of International Women's Day	08/03/2022
7	Prof. Latha Rangan	Molecular phylogeny of Zingiberaceae	Department of Botany, Jamal Mohamed College, Tirchi, T. N.	National level Webinar,	17/02/2022
8	Prof. Latha Rangan	Genome size determination of woody tree species: A flow-cytometric approach		Online plant flow cytometry workshop:	18/12/2021
9	Prof. Latha Rangan	Flow cytometric studies on non-edible oil crops	IIPR, Dehradun	BREECH 2021 Dehradun	03/12/2021
10	Prof. Latha Rangan	Design Registration- A Marketing Tool	Dept. of Botany, USTM	Online Webinar	12/11/2021
11	Prof. Latha Rangan	Repeat element analysis in Karanj for marker development	Lovely Professional University, Patiala	Online Conference, Punjab	07/10/2021
12	Prof. Latha Rangan	Flow mining and in karanj and other biofuel crops	Sysmex Academy	Online Webinar, Sysmex	23/07/2021
13	Prof. Latha Rangan	Karanjin- Molecule of Interest	NIT Jaipur	BASEH-BRSI Annual Convention	06/04/2021
14	Prof. Rajaram Swaminathan	Charged non-aromatic Amino Acids in a Protein as Intrinsic Spectral Probes to Track	FCS2021 conference organized by IISER and RGCB	Thiruvananthapuram	04/12/2021

		Protein Unfolding and Aggregation		(participated ONLINE only)	
15	Prof. Rakhi Chaturvedi	Plant Tissue Culture and Bioresource Conservation	Department of Biotechnology, GSFC University, Vadodara, Gujarat, India	Live (virtual event)	18/06/2021 - 19/06/2021
16	Prof. Rakhi Chaturvedi	Plant biotechnology intervention in biodiversity conservations	Mariano Marcos State University, City of Batac, 2906 Ilocos Norte, Philippines	Live (virtual event)	22/06/2021
17	Prof. Rakhi Chaturvedi	Sustainability of Bioresources using Plant Tissue Culture Techniques	Guru Ghasidas University, Koni, Bilaspur, Chhattisgarh, India	Live (virtual event)	03/08/2021
18	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Banda university of Agriculture and Technology, Banda, Uttar Pradesh, India	Live (virtual event)	05/08/2021
19	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Guru Ghasidas University, Koni, Bilaspur, Chhattisgarh, India	Live (virtual event)	09/08/2021
20	Prof. Rakhi Chaturvedi	Plant Tissue Culture: A promising approach to biodiversity conservation, afforestation and plant secondary metabolite production	Amity University, Lucknow, Uttar Pradesh, INDIA	Live (virtual event)	30/09/2021
21	Prof. Biman B. Mandal	Plenary talk at "BioSangam 2022"	Motilal Nehru National Institute of Technology (MNIT) Allahabad	Allahabad	11/03/2022
22	Prof. Biman B. Mandal	Invited Talk at Biomaterials Online Conclave 2022	National Centre for Nanoscience and Nanotechnology, University of Madras	Chennai	08/03/2022
23	Prof. Biman B. Mandal	Invited talk at Indian Nanoelectronics Users' Program (INUP-i2i)	IIT Guwahati	Guwahati	01/03/2022
24	Prof. Biman B. Mandal	Invited talk at webinar titled "Emerging trends in translational application of Stem Cell Research"	AIIMS New Delhi	Delhi	25/02/2022 - 27/02/2022
25	Prof. Biman B. Mandal	<i>Invited talk at "one-day webinar on aging and age-associated CNS disorders"</i>	NIPER Hajipur	Bihar	25/02/2022
26	Prof. Biman B. Mandal	Keynote Lecture at APA NANOFORUM-2022, an International conference of Nanomaterials and Nanoengineering.	IIT Delhi	Delhi	24/02/2022 - 26/02/2022

27	Prof. Biman B. Mandal	Invited Talk at Ph.D. Orientation Program for 2022 batch	University of Science & Technology Meghalaya (USTM)	Meghalaya	17/02/2022
28	Prof. Biman B. Mandal	Invited talk at IIT Gandhinagar on seminar series	IIT Gandhinagar	Gandhinagar	02/02/2022
29	Prof. Biman B. Mandal	Invited talk at Centre for Predictive Model Systems (CPHMS) at, June 26, 2021 organized by	Atal Incubation Centre-CCMB	Hyderabad	26/06/2021
30	Prof. Sachin Kumar	GENETICALLY ENGINEERED VACCINES: Modern Era of Vaccines	Don Bosco University	Assam	17/03/2022
31	Prof. Sachin Kumar	Drug design and discovery	Don Bosco University	Assam	17/03/2022
32	Prof. Sachin Kumar	Newcastle disease virus as a tool for developing animal vaccines and diagnostics	ADAMAS University	Kolkata	22/04/2022
33	Prof. Shankar Prasad Kanaujia	Sugar ABC importers in bacteria: potential drug targets and delivery systems	Centre of Biotechnology, University of Allahabad	Allahabad	10/01/2022 - 24/01/2022
34	Prof. Shankar Prasad Kanaujia	Sugar ABC importers as potential drug targets and delivery systems.	I-DAPT HUB FOUNDATION IIT (BHU), VARANASI and Bioinformatics and Drug Discovery Society, India	Varanasi	11/09/2021 - 12/09/2021
35	Prof. Utpal Bora	Research Advisory Committee (RAC) meeting	Fakhruddin Ali Ahmed Medical College, Barpeta	Barpeta, Assam	25/03/2022.
36	Prof. Utpal Bora	Lecture entitled "Bio-medical Research: Ideas, Inspirations and Challenges" in Science Lecture organized by Multidisciplinary Research Unit	Fakhruddin Ali Ahmed Medical College, Barpeta	Barpeta, Assam	25/03/2022
37	Prof. Utpal Bora	National Seminar on "Emerging Priorities in Science and Technology with Special Focus on Rural and Green Technology"	B. Borooh College, Guwahati, Assam- 781007	Guwahati, Assam	24/03/2022
38	Prof. Utpal Bora	Lecture entitled "Sustainable food Security" in National Seminar on Advances in Basic and Translational Research in Biology (ABTRiB)	Department of Molecular Biology and Biotechnology (MBBT), Tezpur University	Tezpur, Assam	12/03/2022
39	Prof. Utpal Bora	Lecture entitled "Data in Food Security" in International Workshop on Skill Development through Impact Analysis of Emerging Data with	Department of Agricultural Statistics and Department of Agricultural Engineering, Assam	Assam Agricultural University, Jorhat, Assam	12/03/2022

		Agricultural Technology in Population Sciences	Agricultural University, Jorhat, Assam and Indian Agricultural Statistics Research Institute (IASRI), ICAR, Pusa, New Delhi	(Online)	
40	Prof. Utpal Bora	Meeting of Institutional Biosafety Committee	College of Veterinary Science, Assam Agricultural University, Khanapara	Khanapara, Assam	07/12/2021
41	Prof. Utpal Bora	4th meeting of DBT-NER Technical Expert Committee (TEC) on Medicinal & Aromatic Plants, Bioresources & Secondary Agriculture and Silk Biotechnology	DBT, Govt. of India		02/09/2021
42	Prof. Utpal Bora	Invited as an Expert and Resource Person for Brainstorming Session	Directorate of Sericulture, Govt. of Assam	Guwahati, Assam	07/08/2021
43	Dr. Selvaraju Narayanasamy	Challenges and Practices on Wastewater and Solid waste Management for Sustainable Environment (CPWSMSE'22)	Department of Civil Engineering Annamalai University	Chidambaram, Tamil Nadu, India	23/03/2022
44	Prof. Vibin Ramakrishnan	"Charges & Shapes". Alumni lecture series, Golden Jubilee celebrations, Cochin University	Cochin University of Science and Technology, Kochi-22	Kochi	14/03/2022
45	Dr. Cota Navin Gupta	National Bioengineering Conference (From lab to End User) https://www.bioengineeringconf.com/guest-speakers	Department of Biotechnology and Medical Engineering, NIT Rourkela	Rourkela, Orissa	06/01/2022
46	Dr. Cota Navin Gupta	SNCI virtual meeting on Cognitive and Neurodevelopmental disorders	NEHU, Shillong, Meghalaya	Online	30/11/2021
47	Prof. Senthilkumar Sivaprakasam	AICTE-ATAL Sponsored Online Faculty Development Programme on Fermentation Technology and Biochemical Engineering	Madras Institute of Technology	Chennai	02/02/2022
48	Prof. Senthilkumar Sivaprakasam	International Conference on Recent Advances in Biosciences and Bioengineering (ICRABB) – 2022	SRM Institute of Science and Technology	Chennai	25/02/2022
49	Prof. Senthilkumar Sivaprakasam	Special Invited Lecture	Dept. of Biotechnology, CBIT, Hyderabad	Hyderabad	05/04/2022
50	Dr. Rajkumar P. Thummer	Reprogramming Somatic Cells to Induced Pluripotent Stem Cells: Challenges and Opportunities	D. Y. Patil Education Society, Kolhapur, Maharashtra, India	Zoom Platform	20/08/2021

51	Dr. Souptick Chanda	Surgeon & Scientist Interface in Optimization of Body Biomechanics	Gujarat Orthopaedic Association Conference (GOACON 2022)	Silvassa	06/03/2022
52	Dr. Souptick Chanda	Real-Time Monitoring of Hip Stem Micromotion: A Potential Field of Application of Antenna Based Imaging	Indian Conference on Antennas and Propagation (InCAP 2021) Malaviya National Institute of Technology (MNIT) – virtual mode	Jaipur	16/12/2021
53	Prof. Siddhartha Sankar Ghosh	Applications of Scanning Electron Microscope in Biological Sciences and Biotechnology	IIT Guwahati	IIT Guwahati	16/06/2022
54	Prof. Siddhartha Sankar Ghosh	Imminent Prospects of Nano Technology in Cancer Theranostics	ACCLMPCON 2022	NEDFi Convention Centre, Guwahati	09/01/2022
55	Prof. Siddhartha Sankar Ghosh	Imminent Prospects of Cancer Nanotheranostic Devices	INUP-i2i 2022 Workshop	IIT Guwahati	01/03/2022
56	Dr. Lalit M. Pandey	Surface engineering of Ti6Al4V by forming hybrid self-assembled monolayers and its effect on collagen-I adsorption, osteoblast adhesion and integrin expression	Conference on Colloid and Interface Chemistry (CIC 2021)	Virtual	23/04/2021 - 25/04/2021
57	Dr. Lalit M. Pandey	Hydrophobic surface induced biosorption and microbial ex-situ remediation of oil-contaminated sites	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BREEECH 2021)	Virtual	01/12/2021
58	Dr. Lalit M. Pandey	Surface Modification” in the AICTE Training and Learning Academy sponsored Faculty Development Program (ATAL-FDP) on "Advanced manufacturing of Biomedical Devices for Health Technologies	Department of Mechanical Engineering, IIT Tirupati	Virtual	13/12/2021 - 17/12/2021
59	Dr. Lalit M. Pandey	Microbial Production of Biosurfactants	A Five-day Virtual Workshop on Basic Techniques involved in Industrial Microbiology for Product Development organized by CSIR-IIIM, Jammu	Virtual	16/12/2021 - 21/12/2021

60	Dr. Lalit M. Pandey	Nano-Hydroxyapatite for Biomedical Applications	Department of Mechanical Engineering, IIT Tirupati	Virtual	24/01/2022 - 28/01/2022
61	Dr. Lalit M. Pandey	Nano Hydroxyapatite: A Potential Bioceramic for Biomedical Applications	NIT Nagaland	Virtual	27/01/2022 - 29/01/2022

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANISATIONS / INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Prof. Krishnaveni Mishra	University of Hyderabad	Staying in shape: lessons from budding yeast	11/05/2021
02	Mr. Sushanth Banerjee	CEO, Orthotech	Institute and Industry Interphase	04/06/2021
03	Dr. Swagata Halder	Institute for Research in Biomedicine Università della Svizzera italiana, Switzerland	SPRTN-mediated DNA-protein crosslink repair and its causal relationship with cancer and ageing	23/07/2021
04	Prof. Umesh Varshney	IISc Bangalore, JN Tata Chair Professor	Translation initiation and its regulation by one-carbon metabolism in bacteria	31/07/2021
05	Prof. Shaji Velayudhan	Department of Hematology, CMC Vellore	Disease modelling of hematological diseases using iPSCs	10/09/2021
06	Dr. Ganesh Kadasoor	Olympus Medical Systems India Pvt. Ltd.	High resolution and High-speed 3D imaging and Artificial Intelligence based Quantitative Data Analysis	29/10/2021
07	Dr. Varun Aggarwala	Icahn School of Medicine of Mount Sinai hospital	Precise quantification of bacterial strains after fecal microbiota transplantation explains outcome	09/12/2021

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
01	Prof. Sachin Kumar	Emerging Viral Diseases of Animals in India	IIT Guwahati	26/06/2021	National	50
02	Prof. Sachin Kumar	Workshop on Biosafety and Biosecurity Procedures	IIT Guwahati	11/06/2021	National	58
03	Prof. Sachin Kumar	Technologies for Sustainable Development Goals	IIT Guwahati	11/05/2021	National	100

04	Dr. Biplab Bose	AICTE ATAL Academy Online FDP on Computational Synthetic and Systems Biology	AICTE	26/07/2021 - 30/07/2021	National	200
05	Dr. Cota Navin Gupta	Artificial Intelligence Augmented Robotic Neurorehabilitation Session @ INDICON 2021	IEEE	19/12/2021	National (Online)	200
06	Prof. Siddhartha Sankar Ghosh and Prof. P. K. Iyer (Joint Convener)	7th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN2021)	MeitY	14/12/2022 - 17/12/2022	International	250

PATENTS

No. of Patents Applied with details: 12

No. of Patents Granted with details: 03

Sl. No.	Name of Faculty and Co-researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Aritra Das, Muktaashree Saha, Manish Kumar Gupta, Prof. Latha Rangan, Prof. Ramgopal V. S. Uppaluri, Prof. Chandan Das	Cost effective composition of wound dressing compatible polymer hydrogel composite films	Applied on 18/12/2021	202131059065	Applied
02	Sanjana Senthilkumar, Sadokpam Shreekant, Manish Kumar Gupta, Heeramoni Boro, Prof. Rajaram Swaminathan, Prof. Latha Rangan	Device for evaporation and recovery of organic solvents using simple labwares	Published on 04/03/2022	202131005168 A	Applied
03	Biman B. Mandal and Jadi Praveen Kumar	Silk sericin for skin care application and its process of preparation	18/07/2018	201831026915 (Patent no: 392521)	Granted
04	Biman B. Mandal and Bibrita Bhar	Silk Aloe composite for wound healing	01/07/2021	202131029685	Applied
05	Biman B. Mandal, Yogendra P. Singh, Joseph Christakiran Moses and Ashutosh Bandyopadhyay	3D bioprinted osteochondral in vitro osteoarthritis model construct and applications thereof	18/06/2021	202131027358	Applied
06	Biman B. Mandal and G. Janani	3D bioprinted Vascularized Liver Lobule	03/11/2021	202131050671	Applied

		Model as Drug Screening Platform			
07	Biman B. Mandal, Joseph Christakiran Moses and Sayanti Shome.	An in-vitro bone marrow construct mimicking the trabecular endosteum and its use thereof	16/11/2021	202131052636	Applied
08	Biman B. Mandal and Chitra Jaiswal.	Silk hydrogel and a scaffold thereof for cancer therapy and modeling	05/10/2021	202131045088	Applied
09	Biman B. Mandal and Joseph Christakiran Moses.	Silk bioactive nano-composite metal coating and its use thereof	27/12/2021	202131061074	Applied
10	Prof. Sachin Kumar	A process of preparing an antiviral nanofabric and an antiviral nanofabric thereof	24/05/2021	202131013654	Applied
11	Dr. Selvaraju Narayanasamy and Tasrin Shahnaz	Cyperus rotundus as a new cellulose source for remediation of Basic fuchsine dye: A static and flow adsorptive approach	22/03/2022 (Applied)	20220322200001 01	Indian Patent
12	Dr. Bhaskar Das, Prof. Sanjukta Patra	An environmentally sustainable algal process for remediation of phenol pollution coupled to bioenergy production	Date of Grant: 27/12/2021	Patent No: 385194	Granted
13	Dr. Souptick Chanda Mr. Pratik Nag, Dr. Bhaskar Borgohain	The Double Oblique Device for Osteosynthesis (DODO) of hip	03/09/2021	348843-001	Under review
14	Prof. Siddhartha Sankar Ghosh and Arun Chattopadhyay	DEVICE WITH INTEGRATED METHODS FOR REVERSE TRANSCRIPTION POLYMERASE CHAIN REACTION (RT - PCR) AND / OR DNA / PROTEIN ARRAY BASED ANALYSES	04/01/2022 (Granted)	US Patent Certificate No.11, 213, 827 of US Pat Appl.No.1577814 5	US Patent Granted
15	Prof. Siddhartha Sankar Ghosh and Prof. Roy Paily Palathinkal	GLUTATHIONE-S-TRANSFERASE – NANOCONJUGATE BASED FET SENSOR FOR DETECTION OF GLUTATHIONE/CANCER CELL	25/08/2018 (Issuance of First Examination Report for Patent Application 2018310031884)	Patent Application No. 201831031884 dated 25.08.2018	Indian

AWARDS AND HONOURS

- Prof. B. Anand: Received the Merck Young Scientist Award-2021 (Runners-up) from Merck Life Sciences for Excellence in Research
- Prof. Latha Rangan: Received the Dr. P. Sheel Memorial (Young Women Scientist) Lecture Award 2021 from National Academy of Sciences, India (NASI) for Contribution in the field of Biological Sciences (Plant Biotechnology)
- Prof. Rakhi Chaturvedi: Received the Prof. F.C. Steward Memorial Lecture Award from Plant Tissue Culture Association (India) for Outstanding achievements in the field of plant tissue culture and in vitro biology
- Prof. Rakhi Chaturvedi: To commemorate India's 75th year of Independence, the Office of the Principal Scientific Advisor, Government of India and British High Commission, New Delhi, has recognised and honoured Prof. Rakhi Chaturvedi among top 75 women in STEAM. She will be featured in the Second edition of the book "She Is" series - 'She Is – 75 Indian Women in STEAM', 2022
- Prof. Biman B. Mandal: Chosen one amongst "75 under 50 Scientists Shaping Today's India" by DST/Vigyan Prasar in a book released by Hon. Science and Technology Minister, Govt. of India for Scientific Excellence and contribution
- Prof. Biman B. Mandal: Received the SWARNAJAYANTI Fellowship in Life Science from Department of Science and Technology, Govt. of India for Scientific Excellence and contribution
- Prof. Biman B. Mandal: Received the Ramachandran NATIONAL BIOSCIENCE AWARD for Career Development from Department of Biotechnology, Govt. of India
- Prof. Sachin Kumar: Received the F. M. Burnett Award from the Indian Society for Veterinary Immunology and Biotechnology
- Prof. Shankar Prasad Kanaujia: Appointed as Adjunct Faculty at the Centre of Biotechnology, University of Allahabad
- Dr. Selvaraju Narayanasamy: Has been invited to the Editorial Board of Nature Publishing Group Journal "Scientific Reports"
- Prof. Utpal Bora: Appointed as Chairman, Research Advisory Committee, Gauhati Medical College and Hospital for the period of 2021-22 to 2025-26
- Prof. Utpal Bora: Appointed as Member of Screening Committee for Technology Information Forecasting and Assessment Council (Department of Science and Technology, Govt. of India) academic partners under TIFAC-MSE program, attended a meeting on 13.04.2021
- Prof. Utpal Bora: Appointed as External Member in Institutional Biosafety Committee 14.12.2021 at College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati
- Prof. Utpal Bora: Appointed as a Member of Augmenting Writing Skills for Articulating Research (AWSAR) at Department of Science and Technology (DST), Govt. of India, New Delhi
- Dr. Selvaraju Narayanasamy: Received the Research Concept Grand Challenge Award (RCGCA) 2022 from Indian Institute of Technology Guwahati
- Prof. V. Venkata Dasu: Has been elected as a Fellow of the Royal Society of Biology.
- Dr. Lalit M. Pandey: Received the Malaviya Memorial Award from the Biotech Research Society (BRSI), India

STUDENTS' ACHIEVEMENTS

- Neha Mariam Unnoony: Received the Prime Minister Research Fellowship from the Ministry of Education for Excellence in Research
- Sunanda Chhetry: Received the Oral Presentation Award (1st Position) at the Research and Industrial Conclave-2022, IIT Guwahati

- Alok Senapati: NEWGEN-IEDC Project at IIT Guwahati for Prototype development
- Manish Kumar Gupta: NEWGEN-IEDC Project at IIT Guwahati for Development of a Cosmeceutical as a Skin Care Product from Plant Source
- Tania Sarkar: Received the Prestigious Samsung Fellowship Award, 2021 for Master's Research project
- Madhurima Chaudhary: Received the Best Thesis Award, 2021 from the Department of BSBE, IIT Guwahati
- Parmeshwar Gavande: Received the RIC 2022, 2nd prize in Best oral presentation organized by Indian Institute of Technology Guwahati jointly with IIT Guwahati Research Park
- Vartika Srivastava: Received the Hope E. Hopps Student Award from Society for In Vitro Biology 2021: In Vitro Online! for Achievements in the field of in vitro biology
- Vartika Srivastava: Received 2nd Prize in Three Min. Thesis presentation at Research and Industrial conclave, IIT Guwahati
- Vinod Kumar: Received Best Poster Presentation Award (1st Prize) at International Conference on Advances and Innovations in Biotechnology and Allied Sciences-2022 (IC-AIBAS-2022), University Institute of Biotechnology, Chandigarh University, India
- Krishna Kant Pachauri: Received the Best Oral presentation award in allied sciences category (1st prize) at International Conference on Advances and Innovations in Biotechnology and Allied Sciences-2022 (IC-AIBAS-2022), University Institute of Biotechnology, Chandigarh University, India
- Anjali Gupta: Received 2nd Best Oral Presentation Award at Advances in Basic and Translational Research in Biology (ABTRiB) from Department of Molecular Biology and Biotechnology, Tezpur University
- Kamal Shokeen: Received the Deepika Phukan Oncology Research Award from Dr. B. Borooah Cancer Institute
- Dr. Suraj Kumar Mandal: Received the Best Oral Presentation Award at IIT Roorkee, Uttarakhand, India
- Angshu Dutta: Received the Best Oral Presentation Award at IIT Roorkee, Uttarakhand, India.
- Angshu Dutta: Received the Best Poster Award at PDBj and Institute for Protein Research, Osaka University, Japan
- Chandi Patra, Tasrin Shehnaz and Harish Kumar: A project by IIT Guwahati-DST NEGWEN-IEDC (2022); IIT Guwahati-DST; Cleaner production of porous carbon using Surgical/N95 masks for wastewater treatment: A circular economy approach
- Chandi Patra: Received the Best Rapid Presentation & Poster Award at the International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021), organized by CSIR-INDIA, CSIR-Indian Institute of Petroleum Dehradun and The Biotech Research Society-India (BRSI)
- Chandi Patra: Received the Second-best Poster Award at the Research and Industrial Conclave (RIC 2022) held at the Indian Institute of Technology Guwahati, Guwahati, Assam, India
- Satakshi Hazra: Received the Best Oral Presentation Award at the Indian Consortium for Research & Innovation in Biology (ICRIB)
- Satakshi Hazra: Received First Place for Poster presentation: Scientifique at IIT Guwahati
- Sandhya S: Received All India 3rd Prize at New Generation Ideation Contest from Hindustan Petroleum Green R&D centre
- Aravind R.: Received Samsung Fellowship Award for M. Tech. students from Samsung for M.Tech Project
- H Krishna Kumar: Received the Augmenting Writing Skills for Articulating Research (AWSAR) Award from Department of Science and Technology, Government of India for Popular Science Article

- Pratik Nag: Received the Hridayantra Fellowship from IIT Kanpur to develop advance artificial heart
- Rachayeeta Deb: Received Oral Prize at Research conclave, IIT Guwahati
- Nayan Moni Deori: Oral Prize for Oral Presentation at Research conclave, IIT Guwahati
- Pratap Chandra: Received the 3rd Prize in Best Poster Award in the Original Research Category at National Conference on CRISPR/Cas: From Biology to Technology held at Institute of Bioinformatics and Applied Biology (IBAB) and SRM University

SPECIAL MENTION

Prof. Latha Rangan:

- Inducted as Member for The Inter Academy Panel for Women in STEMM 2021-2025
- Inducted as Council Board Member in Biotech Research Society of India 2021-2023
- Subject Expert Member in the Govt. of Assam, Secondary Education Department 2021-2022

Prof. Arun Goyal:

- BHU Centennial Award 2020 for outstanding contributions to Microbial Biotechnology, by Biotech Research Society, India. December 2021
- Invited as Expert member of Initial Screening Committee (ISC) for Project Evaluation by Technology Development Board (TDB), Department of Science and Technology (DST) March 9, 2022
- Invited as a subject expert to evaluate the application for Associate Professor at Department of Biosciences and Bioengineering at IIT Kanpur, January 27, 2022
- Invited as Distinguished Technical Expert Member, for Project Evaluation Committee (PEC) by Technology Development Board (TDB), Department of Science and Technology (DST), January 27, 2022
- Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, July 6, 2021
- Nominated as Board member, Environmental Biotechnology Division, Asian Federation of Biotechnology (AFOB), April 2021
- Invited as member of Assessment Committee Meeting at Centre of Innovative and Applied Bioprocessing, CIAB, Mohali for regularization of Scientist, April 6, 2021

Prof. R. Swaminathan:

- Mr. Shah E. Alom, a Ph.D. student of BSBE Department delivered an ORAL PRESENTATION (online mode) titled "Tracking the early events of aggregation in Abeta Switch peptides employing Protein Charge-Transfer Spectra" at the conference titled 'Light-matter Interactions from scratch: Theory and Experiments at the Border with Biology in Dynamical processes: electron and energy transfers, quantum biology' organised by The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy on November 23, 2021

Prof. Biman B Mandal:

- Inducted as "Associate Editor" for ACS Biomaterials Science and Engineering 2022 onwards
- Elected as President STERMI (Society for Tissue Engineering and Regenerative Medicine India) 2021 onwards for a 03-year period

Dr. L. M. Pandey:

- Story on the development of low-cost sterilization box using a combination of heat and ultraviolet light irradiation for the prevention of COVID-19 in Media (Media Coverage) June 2021
- NPTEL course on “Biointerface Engineering” from January 24 to March 18, 2022

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	B. Anand	Indian Institute of Technology Kanpur, Kanpur	Professor	RNA Biology, CRISPR Biology, Ribosome Biogenesis
2	Utpal Bora	Institute of Genomics and Integrative Biology, Delhi	Professor	Biomedical Engineering, Biodiversity and Bio-entrepreneurship
3	Biplab Bose	All India Institute of Medical Sciences	Associate Professor	Systems Biology, Cell signaling, Recombinant therapeutics
4	Souptick Chanda	Indian Institute of Technology Kharagpur, India	Assistant Professor	Biomechanics, implant design & optimization, surgical simulation, biomedical image processing
5	Rakhi Chaturvedi	University of Delhi, India	Professor	Plant Tissue Culture & Secondary Metabolites Production
6	Nitin Chaudhary	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Professor	Peptide self-assembly and amyloid aggregates, Peptide-membrane interactions Curvature inducing proteins
7	Debasish Das	Indian Institute of Technology Bombay	Professor	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel
8	Venkata V. Dasu	Indian Institute of Technology Madras	Professor	Bioprocess Development, Metabolic Engineering
9	Siddhartha S. Ghosh	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Cancer Gene Therapy, Nanobiotechnology, Molecular Pathways Involving Drug Resistance
10	Pranab Goswami	Gauhati University	Professor (HAG)	Biosensors and Biofuel cells
11	Arun Goyal	Indian Institute of Technology Kanpur, Kanpur, India.	Professor	Molecular Biology, Protein Engineering, Rational Enzyme Engineering, 3-Dimensional Structure (In silico, crystal and solution) and Function analysis of enzymes and their industrial (Biorefinery,

				therapeutic, food, Pulp and paper) applications
12	Navin Gupta	Brain Computer Interfaces and Neural Engineering (BCI-NE) Group, University of Essex	Assistant Professor	Imaging Genetics, Biomedical Signal/Image Processing, Multimodal Analysis, Computer Aided Diagnosis, Biomedical Instrumentation
13	Bithiah G. Jaganathan	Johann Wolfgang Goethe University, Frankfurt, Germany	Professor	Stem Cell Biology, Cancer signaling
14	Shankar Prasad Kanaujia	Indian Institute of Science Bangalore	Professor	Structural Biology and Bioinformatics Studies
15	Manish Kumar	University of Maryland, College Park, USA	Professor	Molecular interaction of host-pathogen-vector of infectious diseases
16	Sachin Kumar	University of Maryland, College Park, USA	Professor	Molecular biology of paramyxoviruses, flaviviruses
17	A. B. Kunnumakkara	University of Calicut, Kerala	Professor	Role of inflammatory pathways in cancer development, Identification of novel biomarkers for cancer diagnosis and prognosis, Cancer drug discovery.
18	Anil Mukund Limaye	Indian Institute of Science Bangalore	Associate Professor	Hormonal regulation of gene expression
19	Soumen Kumar Maiti	Indian Institute of Technology Bombay	Associate Professor	Bioprocess Engg., Biofuel
20	Biman B. Mandal	Indian Institute of Technology Kharagpur	Professor	Regenerative Medicine, Biomaterials, Tissue Engineering, Stem Cells
21	Shirisha Nagotu	University of Groningen, Groningen, The Netherlands	Assistant Professor	Organelle biology and Cellular Ageing
22	Kannan Pakshirajan	Indian Institute of Technology Madras	Professor	Environmental Biotechnology
23	Lalit Mohan Pandey	Indian Institute of Technology Delhi	Associate Professor	Bio-interfaces and Biomaterials, Protein's adsorption and aggregation, Nanomaterials and composites for Biomedical applications, Environmental Chemical Engineering
24	Sanjukta Patra	Central Food Technological Research Institute, Mysore	Professor	Enzyme and Microbial Technology; Biosensors; Metagenomics; Environmental Biotechnology

25	Aiyagari Ramesh	CSIR-CFTRI, Mysuru (Degree awarded by University of Mysore)	Professor	Antibacterials, Nanobiotechnology
26	Vibin Ramakrishnan	Indian Institute of Technology Bombay	Professor	Network medicine, Bio-Nano catalysis, Drug delivery vehicles
27	Latha Rangan	University of Madras	Senior Professor	Applied Biodiversity
28	Lingaraj Sahoo	Maharshi Dayanand University, Rohtak, India	Professor	Genetic engineering and functional genomics of plants
29	Gurvinder Kaur Saini	Andhra University, Visakhapatnam	Professor	Fungal Biotechnology, Engineering entomopathogenic fungi
30	Priyadarshi Satpati	Indian Institute of Science Bangalore	Associate Professor	Classical molecular dynamics (MD) free energy simulation, Electronic Structure calculations that predict the structure, properties, reactivity, bonding etc. of small molecules
31	Narayanasamy Selvaraju	Indian Institute of Technology Madras, India	Associate Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering
32	S. Senthilkumar	Central Leather Research Institute, Chennai	Associate Professor	Bioprocess Analytical Technology (BioPAT), Metabolic Engineering
33	Kusum K. Singh	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Posttranscriptional gene regulations
34	Rajaram Swaminathan	Tata Institute of Fundamental Research	Professor	Proteins, Spectroscopy and Biochemistry
35	Ranjan Tamuli	Centre for Cellular and Molecular Biology (CCMB), Hyderabad (Degree awarded by the Jawaharlal Nehru University, New Delhi)	Professor	Calcium signaling, Neurospora genetics, DNA repair
36	Rajkumar P. Thummer	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Engineering and Regenerative Medicine

37	Vishal Trivedi	Central Drug Research Institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum
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LABORATORY FACILITIES

UNDERGRADUATE LABORATORIES

Fluid Mechanics Laboratory: Flow through Fluidized Bed, Centrifugal Pump Test Rig, Flow through Helical Coil, Nozzle Meter Test Rig, Packed Bed, Pitot Tube, Rotameter Test Rig, Drag Co-efficient Apparatus, Reynolds's Apparatus, Notch Tank Apparatus, Impact of Jet on Vane Apparatus, Reciprocating Pump Test Rig, Bernoulli Apparatus, Flow Meter Demonstration Rig, Energy Losses in Pipes, Energy Losses in Bends.

Mechanical Operation Laboratory: Ball Mill, Froth Floatation Cell, Hammer Mill, Jaw Crusher, Roll Crusher, Plate and Frame Filtration, Rotary Drum Vacuum Filter, Vibrating Screen, Sieve Shaker, Cyclone Separator, Cyclone Scrubber, Elutriator, Sedimentation, Leaf Filter.

Heat Transfer Laboratory: Extended Surface Heat Exchanger, Tubular Heat Exchanger, Jacketed Vessel Heat Exchanger, Plate Heat Exchanger, Shell and Tube Heat Exchanger, Emissivity Measurement Apparatus, Composite Wall, Conductivity of Metal Rod, Calandria Evaporator, Vertical & Horizontal Condenser, Unsteady State Heat Transfer, Heat Transfer in Forced Convection, Multi Effect Evaporator.

Mass Transfer Laboratory: Double Glass Wall Distillation Apparatus, Bubble Cap Distillation Set Up, Packed Bed Distillation Set Up, Mass Transfer with and without Chemical Reaction, Liquid - Liquid Extraction in Packed Bed, Solid - Liquid Extraction in Packed Bed, Absorption in Packed Bed, Vapour in Air Diffusion, Rotary Drier, Forced Draft Tray Drier, Water Cooling Tower, Batch Crystallization.

Process Control Laboratory: Two Tank Non-Interacting System, Two Tank Interacting System, Control Valve Characteristics, Temperature Control Trainer, Pressure Control Trainer, Flow Control Trainer, Level Control Trainer, Cascade Control Trainer, First-Order and Second-Order System, Multi Process Trainer, Multi Variable Control Trainer, PLC Trainer.

Thermodynamics Laboratory: Vapour - Liquid Equilibrium Apparatus, Liquid - Liquid Equilibria, Equilibrium Flash Distillation Apparatus, Separating & Throttling Calorimeter.

POSTGRADUATE LABORATORIES

Petroleum Laboratory: Acidity and Alkalimetry, Aniline Point, Burning Test Lamp, Cloud & Pour Point, Flash & Fire Point, Melting Point Apparatus, Red Wood Viscometer, Reid Vapour Pressure, Smoke point, U-Tube Viscometer, ASTM Distillation, Kinematic Viscometer Bath, Drop Point Grease Apparatus, Burning Quality of Kerosene, Contamination Detector, Tar Viscometer, Softening Point Apparatus, Carbon Residue Apparatus, Bomb Calorimeter, Vapour-Liquid Equilibrium, Steam Distillation, Digital Penetrometer.

OTHER LABORATORIES

Analytical Laboratory: Atomic Absorption Spectrophotometer, Autotitrator, BET Surface Area Analyzer, Buchi Rheometer, Chemisorb Surface Area Analyzer, Differential Scanning Calorimeter, Digital Polarimeter, Ellipsometer, Fourier Transform Infrared Spectrophotometer, Gas

Chromatography with TCD, FID, ECD Detector, Gas Chromatography with TCD, FID, PFPD Detector, Gas Chromatography-Mass Spectroscopy, High Performance Liquid Chromatography, High Pressure Thermo Gravimetric Analyser (HPTGA), Interfacial Rheometer, Karl Fisher Titrator, Laser Particle Size Analyser, Mercury Intrusion Porosimeter, Microscope, Microwave Assisted Reactor, Millipore Water Purification, Refractometer, Rheometer, Spinning drop Tensiometer, Tensiometer, Thermogravimetric Analyzer, Time Resolved Stereoscopic Particle Image Velocimetry (PIV), Total Organic Content Analyzer, UV-Visible Spectrophotometer, X Ray Diffraction, Zeta Potential.

CoE-SusPol: Centre of Excellence for Sustainable Polymers (CoE-SusPol) is funded by Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers. The objective of CoE-SusPol is to develop cost effective and scalable technologies for the production of biodegradable polymer based end products using both petrochemical and renewable bio- feedstock and to establish state of the art facilities in biodegradable polymers area. Both experimental and computational Laboratory has been setup under this project facility and significant high-end equipments have been purchased in the department.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

Fluids

- Design and development of micro-pumps and actuators
- Enhanced oil recovery
- Experimental and computational fluid dynamics
- Experimental and computational multiphase flows
- Field driven fluid flows
- Mechanics, patterns, and stability of fluids
- Micro- and nano-fluidic devices
- Minerals processing
- Multi scale bubble dynamics and applications
- Rheology of complex fluids
- Transport through meso-porous materials

Reaction Engineering

- Catalysis electrolysis and Heterogeneous reactions
- Electrochemical corrosion
- Electroless plating
- Hydrocarbon processing
- Interfacial reactions
- Kinetic analysis
- Micro- and nano-fluidic reactors
- Non-equilibrium reactive systems
- Pyrolysis of waste plastics
- Separations with chemical reaction
- Sono-process engineering

Chemical Engineering Science

- Biological physics
- Chemical mechanical polishing (CMP)

- Colloids and interfacial science
- Dewetting and phase separation
- Phase equilibria and thermodynamics
- Phase equilibria of ionic liquids
- Phase transition in polymers (nucleation, crystallization, collapse transition)
- Structure property relations
- Super-hydrophobic and self-cleaning surfaces

Environmental Pollution Control

- Air pollution
- Biological wastewater treatment (biosorption, bioaccumulation, biodegradation, bioreduction, biotransformation)
- Electro remediation of water/wastewater
- Membrane bioreactors
- Physiochemical water/ wastewater treatment techniques
- Screening of novel microbial strains for treatment of organic/inorganic wastewater
- Sonolysis and sono-hybrid advanced oxidation techniques
- Treatment of industrial effluent
- Pollution trading

Process Systems Engineering

- AI based optimization techniques
- Computational transport processes
- Deterministic, evolutionary and global optimization
- Material processing
- MEMS & NEMS
- Molecular simulation
- Optimization and control
- Planning and scheduling
- Process control
- Process design & techno-economics
- Process intensifications
- Process modelling
- Randomized algorithms
- Self-assembly and self-organization
- Soft lithography
- Statistical mechanics and thermodynamics

Materials Engineering

- Bio-lubricant
- Complex organic solids
- Functional multiscale structures & composites
- Graphene synthesis and application
- Ionic liquids
- Liquid crystalline materials
- Low cost ceramic membranes
- Micro and nano sensors

- Non Newtonian fluids
- Palladium membranes
- Reactive systems and gels
- Responsive materials for environmental, biological and chemical separation
- Self-healing surfaces
- C-C composites and C-Polymer composites

Polymer Science and Engineering

- Polymers synthesis and characterization
- Polymer reaction engineering
- Polymer processing
- Polymer rheology
- Polymer solutions and thermodynamics
- Polymer simulation and computing
- Polymer based nano and bio composites
- Polymer degradation
- Polymer and nano-material migration studies
- Polymer recycling and reuses
- Biodegradable polymers
- Polymer based technology development, licensing, training and entrepreneurship
- Biodegradable polymers and bio based nanocomposites

Energy Engineering

- Artificial photosynthesis
- Biofuels: biodiesel, bioethanol, bio butanol, bio hydrogen and bio oil
- Biomass gasification and pyrolysis
- Carbon dioxide capture and conversion to fuel
- Clean coal technology
- Combustion and gasification reaction kinetics
- Fischer-Tropsch synthesis
- Fuel cells
- Hydrogen production and storage
- Utilisation of lignocellulosic biomass for fuel/chemicals
- Solar cells
- Nuclear reactor
- Membrane reformer for hydrogen production

Separation and Mixing Processes

- Adsorption
- Bio-separation
- Membrane separation processes
- Micro-mixers & separators
- Post CMP cleaning
- Separation using supercritical fluids
- Surfactant mediated separation processes

Food Science and Technology

- Food Processing
- Food packaging
- Membrane technology based juice processing
- Drying technologies (RWD, Tray and Oven) for food product development from North-East horticulture resources
- Microwave assisted food processing
- Functional foods
- Extraction of bioactive compounds and their applications in food product development
- Nutritionally rich low cost food products

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL

Sl. No.	Name of Faculty	Name of Conference/ Workshop/ Seminar/ Symposia Proceedings	Place	Date	International/National
01	Abhijit Kakati	IEEE Ocean 2022		21/02/2022	International
02	Nanda Kishore	Research and Industrial Conclave 2022	IIT Guwahati	23/01/2022	International
03	Ashok Kumar Dasmahapatra	INUP-i2i	IIT Guwahati	12/12/2021	International
04	Nanda Kishore and R. G. Uppaluri	International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH-2021)	Indian Institute of Petroleum, Dehradun	02/12/2021	International
05	Vimal Katiyar	International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETy), Tezpur University, 2021	Tezpur University	25/06/2021	International
06	Ashok Kumar Dasmahapatra	INUP-i2i	IIT Guwahati	04/04/2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Institute/Organization	Place	Date
01	Ashok Kumar Dasmahapatra	INUP-i2i, March, 2022 (online)	IIT Guwahati	IIT Guwahati, Assam	03/03/2022
02	Abhijit Kakati	AICTE sponsored short-term course "Recent Advances in Oil and Gas Production Enhancement" at RGIPT	RGIPT	RGIPT, Jais, Amethi	14/02/2022

03	Ashok Kumar Dasmahapatra	INUP-i2i, December 2021 (online)	IIT Guwahati	IIT Guwahati, Assam	12/12/2021
04	G. Pugazhenth	Delivered online talk on the title "Novel strategies for production of polyhydroxybutyrate (PHB) and its application in food packaging" at Chemical Engineering Department, Universiti Tunku Abdul Rahman (UTAR), Sungai Long Campus, Kuala Lumpur, Malaysia, Date: 16th November 2021	Chemical Engineering Department, Universiti Tunku Abdul Rahman (UTAR), Sungai Long Campus, Kuala Lumpur, Malaysia, Date: 16th November 2021	Universiti Tunku Abdul Rahman (UTAR), Sungai Long Campus, Kuala Lumpur, Malaysia, Date: 16th November 2021	16/11/2021

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
01	Bishnupada Mandal, Sumit Kumar	International Symposium on Carbon Capture & Sequestration		21/02/2022 - 22/02/2022	International	
02	Bishnupada Mandal, Sumit Kumar	International Webinar on Sorption for CCUS in Sales		03/03/2022	International	

PATENTS

- No. of Patents Applied with details: 13
- No. of Patents Granted with details: 03

Sl. No.	Name of Faculty and Co-researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Ananya Bardhan, S. Senthilmurugan, K. Mohanty	A Multi-Layered Membrane Module For Preparing Liquid Food Concentrate	2022	Temp/E-1/10536/2022-Kol	Filed
02	Ananya Bardhan, S. Senthilmurugan, K. Mohanty	Synthesis Of A Robust Hydrogel As Draw Solute For Preparation Of Concentrated Liquid Extract Using Forward Osmosis	2022	Temp/E-1/10552/2022-Kol	Filed

03	M. K. Purkait, Somnath Chanda, P. Mandal	Process for preparation of high surface area activated carbon by using waste tea leaves	31/12/2021	202131062319	Filed
04	Aritra Das, Uppaluri R., Chandan Das, Muktaashree Saha, Manish Kumar Gupta, Latha Rangan	Cost Effective Composition of Wound Dressing Compatible Polymer Hydrogel Composite Films	17/12/2021	202131059065	Filed
05	N. R. Peela, Hanumanth Reddy Pemmana, Reddi Ramu and Ramgopal VS Uppaluri	Conversion of glycerol to lactic acid	11/12/2021	202131057709	Filed
06	Hanumanth Reddy P., Nageswara Rao P., Uppaluri R. and Ramureddi R.	Conversion of Glycerol to Lactic Acid	11/12/2021	202131057709	Filed
07	N. R. Peela and B. Velaga	Production of levulinic acid from furfural and/or Xylose feedstocks	19/05/2021	202131022345	Filed
08	P. Mandal, M. K. Purkait	Aromatic carbon coated iron aluminium nanocomposite and its green synthetic process	01/11/2020	202031047652	Granted on 28/12/2021
09	Vimal Katiyar, Neha Manojkumar Mulchandani, Yoshiharu Kimura, Shinichi Sakurai and Kazunari Masutani	Stereocomplex Terpolymers and Composites of PLA and PCL, and a Method of Preparation Thereof	2021	202131013736	Filed
10	Vimal Katiyar and Tabli Ghosh	Process for preparing nanochitosan aided starch and guar gum biocomposites based edible packaging material	2021	202131013650	Filed
11	Vimal Katiyar, Neha Manojkumar Mulchandani, Yoshiharu Kimura, Shinichi Sakurai and Kazunari Masutani	PLA-r-PCL based Shape Memory, Elastomeric Composites and Method of Preparation Thereof	2021	202131013652	Filed
12	Vimal Katiyar and Kona Mondal	A chitosan based de-oiled green algae extract additivated edible packaging formulation,	2021	202131013653	Filed
13	Vimal Katiyar, Doli Hazarika, Amit Kumar and Sachin Kumar	A Process Of Preparing An Antiviral Nano Fabric And An Antiviral Nano Fabric Thereof	2021	202131013654	Filed

14	Vimal Katiyar, Pankaj Boruah	Magnetic nanocomposite polymeric membrane for purification of water and process of preparation thereof	2021	202131014583	Filed
15	Vimal Katiyar, Chethana Mudenur and Amit Kumar	Process for Productionj of Polyhydroxybutyrate [PHB] from wild grass	2021	202131031003	Granted
16	Vimal Katiyar, Chethana Mudenur and Amit Kumar	Metal Free Prodigious catalyst for lactic polymerization	2021	202131031004	Granted

STUDENTS ACHIEVEMENTS

- Vishal Dhar: Selected for PMRF (December 2021) under lateral entry
- Pramod Madhukar Gawal: Selected for PMRF (December 2021) under lateral entry
- George Varghese P J: Selected for PMRF (December 2021) under lateral entry
- Dharanikota Naga Phani Sai: Selected for PMRF (December 2021) under lateral entry
- Somen Mondal: Received the best PhD thesis award in Chemical Engineering

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute /Org PhD degree received from	Designation	Areas of Interest
01	R. Anandalakshmi	IIT Madras	Associate Professor	Computational Heat Transfer and Fluid Flow, Process Modelling and Simulation, Solar Thermal Energy Conversion, Energy Efficient Design of Thermal Systems
02	Dipankar Bandyopadhyay	IIT Kanpur	Professor	Colloid and Interfacial Phenomena, Computational Fluid Dynamics, Micro and Nano Fluidics, Complex Flow and Fluids, Clean Energy– Fuel and Solar cells
03	Tamal Banerjee	IIT Kanpur	Professor	Phase equilibria of ionic liquids, Molecular simulations, Global optimisation, Statistical thermodynamics
04	Chandan Das	IIT Kharagpur	Professor	Wastewater Treatment, Bioremediation, Membrane based Separation Process
05	Ashok Kumar Dasmahapatra	IIT Bombay	Professor	Complex fluids, Phase transition in polymers (Nucleation, crystallization, collapse transition, etc.), Structure-property relations, Molecular simulations, Biological physics
06	Mahuya De	IIT Kanpur	Professor	Catalysis and reaction engineering, adsorption, hydrocarbon processing

07	Omkar Suresh Deshmukh	University of Twente, Netherlands	Assistant Professor	Colloids & Interfaces, Flow of Complex fluids, Polymer Dynamics, Glassy systems, Food oral processing, Food Physics, Bio-materials, Biophysics.
08	Pallab Ghosh	IIT Bombay	Professor	Interfacial phenomena, Interfacial reactions, Membrane separation, Randomised algorithms
09	Aloke Kumar Ghoshal	IIT Kharagpur	Professor	Advanced Separation Technology, Modelling & Simulation, Environmental Pollution Control, Pyrolysis of waste plastics
10	Partho Sarathi Gooh Pattader	Lehigh University	Associate Professor	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter
11	Animes Kr. Golder	IIT Kharagpur	Professor	Electroremediation of water/wastewater, Physiochemical water/wastewater treatment techniques, Bioremediation, Electrochemical corrosion
12	Vaibhav V. Goud	IIT Kharagpur	Professor	Heterogeneous Reactions, Bio-energy and Green Engineering, Biolubricant, Utilisation of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
13	Raghvendra Gupta	The University of Sydney, Australia	Associate Professor	Biofluid Mechanics, Multiphase Flows, Microfluidics, Experimental and computational fluid dynamics
14	Abhijit Kakati	IIT Madras	Assistant Professor	Rock-fluid interaction; Chemical enhanced oil recovery, Smart water flooding, Geo-storage of CO ₂
15	Anki Reddy Katha	IISc Bangalore	Associate Professor	Granular Physics, Energy and Environmental Sciences, Animal Locomotion and Terramechanics, Computational Biophysics, Fluid Dynamics and Suspensions
16	Vimal Katiyar	IIT Bombay	Professor	Synthetic and Natural Polymers, Polymer Processing, Biothermoset, Nanobiocomposite, Organic Solar Cells, Biodegradable Polymers, Energy
17	Nanda Kishore	IIT Kanpur	Professor	Biofuels, Computational Fluid Flow and Heat/Mass Transfer, Density Functional Theory, Non-Newtonian Fluids
18	Prakash Kotecha	IIT Bombay	Associate Professor	Optimization, Process Control, Artificial Intelligence, Planning and Scheduling
19	Amit Kumar	University of Delaware, USA	Associate Professor	Polymers and Polymer Nanocomposites, Molecular Modelling and Simulation, Gas Separation in Porous Materials
20	Sumit Kumar	ISM Dhanbad	Assistant Professor	Flow through porous media, Modelling and Simulation, Adsorption, Pyrolysis, EOR
21	Bishnnupada Mandal	IIT Kharagpur	Professor	Separations with chemical reaction, Molecular based membrane separation, Modelling and simulation of separation processes, Environmental pollution control
22	Tapas K. Mandal	IIT Kharagpur	Professor	Multiphase flow & Measurement in multiphase flow, Bio-diesel

23	Subrata Kumar Mazumdar	IIT Kharagpur	Professor	Petroleum Science & Technology, Multiphase flow and reactor development, Hydrodynamics in multiphase flow, Mineral processing, Process intensifications, Micro-nano bubble science and technology and its applications, Waste water treatment, Microchannel-based extraction, Jet driven gas-aided extraction
24	Kaustubha Mohanty	IIT Kharagpur	Professor & Head of the Department	Biofuels, Biomass pyrolysis, Biological wastewater treatment, Heterogeneous catalysis, Microalgae bio refinery, Membrane based separations, Ionic liquid based separations, Waste management.
25	Vijay S. Moholkar	University of Twente, Netherlands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
26	Nageswara Rao Peela	IIT Kanpur	Associate Professor	Heterogeneous Catalysis and reaction engineering, Biomass conversion to value added chemicals, Bio-oil up-gradation to transportation fuels, Carbon dioxide activation to valuable chemicals, Metal encapsulated zeolites
27	Vairakannu Prabu	IIT Madras	Associate Professor	Clean Coal Technology, Combustion and Gasification, Reaction kinetics
28	G. Pugazhenth	IIT Kanpur	Professor	Membrane Separation, Polymer Nanocomposites, Nanomaterials, Catalysis & Refinery Processes
29	Mihir Kumar Purkait	IIT Kharagpur	Professor	Membrane technology; Effluent treatment and waste management; Advanced separation processes; Catalysis; Nanoparticles and nano-composites; Bio-diesel; Bio-products, vegetable and fruit juice processing; CO ₂ to products and liquid fuels.
30	Prabirkumar Saha	IIT Madras	Professor	Process Modelling, Optimisation and control, Membrane Based separation Process
31	S. Senthilmurugan	IIT Delhi	Professor	Modelling and Optimization of Novel Processes, Process Design and Operation of Membrane Separation Processes, Waste and waste water treatment (WWWT) for Process Industries, Novel Desalination Technologies, Smart Water Grid, Waste to Energy
30	Anugrah Singh	IISc Bangalore	Professor	Computational and Experimental Fluid Dynamics, Microfluidics/Nanofluidic, Material Processing, Flow through Porous Media
32	Resmi Suresh	IIT Madras	Assistant Professor	Systems and control, Energy systems, Fault detection and diagnosis
33	Pankaj Tiwari	University of Utah, Salt Lake City, UT, USA	Associate Professor	Conventional and unconventional energies, Reservoir Engineering, Complex organic solids, Biomass conversion, Pyrolysis process, Kinetic analysis

34	Ramgopal V. S. Uppaluri	UMIST, Manchester, UK	Professor	Food Processing, Extraction of bioactive compounds and their applications in food product development, polymeric hydrogel fabrication, nutritionally rich low cost food products, membrane science and technology, functional adsorbent synthesis, wastewater treatment
35	R. Prasanna Venkatesh	IIT Madras	Associate Professor	Electrochemistry, Chemical Mechanical Polishing (CMP), Post CMP cleaning, Refinery Processes

LABORATORY FACILITIES

Sl. No.	Details of Laboratory	Number	Approx. Floor space (m ²)	Availability of facilities like board, LCD, PC/Laptop, AC, internet
<u>Laboratories for B. Tech and M. Sc program</u>				
01	Chemistry Laboratory(B. Tech, 1 st sem) / Chemical Technology Lab – I, B. Tech (CST)	01	200	White board, PC, internet, phone
02	Chemical Technology Lab – II, B. Tech (CST)	01	140	White board, PC, internet, phone
03	Chemical Technology Lab – III, B. Tech (CST) / Physical Chemistry Lab (M. Sc)	02	300	White board, PC, internet, phone
04	Inorganic Chemistry Lab (M. Sc) / Organic Chemistry Lab (M. Sc)	01	180	White board, PC, internet, phone
<u>Research Laboratories:</u>				
05	CHL –101, CHL – 102, CHL –103, CHL – 104, CHL –105, CHL –106, CHL – 201, CHL-202, CHL-203, CHL-204, CHL – 205, CHL – 206, CHL-3201, CHL-3202, CHL-3203, CHL-3204, CHL-3207, CHL-3209, CHEL-004, CHEL-005, CHEL-006, CHEL – 101, CHEL –102, CHEL –103, CHEL – 104, CHEL – 105, CHEL – 106, CHEL –107, CHEL –108, CHEL – 109, CHEL –201, CHEL –202, CHEL –203, CHEL – 204, CHEL – 205, CHEL – 206, CHEL –207, CHEL –208, CHEL – 209, CHEL –301, CHEL –302, CHEL –303, CHEL – 304, CHEL – 305, CHEL – 306, CHEL –307, CHEL –308, CHEL – 309.	48	80 (average)	White board, computers, internet, phone, Fume hoods, Centralized AC
06	Analytical Equipment Laboratory I – VI	06	540	Phone, computers, internet, AC
07	Computer Laboratory	02	80	Phone, computers, internet, AC
08	Ultrapure (Millipore) Water Laboratory	01	50	AC

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Thermogravimetric Analyzer, Make: PerkinElmer Model: TG4000, Price USD 23,250.00

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

The Department is engaged in various research and Development activities such as:

Catalysis, Supramolecular Chemistry, Nanoscale Science and Technology, Synthesis, structure and reactivity of Inorganics, Newer reagents, Protocols and Newer methodologies, Synthesis of natural products and Carbohydrate Chemistry, Bio-organic Chemistry, Bio-inorganic Chemistry and Coordination Chemistry & Organometallics, Chiral recognition using metal complex based host, Metal removal from wastewater using polymer based chelators, Polymer synthesis, Organic Photochemistry, Molecular dynamics, Quantum Molecular dynamics, Physical Chemistry – Spectroscopic and Theoretical investigations on Novel Materials, peptide chemistry, Development of new theoretical approaches to: Laser Assisted Control of Chemical Reactions, and, Resonances in Electron – Molecule Scattering, Biomimetic Chemistry and Chemical Biology, Computational Biophysics and Chemistry, Oxidation Catalysis, Molecular Magnetism, Synthesis of Single-Molecule Magnets (SMMs), MRI Contrast agents, Water Oxidation Chemistry, Experimental & Theoretical Physical Chemistry, Self-organization and Nonlinear dynamics, Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Supramolecular dynamic aggregates, peptides, lipids, Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS, Synthetic organic chemistry, Natural product synthesis with the emphasis of new synthetic methodology; development of new reactions, asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study, solar fuel from water, Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks (MOFs), Peptidomimetics: Synthesis, Conformation and Biological activity, Nanofluidics, Organometallic Chemistry and Catalysis, Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor, Organofluorine Chemistry etc.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

MAJOR INITIATIVES IN R&D

Development of novel methods for the construction of diverse organic molecules those are of important in biological and medicinal sciences, Development of novel strategies for C-H activation for the regioselective carbon-carbon and carbon-heteroatom bonds formations, which are important in academia and chemical industries from both environmental and economic standpoint, Development of novel materials for water harvesting, Design of catalysts to transfer waste to chemicals, Supramolecular chemistry of polypeptides which are important in drug delivery and nanotechnology, Design and development of novel approaches for the development drugs for misfolding diseases, such as Alzheimer's disease (AD) and Parkinson's disease etc. Development of atom economic routes for the construction of novel molecules which are important in pharmaceuticals, materials chemistry such as construction of devices etc.

BREAKTHROUGH INNOVATIONS

There are some salient research achievements observed in the ongoing research and development under institutional and sponsored research projects which has appeared in reputed peer-reviewed journals and newspapers recently in various fields of chemistry as mentioned below,

- Development novel materials that can efficiently harvest water from humid air
- Development of efficient catalysts for transforming industrial waste into valuable chemicals etc

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof. Sandip Paul	Physical Chemistry Physical Biology (PCPB-2021)	Online	06/07/2021	National
02	Prof. Sandip Paul	DAE Symposium on Current Trends in Theoretical Chemistry (CTTC-2020)	Bhabha Atomic Research Centre, Mumbai	23/09/2021 - 25/09/2021	National
03	Prof. Sandip Paul	AI, computational chemistry, and drug design	NIPER, Guwahati	02/02/2022 - 04/02/2022	National
04	Prof. Sandip Paul	28th CRSI National Symposium in Chemistry	IIT Guwahati	25/03/2022 - 27/03/2022	National
05	Prof. Chandan Mukherjee	58th Annual Convention of Chemists (ACC-2021) & International Conference on Recent Trends in Chemical Sciences (RTCS-2021)	IIT Guwahati (Online)	21/12/2021 - 24/12/2021	International
06	Dr. Manabendra Sarma	The International Society of Quantum Biology and Pharmacology (ISQBP) 2021 President's Meeting	Online	29/06/2021 - 01/07/2021	International
07	Dr. Manabendra Sarma	Theoretical Chemistry Symposium (TCS) 2021	Online	11/12/2021 - 14/12/2021	National
08	Dr. Sunanda Chatterjee	28th CRSI National Symposium in Chemistry (NSC-28) and 15th CRSI RSC Joint Symposium	IIT GUWAHATI	24/03/2022 - 27/03/2022	INTERNATIONAL
09	Dr. Akshai Kumar A. S.	ACS National Meeting & Exposition, ACS Spring 2022,	Virtual	20/03/2022 - 24/03/2022	International
10	Dr. Akshai Kumar A. S.	ACS National Meeting & Exposition, ACS Spring 2021,	Virtual	05/04/2021 - 30/04/2021	International
11	Dr. Akshai Kumar A. S.	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri	Virtual	14/03/2022	National
12	Dr. Akshai Kumar A. S.	1 st Offline Familiarization Workshop, INUP-I2I,	IIT Guwahati	04/04/2022 - 06/04/2022	National
13	Dr. Akshai Kumar A. S.	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021] December 12-14, 2021	Virtual	12/12/2021 - 14/12/2021	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Chandan Mukherjee	Confinement of a Thermodynamically Stable Mono(aquated) Mn(II)-Complex within a Porous Silica Nanosphere Renders a Potential Dual-Mode MRI Contrast Agent	Indian Chemical Society	Online	01/08/2021
02	Prof. Subhas Chandra Pan	Pericyclic Reactions	School of Chemical Sciences, Mahatma Gandhi University	Online	08/10/2021
03	Prof. Subhas Chandra Pan	Significance of Chirality and Chiral Catalysts	Guru Ghasidas Vishwavidyalaya Bilaspur	Online	30/08/2021
04	Prof. Subhas Chandra Pan	Pericyclic Reactions	NEHU Online Refresher Programme	Online	26/10/2021
05	Dr. Sunanda Chatterjee	28th CRSI National Symposium in Chemistry (NSC-28)	IIT GUWAHATI/ RSC/CRSI	IIT Guwahati	27/03/2022
06	Dr. Akshai Kumar	Pincer-Nickel Catalyzed Alkylation Reactions	ACS National Meeting & Exposition, ACS Spring 2022, March 20-24, 2022.	Virtual	20/03/2022 - 24/03/2022
07	Dr. Akshai Kumar	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals https://doi.org/10.1021/scimeetings.1c00578	ACS National Meeting & Exposition, ACS Spring 2021, April 5-30, 2021.	Virtual	05/04/2021 - 30/04/2021
08	Dr. Akshai Kumar	Pincer-Nickel Catalyzed Alkylation Reactions	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri, March 14, 2022.	Virtual	14/03/2022
09	Dr. Akshai Kumar	Cyclic Voltammogram	1 st Offline Familiarization Workshop, INUP-I2I, April 4-6, 2022.	IIT Guwahati	04/04/2022 - 06/04/2022
10	Dr. Akshai Kumar	Spectroscopy as Powerful Tool for Structural Elucidation	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021].	Virtual	12/12/2021 - 14/12/2021

11	Dr. Akshai Kumar	A Chemists Perspective on Shift towards Electrification and Hydrogen Economy	Invited Talk in the 17th India Innovation Summit "Crafting our Future – Innovation for the Next World" organized by Confederation of Indian Industry, Bangalore, Karnataka, India	Virtual	15/09/2021
12	Dr. Akshai Kumar	Career Opportunities in Science Changing Scenarios	Delivered a talk as a Resource person in the "Interactive Mentoring Session for School and College Students" Organized by Indian National Young Academy of Sciences (INIAS), North-East Local Chapter in association with Children's Science Academy, Assam and Nowgong College, Assam	Virtual	05/09/2021
13	Dr. Akshai Kumar	Poly-Fluorinated Poly-Aromatic Hydrocarbons and Their Versatile Applications	Invited talk in the Recent Advances in Organic Synthetic Methods (RAOSM - 2021) organized by Mangalore University, Mangaluru, Karnataka, India, as part of formal retirement of Prof. B. K. Kalluraya	Virtual	28/08/2021
14	Dr. Akshai Kumar	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the 5th National Symposium Shaping the Energy Future: Challenges & Opportunities (SEFCO) organized by CSIR-Indian Institute of Petroleum, Dehradun, Uttarakhand, India,	Virtual	27/08/2021
15	Dr. Akshai Kumar	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the Recent Trends in Chemistry, In-House Symposium at IPC Department, IISc Bangalore as part of	Virtual	17/07/2021

			formal retirement of Prof. A. G. Samuelson,		
16	Dr. Akshai Kumar	Fundamentals and Applications of Electron Paramagnetic Resonance (EPR) and Mössbauer Spectroscopy	Invited Talk, GST-AAT 2021, School of Applied Sciences, Department of Chemistry, REVA University, Bangalore	Virtual	22/06/2021
17	Dr. Akshai Kumar	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals	Delivered a talk at the Virtual Meeting on Technology Day “Technologies for Sustainable Development Goals (SDG): IIT Guwahati” organized by Research and Development and Industrial Interactions & Special Initiatives Sections, Indian Institute of Technology Guwahati	Virtual	11/05/2021

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Prof./ Dr. Christoph Arenz	Humboldt Universität zu Berlin, Germany	Departmental Invited Lecture on “Chemical Biology of Lipids, from Target to Drug”	07/03/2022	Visited the Institute during 6-8 th March, 2022

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
01	Dr. Sunanda Chatterjee	NATCOSEB XX	ISSST Kolkata	09/12/2022 - 11/12/2022	National	~ 50 (ONLINE)
02	Dr. Akshai Kumar A. S. (Organising Committee)	INUP-I2I Workshop – 1 st online familiarization Workshop	MeitY	12/12/2021	National	90
03	Dr. Akshai Kumar A. S. (Organising Committee)	INUP-I2I Workshop – 2 nd online familiarization Workshop	MeitY	01/03/2022	National	100

04	Dr. Akshai Kumar A. S. (Organising Committee)	INUP-I2I Workshop – 1 st offline familiarization Workshop	MeitY	04/04/2022	National	70
05	Dr. Akshai Kumar A. S (Co-convener)	RSC-CRSI-15 and CRSI-NSC-28	CRSI-RSC	24/03/2022	International	500

PATENTS

No. of Patents Applied: 03

No. of Patents Granted: 0

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Prof. Chandan Mukherjee and Ms. Riya Mallik	STABLE AQUATED Mn(II) COMPLEX AND ITS ENCAPSULATED POROUS SILICA NANOPARTICLE AS T ₁ -T ₂ MRI CONTRAST AGENT	28/08/2021	202131039091	Indian Patent
02	K. P. Bhabak, S. Mahato, D. Bhattacharjee, P. Barman	Nucleophile-sensitive Fluorogenic Probes and Donors of Hydrogen Sulfide and Method of Synthesis	23/02/2022	Patent Application No: 202231008664;	Applied
03	Dr. Akshai Kumar, Prof. Roy P. Paily, Mr. Khadimul Islam, Dr. Thomas Daniel	SYMMETRIC TETRAALKYNYLATED ANTHRACENES AND THE PROCESS FOR PREPARING THE SAME FOR SENSING AND OPTOELECTRONIC APPLICATIONS Indian Institute of Technology Guwahati	03/08/2021	IN Patent Application; 202131035020,	Applied

AWARDS AND HONOURS

- Prof. Sandip Paul: Received the Chemical Research Society of India (CRSI) Bronze Medal from Chemical Research Society of India (CRSI) for Outstanding contribution in the field of Computational Biophysics and Chemistry
- Prof. Sandip Paul: Joined as Editorial Advisory Board Member at the Journal of Chemical Information and Technology
- Dr. Akshai Kumar: Has been selected as Fellow of Indian Chemical Society (FICS - Life Fellow)

STUDENTS' ACHIEVEMENTS

- Riya Mallik: Received the Young Scientist Award from the Indian Chemical Society
- Monikha Chetia: Awarded the Best Flash Oral Presentation at IIT Mumbai
- Eileen Yasmin: Selected for Oral Presentation during the 15th RSC-CRSI symposium at the Royal Society of Chemistry

SPECIAL MENTION

- Dr. Akshai Kumar A. S., September 2021-Present, Member, Bureau of Indian Standards
- Dr. Akshai Kumar A. S., Editor, Book titled "PINCER-METAL COMPLEXES: APPLICATIONS IN CATALYTIC DEHYDROGENATION CHEMISTRY" Elsevier Publications, 2021

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
01	A. S. Achalkumar	Ph.D. (CSMR, Bangalore)	Professor	Liquid crystals, Functional Materials, Molecular Electronics, Self Assembly, Green Chemistry
02	A. S. Akshai Kumar	Ph.D. (IISc Bangalore)	Associate Professor	Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation
03	Subhendu Sekhar Bag	Ph.D. (IIT Kharagpur)	Professor	Bioorganic Chemistry and Chemistry of Unnatural Nucleic Acid and Peptides
04	Jubaraj B. Baruah	Ph.D. (IISc Bangalore)	Professor	Homogeneous Catalysis, Supramolecular chemistry and material design
05	Krishna Pada Bhabak	Ph.D. (IISc Bangalore)	Associate Professor	Organic and Bio-organic Chemistry
06	Shyam Prosad Biswas	Ph.D. (Ulm University, Germany)	Associate Professor	Gas/Vapor/Liquid Adsorption and Catalytic Applications of Metal-Organic Frameworks
07	Arun Chattopadhyay	Ph.D. (Columbia University)	Professor	Nanoscale Science and Technology
08	Sunanda Chatterjee	Ph.D. (IISc Bangalore)	Associate Professor	Peptide Chemistry, Supramolecular Chemistry, Antimicrobial peptide research, Peptidomimetic chemistry
09	Animesh Das	Ph.D. (University of Goettingen, Germany)	Associate Professor	Organometallic chemistry and catalysis
10	Debapratim Das	Ph.D. (IACS, Kolkata)	Professor	Supramolecular dynamic aggregates, peptides, lipids
11	Gopal Das	Ph.D. (IIT Kanpur)	Professor	Supramolecular, Bioorganic chemistry and Biomineralization
12	Sumana Dutta	Ph.D. (IACS, Kolkata)	Associate Professor	Experimental & Theoretical Physical Chemistry / Self-organization and Nonlinear dynamics
13	Ashish K. Gupta	Ph.D. (Univ. of California, Los Angeles)	Professor	Quantum Molecular Dynamics
14	Parasmeswar K. Iyer	Ph.D. (CSMCRI, Bhavnagar)	Professor	Polymer synthesis, Organic / Organometallic Chemistry & Device fabrication, Sensors

15	Chandan K. Jana	Ph.D. (WWU Muenster, Germany)	Professor	Total Synthesis/ Natural Product Based Drug Discovery/ Synthetic Methodology/ Development of New Reaction
16	Pavan K. Kancharla	Ph.D. (IIT Kanpur)	Assistant Professor	Organic Chemistry, Carbohydrate Chemistry, Development of Synthetic Methodology, Organocatalysis
17	Abu Taleb Khan	Ph.D. (Kalyani University, W.B)	Professor	Synthesis of Natural Products, Heterocycles and Carbohydrate Chemistry, Newer Methodologies
18	G. Krishnamoorthy	Ph.D. (IIT Kanpur)	Professor	Organic Photochemistry & Spectroscopy
19	Lal Mohan Kundu	Ph.D. (LMU Munich, Germany)	Professor	Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials
20	Kingsuk Mahata	Ph.D (University of Siegen, Germany)	Associate Professor	Solar Fuel from Water, Supramolecular Catalysis, Theranostic Nano-Medicine
21	V. Manivannan	Ph.D. (IACS, Calcutta)	Professor	Coordination Chemistry
22	Bhubaneswar Mandal	Ph.D. (EPFL, Lausanne, Switzerland)	Professor	Peptide Chemistry and Amyloid Research
23	Debasis Manna	Ph.D. (University of Illinois at Chicago)	Professor	Lipid-Protein Interaction, Lipid Synthesis
24	Uttam Manna	Ph.D. (IISc, Bangalore)	Associate Professor	Bio-Inspired Polymeric Materials.
25	Biplab Mondal	Ph.D. (IIT Bombay)	Professor	Coordination and Bioinorganic Chemistry
26	Chandan Mukherjee	Ph.D. (Max-Planck Institute of Bioinorganic Chemistry, Muelheim, Germany)	Professor	Oxidation Catalysis / Molecular Magnetism / Synthesis of Single-Molecule Magnets (SMMs) / MRI Contrast agents / Water Oxidation Chemistry
27	Subhas Chandra Pan	Ph.D. (Max-Planck-Institut fuer Kohlenforschung, Muelheim an der Ruhr, Germany)	Professor	Synthetic organic chemistry: Natural product synthesis with the emphasis of new synthetic methodology; development of asymmetric organocatalysis and transition metal catalysis with new catalyst design; mechanistic study
28	Aditya N. Panda	Ph.D. (IIT Kanpur)	Professor	Dynamics of bimolecular scattering processes
29	Bhisma K. Patel	Ph. D. (IIT Kanpur)	Professor	Bio-Organic Chemistry and Newer Methodologies
30	Anumita Paul	Ph.D. (Columbia University)	Professor	Surface Science, Catalysis, Thin Films
31	Sandip Paul	Ph.D. (IIT Kanpur)	Professor	Computational Biophysics and Chemistry
32	T. Punniyamurthy	Ph.D. (IIT Kanpur)	Professor	Synthetic Organic Chemistry
33	Mohd. Qureshi	Ph.D. (IIT Kanpur)	Professor	Materials Chemistry

34	Manabendra Ray	Ph.D. (IIT Kanpur)	Professor	Bioinorganic and Coordination chemistry
35	Kalyan Raidongia	Ph.D. (JNCASR)	Associate Professor	Physical Chemistry
36	Kalyanasis Sahu	Ph.D. (IACS, Kolkata)	Professor	Time Resolved Absorption and Fluorescence Spectroscopy, SHG, MUPPETS
37	Anil Kr. Saikia	Ph.D. (RRL Jorhat)	Professor	New Synthetic Methodology & Natural Product Synthesis
38	Chivukula V. Sastri	Ph.D. (University of Hyderabad)	Professor	Biomimetic Chemistry and Chemical Biology
39	Manabendra Sarma	Ph.D. (IIT Bombay)	Associate Professor	Development of new theoretical approaches to Laser Assisted Control of Chemical Reactions, and Resonances in Electron – Molecule Scattering Reactions
40	Dipankar Srimani	Ph.D. (IACS, Jadavpur)	Associate Professor	Organic, Organonometallic Chemistry

LABORATORY FACILITIES

Engineering Survey Laboratory: This lab is equipped with a wide array of state-of-the-art facilities required for conducting Engineering Survey. Some of the crucial equipment available in this Laboratory are Unmanned Aerial Vehicle (Drone), Terrestrial Laser Scanner (TLS), Differential Global Positioning System (DGPS), Total Station, Digital Theodolite, Auto Level and Hand-held Global Positioning System (GPS).

Environmental Engineering Laboratory: Environmental Engineering Laboratory is equipped with some of the sophisticated instruments such as Atomic Absorption Spectrophotometer (AAS) for heavy metals analysis in ppm and ppb levels, UV-Visible Spectrophotometer for the quantitative determination of different analytes like transition metal ions and highly conjugated organic compounds, Gas Chromatograph for separating and analyzing compounds that can be vaporized without decomposition, Ion Chromatograph for analyzing organic and inorganic compounds, Laser Particle Size Analyzer for particle size gradation in the range 0.02-2000 μm , etc. The Laboratory is also equipped with some of the major instruments for air quality monitoring like Micro-meteorological monitoring system with required accessories and data logging system and software (automatic), Cascade Impactor, etc. The Laboratory has also a well-equipped micro-biology division with microbial research facilities to enrich, isolate, and identify noble bacterial species. The Laboratory is equipped with instrumentation facilities for water quality and wastewater analysis, solid waste, and hazardous waste characterization.

Geotechnical Engineering Laboratory: The geotechnical engineering Laboratory aims to conduct testing and research for the identification of the engineering behaviour of geomaterials such as soils, rocks, geosynthetics, fly-ash, composite materials, and different by-products of the geomaterials. The research expertise endorsed by the lab has been successfully used in multi-faceted geotechnical problems involving foundations, dams, embankments, tunnels, reservoirs, pavement subgrades, slopes, retention systems, seismicity and rainfall affected systems, as well as specialized applications like waste containment systems, bio-stabilization, nuclear repository containment and harnessing of geothermal energy. The precision of such design and analyses largely depends on the experimental information and numerical modeling skills supported by the geotechnical laboratory. The primary aim of the geotechnical Laboratory is to look for avenues of safe and economic design, analyses, and stabilization approaches, which is the need of the hour of the North-Eastern region. The geotechnical Laboratory is equipped with state-of-the-art instruments essential to determine the different physical, chemical, geotechnical and geophysical properties of the geomaterials. The major equipments already present in the Laboratory are the Cyclic triaxial testing apparatus, Multi-channel data logging (MASW accompanied by cross-hole apparatus), Unsaturated triaxial setup, Rock testing equipments, Research Centrifuge, Guelph Permeameter, Cross permeability test apparatus, automated Direct shear and Consolidation setups and several others. The Laboratory is also well equipped with specialized network licensed numerical and modeling softwares such as GeoStudio, PLAXIS 2D and 3D, RocScience, FLAC, 2007, to name a few. Some major equipments which are under the process of acquirement in 2017-18 are Flame Photometer, High Accuracy Digital Balance, Vane Shear Apparatus, Direct Shear Apparatus, Torshear Ring Apparatus (arriving soon), ProCheck Digital/Analog Sensor Handheld Readout, and Water Distillation Unit.

Infrastructure Engineering and Management Laboratory: Project Management Laboratory with well-equipped computing facilities along with the state of the art project management

and infrastructure planning softwares such as MS Projects, Primavera Project Planner, and Autodesk Revit Building Suite.

Some of the quantitative analyses carried out in this Laboratory include:

- Financial modelling of infrastructure projects
- Construction cost estimation and rate development
- Earned value analysis of infrastructure projects
- Resource driven scheduling
- n-Dimensional modelling of built facilities
- Risk analysis and assessment of infrastructure projects

The concrete Testing Laboratory is equipped with sophisticated equipment for carrying out tests on special concrete such as self-compacting concrete (SCC) and foamed concrete. Other important facilities include the equipment to study the corrosion behavior of steel reinforcement, shrinkage, and microstructure of concrete.

Structural Engineering Laboratory: This lab is equipped with state-of-the-art facilities for conducting high-end experimentation in the field of Structural Engineering and is equipped with equipment like Overhead EOT Crane for Structural test hall, Universal Test frame, NDT equipment like Corrosion analyzing, Rebar locator. Permeability tester, Resistivity meter, extraction tester, Dynamic Actuator system, Earthquake simulator, Pseudo Dynamic Test Facility, FFT analyzer for vibration testing of structural elements, Resonant frequency meter, HBM-48channel data acquisition system, Hydraulic Fork Lift, A-Frame Aluminium Ladder (16ft high), Automatic Vicat's apparatus for SC, Initial and Final Setting of Cement, 300 LPM in Powerpack for MTS test system, Reaction Mass Assembly for Electoseis Long Stroke Shaker Model 113 etc. Abaqus V 6.8 software, ANSYS – v13, SAP 2000 – v14 , MIDAS , Primavera etc.

Transportation Systems Engineering Laboratory: This lab has two major sub divisions - Pavement Engineering and Traffic Engineering encompassing all the specialized areas of Transportation Systems Engineering. The Pavement Engineering section is equipped with many state of the art equipment not only for testing pavement materials such as bitumen, aggregates and soil, but also for in-situ pavement evaluation. Some of the major equipment available in the lab are Setup of major equipment for production and design of Cold Mixes (Wet Track Abrasion, Cohesion Tester, Schulze Breuer and Loaded Wheel Tester), Pneumatic Universal Testing Machine (UTM), Gyrotory Compactor, Falling Weight Deflectometer (FWD), Dynamic Shear Rheometer (DSR), Digital Marshall cum Indirect Tensile Strength Tester, CoreDry and CoreLok. On the other hand, the Traffic Engineering Laboratory is equipped with a wide array of facilities required for Traffic data collection and analysis. This lab is well equipped with many sophisticated equipment such as Video VBox, Handheld Roughometer, Speed Radar Guns, Portable Mast Assembly and Dipstick. In addition to this, many software such as VISSIM, MXRoad and HDM-4 are also available in the simulation section of this laboratory.

Water Resources Engineering Laboratory: Water Resources Engineering Laboratory is equipped with some of the sophisticated instruments such as Acoustic Doppler Velocimeter (ADV) for recording instantaneous velocity components at a single-point, Acoustic Doppler Current Profiler (ADCP) for measuring water current velocities, DGPS, Spectro-radiometer, Miniature Tensiometer to measure soil suction pressure etc. The Laboratory has a 5 m flow channel or flume which is mostly used for carrying out experiments and demonstrations in water flow, friction in a uniform flow channel, flow over a sharp-crested weir, crump weir, streamlined hump, flow under a sluice gate etc. The Laboratory has also a 20 m long tilting flume for conducting real time open-channel flow simulation experiments. Another 30 m long

flume has been installed for undertaking cutting edge research in the area of open channel flow, sediment transport processes etc. Work is also being carried out in land use and land cover classification, river migration, water-shed delineation, flow accumulation and hill slope hydrology. The Laboratory is also equipped with Drainage and Seepage Tank, 3D Ground Water Flow Laboratory Model for conducting experimental study regarding flow through permeable media, flow line visualization, flow net construction, determination of seepage rate, verification of Darcy's law etc. Research work is also being carried out regarding determination of soil hydraulic conductivity which is one of the governing factors for controlling flow through porous media. Both field and Laboratory experiments are simultaneously conducted using different types of infiltrometers like Double Ring infiltrometer, Mini disc infiltrometer, tension infiltrometer etc. for determining hydraulic conductivity of soil, followed by mathematical analysis using numerical tools like HYDRUS to estimate the soil hydraulic properties. Latest versions of the applicable software such as Geomatica, MIKE 21C & CCHE3D have been procured to carry out research related work.

Computational Laboratory: There are three nos. of computer laboratories out of which one lab is located in the M-Block which has around 60 number of Desktop Computers all properly connected to the network and to the centralized UPS system, a wide screen LED Display and a good number of computer related books. The other two labs are in the Annexure Building which has dedicated Wi-Fi facility. A Departmental Server Room is located at M-Block of our Department which has all the license servers for the licensed software of our Department. The licensed software are: SAP 2000, ANSYS 13.0 & 17.0, ABACUS 6.8, Arc GIS, COMSOL 4.2 & 4.2a, MIDAS GEN & MIDAS Civil, GROUND WATER MODELLING SOFTWARE (GMS), WMS 8.2, PLAXIS 2D & 3D, HYPERMESH, LS DYNA, ROC SCIENCE, ETAB, CSI BRIDGE, GEO STUDIO 2012, ERDAS, SPACE GASS. The Lab has three numbers of Servers. One Server is of Make DELL and Model Dell Power Edge R730, the second server is of Make HP and Model HP Proliant DL380 Gen9 and the third server is of Make IBM and Model X3650 M3. The Lab has one number of storage box of Make IBM and Model DS 3500. The Lab has a 26U Floor Mount Server Rack system of Make Valrack with two numbers of fan and 1 number of power distribution units. The Lab has a centralized UPS facility.

Earth System Science and Engineering: Earth System Science and Engineering specialization is one of the seven specializations offered by Department of Civil Engineering, Indian Institute of Technology Guwahati. This specialization has a multidisciplinary approach to study various aspects of the Earth systems. This unique programme was started in 2016 with the objectives to provide high quality classroom, Laboratory and field education. This specialization offers both M.Tech and Ph.D. program.

North-eastern region of India is blessed with natural resources (natural and mineral resources including oil and gas) and located in a seismic zone that demands close monitoring of geophysical parameters. In the backdrop of accelerated infrastructure development for national growth, growing incidences of geohazards and natural uncertainties such as climate change has necessitated systematic understanding of the Earth systems in order to build future infrastructures pragmatically, and seek sustainable solutions for hazard related uncertainties. To address these problems scientifically, this specialization is actively involved in various interdisciplinary research projects and consultancy assignments.

Apart from the contemporary learning, students of this specialization will be trained with latest techniques of quantitative analyses which can be directly used for the identification and exploration of natural resources. This will provide research and employment opportunities in

various sectors such as mineral & hydrocarbon exploration, natural resource management, geo-environment etc.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- DUCTIMETER, High Performance Ductility machine, 4 briquettes capacity, 1500 mm carriage travel. 230V/50-60/Hz/lph. (Make: Controls; Model: 81-PV10B02)

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Soil Dynamics, Geo-environmental Engineering, Ground Improvement, Landslides, Behavior of Clays and Clay Minerals, Sustainable development, Public-Private Partnerships, Risk Management, Construction Management, Durability studies in concrete, Corrosion of steel reinforcement and protection measures, High-performance concrete, Mass transport in cementitious materials, Non-destructive testing of concrete structures, Lightweight concrete (Foam concrete), Shrinkage behaviour and thermal performance of concrete, Sustainable materials in construction, Hydrological and hydraulic modeling, Flood and Erosion, Climate change, river engineering, watershed management, groundwater management, identification of unknown pollution sources, optimal design of urban drainage system, urban climate, Earth and planetary exploration, Study of sediment dynamics in fluvial systems, Petrophysical Modelling for Petroleum Exploration, Environmental impact/risk assessment & management, Remote Sensing and GIS for mapping groundwater potential and recharge, Geodesy and mapping, Photogrammetry and LiDAR., Integration of remote sensing techniques, Sensor calibration and synthetic simulation, Airborne remote sensing (Unmanned Aerial Vehicles) for mapping and exploration, Advance Remote Sensing (hyperspectral, thermal and microwave) and GIS techniques Natural Resource Management, earthquake engineering, structural mechanics, structural dynamics, fracture and fatigue mechanics, finite element analysis, durability of structures, non-destructive testing, construction materials, numerical and analytical methods, computer aided analysis, passive and semi-active control, retrofitting of structures, computational mechanics, IT in construction management, structural analysis and design, performance based seismic design, system identification & structural health monitoring, seismic damage assessment, bridge engineering, wind induced vibration& control, random vibration, nonlinear behaviour of structures, ultrasonic wave propagation, acoustic-impact detection, time-frequency analysis, impact and blast resistant design, reliability analysis and performance based engineering, design and optimization of protection measures, sustainable construction and sustainable construction materials, Removal of heavy metals from wastewater using amine based functionalized polymers, Biodegradation of industrial wastewater, Removal of toxic pollutants like phenol, ammonia, thiocyanate, pyridine from wastewater in fed batch type reactors by indigenous cultures and Air quality modeling in urban transport and industrial environment, Pavement Evaluation and Management, Road Safety, Traffic Flow and Travel Behavior Modeling.

AWARDS AND HONOURS

- Prof. Sudip Talukdar: Outstanding Research Paper Award at the International Conference on Futuristic Technologies held at IIT Delhi
- Prof. Bimlesh Kumar: Appointed to the Editorial Advisory Board of Earth Surface Processes and Landform

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Gautam Barua	IIT Kharagpur	Professor	*Flow through porous media
02	Neepjyoti Bharadwaj	University of Missouri - Columbia	Assistant Professor	* Traffic safety. * Naturalistic Driving Study * Traffic flow theory * Econometric Modeling
03	T. Venkata Bharat	IISc Bangalore	Professor	*Behavior of unsaturated soils during infiltration & drainage *Settlement behavior of ultra-soft soils and mine tailings *Contaminant transport through landfill liners *Mineralogical aspects of clays *Inverse analysis of geotechnical & geoenvironmental engineering problems
04	Rishikesh Bharti	IIT Bombay	Assistant Professor	* Application of remote sensing and Geographic Information System (GIS). * Airborne remote sensing (Unmanned Aerial Vehicles) for mapping and exploration. * Advance remote sensing (hyperspectral, thermal and microwave) and GIS techniques for the earth and planetary exploration.
05	Rajib K. Bhattacharjya	IIT Kanpur	Professor	*Water Resources System Management *Climate change *Genetic Algorithms *Artificial Neural Networks
06	Dhirendra Nath Buragohain	IIT Bombay	Emeritus Professor	*Structural Mechanics * Finite Element Methods *Numerical Methods *Computer aided analysis *Design and drafting *Development of software
07	Arunasis Chakraborty	Trinity College, Dublin, Ireland	Professor	• Random Vibration & Wavelet Analysis • System Identification & Damage Detection • Uncertainty Quantification & Reliability Based Design
08	Saswati Chakraborty	IIT Bombay	Professor	• Heavy metal removal by polymers • Aerobic granular reactors • Sequential treatment of industrial wastewater

				<ul style="list-style-type: none"> • Constructed wetland for wastewater treatment
09	Sayantana Chakraborty	IIT Bombay	Assistant Professor	<ul style="list-style-type: none"> *Shear zones and Fault zones *Evolution of Mountain Belts *Microstructures *Thermochronology
10	Rajan Choudhary	IIT Roorkee	Professor	<ul style="list-style-type: none"> *Pavement Analysis and Design *Highway Construction and Quality Control *Pavement Material Characterization *Pavement Evaluation and Maintenance *Traffic Engineering
11	Sandip Das	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> *Earthquake Engineering *Structural Dynamics *Random Vibration
12	Kaustubh Dasgupta	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> *Earthquake Engineering *Design of Reinforced Concrete Structures *Retrofitting of Structures
13	Ajay Dashora	IIT Kanpur	Assistant Professor	<ul style="list-style-type: none"> * Synthetic Simulation * Sensor Calibration * Airborne and Terrestrial LiDAR * Thermography * Integration of Remote Sensing Technologies * Development of Lumped Parameter Models * Flight Planning * Unmanned Aerial Vehicles (UAVs) for Mapping
14	Sajal Kanti Deb	IIT Roorkee	Professor	<ul style="list-style-type: none"> *Passive and semi-active control *Performance based seismic design *System identification & structural health monitoring *Seismic damage assessment
15	Arindam Dey	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> *Geosynthetic Reinforced Foundation Beds *Geotechnical Lumped Parameter and Continuum Mechanics Modeling *Parameter Estimation of Geotechnical Models *Optimization, GA, ANN and Soft Computing in Geotechnical Engineering *Ground Modification and Improvement Practices *Soil-Structure-Foundation Interaction *Reinforced Soil Structures *Landslides and Slope Stability Analysis

				<ul style="list-style-type: none"> *Seismic and Ambient Health Monitoring of Geotechnical Structures *Reliability and Uncertainty Analysis in Geotechnical Engineering *Forensic Investigation in Geotechnical Engineering *Subsurface Profiling and Soil Investigation *Soil Dynamics and Earthquake Engineering
16	Anjan Dutta	IIT Delhi	Professor	<ul style="list-style-type: none"> *Finite Element Mesh Generation *Optimization *Control, Health Monitoring and Retrofitting of structures
17	Subashisa Dutta	IIT Kharagpur	Professor	<ul style="list-style-type: none"> *Meso-Scale Distributed hydrological modeling *Satellite Remote Sensing and GIS for Water resources Management *Computational river hydraulics and its applications *Watershed and Irrigation Management
18	Pranab Kumar Ghosh	IIT Kharagpur	Professor	<ul style="list-style-type: none"> *Water treatment for domestic and industrial use *Domestic and Industrial wastewater treatment *Sludge treatment by physicochemical and biological process
19	Sharad B. Gokhale (Head)	IIT Delhi	Professor	<ul style="list-style-type: none"> *Air Pollution and Environmental Noise
20	Budhaditya Hazra	University of Waterloo, Canada	Associate Professor	<ul style="list-style-type: none"> *Deterministic and Stochastic Structural Dynamics *System Identification *Blind source separation *Time-frequency analysis *Vibration based condition monitoring
21	Mohammad Jawed	IIT Kanpur	Professor	<ul style="list-style-type: none"> *Biological Processes *Anaerobic Wastewater Treatment *Heavy Metal Removal and Recovery *Water Treatment and Supply *Domestic & Industrial Wastewater Treatment
22	Sparsh Johari	IIT Delhi	Assistant Professor	<ul style="list-style-type: none"> *Construction Project Management *Workforce Management *Capacity Building *Skill Development Training *Construction Productivity *Project Performance

				<ul style="list-style-type: none"> *Construction Quality *Safety, and health
23	Ravi K.	IISc Bangalore	Associate Professor	<ul style="list-style-type: none"> *Geo-environmental engineering *Geo-energy systems *Engineering behaviour of unsaturated soils *Research on hazardous waste management
24	Ajay Kalamdhar	IIT Roorkee	Professor	<ul style="list-style-type: none"> *Solid waste management *Mechanical composting and vermicomposting *Analysis of solid wastes
25	Santu Kar	IIT Delhi	Assistant Professor	<ul style="list-style-type: none"> *Construction Project Management *Material Management *Automation in Construction *Optimization in Construction Management *Sustainable Construction *Risk Management *Green and Affordable Housing *Construction Productivity
26	Suresh A. Kartha	IIT Kanpur	Professor	<ul style="list-style-type: none"> *Flow and transport through porous media *Heap leaching *Hydrology *Numerical modeling
27	Hemant B. Kaushik	IIT Kanpur	Professor	<ul style="list-style-type: none"> *Earthquake Resistant Design *Nonlinear Behaviour of Structures *Retrofitting of Structures *Finite Element Modeling
28	Abhishek Kumar	IISc Bangalore	Associate Professor	<ul style="list-style-type: none"> *Seismic hazards of Urban Centers *Ground Motion Simulations *Liquefaction *Seismic hazard for Nuclear Power Plants *Site response studies for deep basins *Multichannel Analysis of Surface Waves (MASW) and Ground Penetration Radar (GPR) *Subsoil Investigations and Geotechnical Engineering *Soil Dynamics *Dynamic testing's on Piles *Ground Improvement, Reinforced earth structures *Deep Excavations
29	Bimlesh Kumar	IISc Bangalore	Professor	<ul style="list-style-type: none"> *Small scale studies of mixing tanks *Experimental Studies of Aeration Systems *Sediment Transport analysis *Pipeline analysis

				<ul style="list-style-type: none"> *CFD simulation *Surge analysis
30	Chandan Mahanta (Head)	Jawaharlal Nehru University, New Delhi	Professor	<ul style="list-style-type: none"> *Water Quality *Sediment Dynamics in Fluvial Systems *Environmental Impact, Risk Assessment and Management *Environmental Geo-informatics *Engineering Geology
31	Chunchu Mallikarjuna	IIT Delhi	Professor	<ul style="list-style-type: none"> *Traffic flow theory and Modeling *Traffic data collection and analysis *Travel demand modeling
32	Akhilesh K. Maurya	IIT Kanpur	Professor	<ul style="list-style-type: none"> *Driver behaviour *Traffic flow theory and modeling *Traffic engineering
33	Anil Kumar Mishra	Kyushu University, Fukuoka, Japan	Associate Professor	<ul style="list-style-type: none"> *Chemical compatibility studies of soil-bentonite mixtures *Waste (municipal, industrial and hazardous) management and disposal *Unsaturated soil mechanics
34	Archana M. Nair	IIT Bombay	Associate Professor	<ul style="list-style-type: none"> * Remote Sensing for Planetary Exploration * Petrophysical Modelling for Petroleum Exploration * Thermal IR Emission and Reflectance Spectroscopy * Hyperspectral Remote Sensing for Mineral Exploration * Remote Sensing and GIS for Hydrogeological studies
35	Johan Ninan	Jointly by University of Technology Sydney (UTS) IIT Madras (IITM)	Assistant Professor	<ul style="list-style-type: none"> *Infrastructure Megaprojects *Construction Project Management *Community Engagement *ICT and Innovation in Construction Management
36	Romanbabu Meetei Oinam	IIT Delhi	Assistant Professor	<ul style="list-style-type: none"> * Seismic evaluation & Retrofitting of structures. * Supplemental damping & Energy dissipating devices. * Performance-based seismic design of structures. * Fiber-reinforced concrete. * Large scale testing of structures using Quasi-static, Pseudo-dynamic, and Hybrid simulation methods. * Numerical modeling of reinforced concrete and steel structures
37	Vivek Padmanabha	IISc Bangalore	Assistant Professor	<ul style="list-style-type: none"> *Impact Geomechanics: investigating the properties of geomaterials (soils-rocks) under high strain rate and high pressure loading.

				<ul style="list-style-type: none"> *Shock attenuation and compression phenomena in granular /porous materials *Dynamic fracture and fragmentation in rocks *Blast resistance and mitigation strategies on Geotechnical Structures
38	Bulu Pradhan	IIT Delhi	Professor	<ul style="list-style-type: none"> *Durability studies in concrete *Corrosion of steel reinforcement and protection measures *High performance concrete *Mass transport in cementitious materials *Non-destructive testing of concrete structures *Construction management
39	G. Indu Siva Rajani	IIT Madras	Assistant Professor	<ul style="list-style-type: none"> *Light weight concrete (Foam concrete) *Durability related studies on concrete *Shrinkage behaviour and thermal performance of concrete *Sustainable materials in construction *Lean concepts of construction *Construction management
40	Sharmila R. B.	IIT Bombay	Assistant Professor	<ul style="list-style-type: none"> *Machine learning *Intelligent Transportation System *Driver behaviour studies *Traffic safety and sustainable transportation
41	Teiborlang Lyngdoh Ryntathiang	IIT Kharagpur	Professor	<ul style="list-style-type: none"> *Pavement Materials *Precast Concrete Block Pavement *Cast In-Situ Concrete Block Pavement
42	Pekkat Sreeja	IIT Bombay	Associate Professor	<ul style="list-style-type: none"> *Urban Flood Modeling *Modeling and Control of Open Channel Flows *Infiltration and artificial recharge *Stochastic Hydrology *River Mechanics
43	Arup Kumar Sarma	Guwahati University	Professor	<ul style="list-style-type: none"> *Modeling & simulation in Free Surface Flow *Heuristic Method in Reservoir Optimization *GIS based Watershed Modeling
44	Hrishikesh Sharma	Zachry Department of Civil Engineering, Texas A&M University,	Associate Professor	<ul style="list-style-type: none"> *Impact and Blast Resistant Design *Reliability Analysis and Performance Based Engineering *Design and Optimization of Protection Measures
45	Amit Balasaheb Shelke	The University of Arizona	Associate Professor	<ul style="list-style-type: none"> *Ultrasonic wave propagation *Acoustic-Impact detection *Non-destructive testing

46	Arbind K. Singh	IISc Bangalore	Professor	*Information Technology in Construction Engineering *Object-Oriented Programming *Constitutive modeling
47	Baleshwar Singh	IIT Delhi	Professor	*Marine Geotechnology *Modelling of Onshore & Offshore Foundations *Soil Stabilization & Ground Modification *Pavement Subgrade & Site Characterization
48	K. Darunkumar Singh	Southampton University	Professor	*Structural Analysis and Design *Finite Element Method *Fracture and Fatigue Mechanics
49	Laishram Boeing Singh	IIT Madras	Professor	*Public Private Partnerships *Risk Management *Construction Management
50	T. G. Sitharam (Director of the Institute)	University of Waterloo, Waterloo, Ontario - Canada	Professor	<ul style="list-style-type: none"> • Rock mechanics and Rock engineering • Geotechnical Earthquake Engineering • Microzonation and site response studies • Micromechanics of Granular materials • Numerical Methods in Geomechanics • Earth dams and Tailing ponds • Reinforced earth structures • Instrumentation in Geotechnical Engineering • Engineering Education: web based education
51	Sekharan Sreedeeep	IIT Bombay	Professor	*Behavioral studies on unsaturated porous media *Characterization of geo-materials (soils and rocks) *Thermal characteristics of geo-materials *Contaminant transport and retention studies *Waste containment studies *Landslides
52	Anjan Kumar Siddagangaiah	IIT Madras	Associate Professor	*Analysis and Design of Pavement Structures *Pavement Material Characterization *Pavement Construction and Recycling *Pavement Management Systems *Pavement Evaluation using NDT

				*Forensic Investigations of Pavement Failures
53	Kaling Taki	IIT Gandhinagar	Assistant Professor	<ul style="list-style-type: none"> * Problematic soil * Ground improvement * Solid waste management * Sustainable construction material. * Nanomaterials * Construction biotechnology * Contaminant remediation and containment * Soil pollution
54	Sudip Talukdar	IIT Kanpur	Professor	<ul style="list-style-type: none"> *Structural Dynamics *Bridge Engineering *Wind induced vibration & control *Non destructive techniques
55	Abhishek Verma	IIT Delhi	Assistant Professor	<ul style="list-style-type: none"> * Seismic evaluation & collapse performance of structures * Steel and composite structures. * Cold-formed steel * Passive energy dissipating devices

LABORATORY FACILITIES

Multimedia Laboratory: Our research is mainly focused on Deep Learning approaches to solve different Computer Vision problems like image, video restoration, under water vision, super-resolution, satellite image segmentation, image translation, image steganalysis, zero shot learning, adversarial perturbation etc. Beside computer vision problems, our group also explores different ML based approaches for adaptive video streaming in 5G environment. Currently five research scholars, five master's students and four under graduate students are working in the lab. We have published 23 journal papers and more than 50 conference papers in different premium journals and conferences. Multimedia Lab is well equipped for state-of-art research in multimedia, image and video processing domain providing IBM X3500 M4 sever, HP: Z420 Xeon E5 workstation, SONY HDR PJ820 camcorder, SONY LED KDL55W950 display facility, high end desktops, laptops and other necessary lab equipments.

Robotics and Speech Laboratory: The Lab. has developed in-house, an open source Multi-Agent emulator, nicknamed Tartarus. The same has been written in SWI-Prolog. Tartarus, facilitates users to create a network of nodes comprising either a single PC/ laptop/ embedded systems (such as Raspberry Pi) or several such devices connected as a LAN (wired/wireless). It facilitates programming both static and mobile agents. Agents in Tartarus are basically programs written in Prolog. They can be programmed to perform tasks autonomously at select nodes and even made to migrate to others autonomously in the network they inhabit. Such agents can even be programmed to clone (copy and multiply) on-the-fly and then move around the network and execute tasks concurrently, providing a distributed and decentralized processing environment. These agents can also carry programs as payloads. Payloads could be written in either Prolog or Python and executed at desired nodes. One could try out using other languages as well. Agents can communicate amongst each other and also with programs resident at a node. As of now, Tartarus can be run on Windows, Ubuntu and Raspbian operating systems. Tartarus can run on the Raspberry Pi too. It can be used to sense the sensors on-board and also control the actuators (motors, relays, etc.) connected on-board. The research focuses on distributed and decentralised cyber physical systems with an emphasis on Bio-inspired algorithms.

The Lab is equipped with NXT Mindstrom LEGO sets Education Based (v.LEGO 9797) with Resource kit associated with education NXT Softwares, NI WSN Starter kit, NXT sensors and Raspberry Pi 3. New Fire Bird V ATMEGA2560 Robot Research Platform has also been acquired which is a standard AVR microcontroller based Fire Bird V which is fitted with Raspberry-Pi SBC (Single Board Computer) and higher resolution encoders. The lab is also facilitated with CSL workstation, headphones and speakers.

Open Source Intelligence Group Laboratory: The objective of OSINT Lab is to mine and discover actionable intelligence for various application from publicly available information such as social media platforms, news feeds, microblogging sites etc. The group actively involves in a wide ranges research problems related of text mining, NLP, social media data mining, social network analysis, information retrieval etc. over social media data.

OSINT lab is an interdisciplinary Lab with collaborators from the domains of machine learning, information retrieval, information security, computational linguistics, user interface design and visualization. The lab is equipped with state-of-the-art facilities with high-end CPU and GPU computing servers, 100TB of NAS storage, distributed Spark clusters, distributed NoSQL databases. The Lab has executed various sponsored projects. It curates and archives a large volume of social media data at the scale of more than 200 billion microblogs (tweets, news articles, Facebook posts). It has developed tools for analysing social media data (Vishleshakee), event detection from news feeds, OCR for

Manipuri Language, Manipuri Text-to-Speech synthesis system, Sentiment analysis system for public opinion. Some of the products developed in the Lab are used by the companies like Lamzing Technologies Pvt. Ltd. It also involves in various outreach activities – development of POS and NER for Dzongkha, 100+ interns to students from different Engineering institutions in North East.

Computer Networks & Security Laboratory: The CNS research group at IIT Guwahati works on projects that cover a diverse range of experimental and theoretical research, including Wireless Mesh, Ad Hoc and Sensors Networks, High Speed Networks, Network Architecture and Design, Computer and Network Security, Secure Multimedia Communications and Intrusion Detection Systems.

The researches aim at developing low cost and effective solutions for communication and media technology with a focus of blooming technologies for Indian context, specifically the North East Region. At the same time, our theoretical research targets the global developments of networking and security technologies, standards and policies while addresses the design of future network architecture.

User-centric Computing and Networking Laboratory: The lab focuses on the design and development of applications for computing devices that caters to heterogeneous user groups. The user-centric computing paradigm (otherwise known as the human-computer interaction) is applied in the design of applications used in large-scale content delivery, to ensure good quality of experience to the consumers on heterogeneous devices and networks. The challenges that arise in the development of user-centric networked applications are addressed both from theoretical as well as practical perspectives.

This lab is equipped with Oculus Rift Virtual Reality Head Mounted Display, Epson Moverio BT35E smartglass, Data gloves, Microsoft kinect sensor, 360 degree Camera, Tobii eye tracker (model: X2-60) and associated software for usability studies, Mobile Devices (Android, iOS, Windows), Laptops, Tablets, Smart Phones, SDK Tools for Android, iOS, Windows Application Development, Desktop PCs, High performance computing servers, Wireless and Wired Gigabit Routers, Reconfigurable routers (built using 1Gbps Digilent NetBest viewed in Internet Explorer 9.0 & above or Mozilla Firefox Ver 3 & above with a resolution of 1024 X 76800.FPGA Cards).

Computer Architecture & Embedded Systems Laboratory: The lab focuses on cutting edge research and technology innovation in the area of VLSI design, testing, verification, real time systems and scheduling, NOC design, multicore architecture and scheduling and cache design for multicore. Embedded System Development Software, Chip Scope-Pro Software, Virtex-II Pro based Protoboard with FPGA, Virtex-5 Development Board with device XC5VLX50 and VIDEO ADC–DAC Add On Card, Universal Multi-vendor Kit with on board device XC3S400 PQ208C, Simics-4.0.61, Xilinx- ISE Design Suite, Embedded System Development Software (UEFI_EDK) & Chip Scope-Pro Software(UEF-CSP-PRO), ISE Design Suit,Basys3 FPGA BOARD etc. Under the VLSI Laboratory in our department to inculcate student interest in VLSI design, test and verification and facilitating students to build prototype designs and test them.

Hardware Laboratory: The Department hardware Laboratory is equipped with educational tools to promote better understanding of computer hardware and peripherals among the students. 8085/86 Microprocessor Trainer kits and 8031 Microcontroller kits are used to provide hands on experience to students about basic hardware. This Lab also provide space for various research cum major/minor project to be carried out.

New PIC based microcontrollers and FPGA boards have also been acquired. These are supported by Colour Logic Analyzer and Pattern Generator, Function/Arbitrary wave generator, digital oscilloscopes, Wireless Transmitter/Receiver pairs, Data acquisition/ Switch units, TDM pulse code

modulator/transmitter and demodulator/receiver, various Software tools like Xilinx evaluation kits, various Architectural Tools and Simulators, Development kits with DE1-SOCMLT2 etc.

Samsung Innovation Laboratory: This Lab facility was set-up under MOU with SIEL - Samsung India Electronics Private Limited. This facility emphasis on academic collaboration by way of special industry oriented courses, jointly by IITG & SIEL, technical talks & industry expert lectures/demonstrations, minor/major student projects & student technical contests, Research activity mainly engrossed with IoT & Networking.

The Lab is equipped with RASP-PI-3 Motherboard , Wifi Router, High end GPU Servers, Quad Store QS_URPI Ultra Kit for Raspberry Pi 3, 2, LoraWan Gateway, Lora modules Arduino Shields , Sensing module kit for measuring Temp, Humidity, etc., Smart Display etc.

MARS Research Laboratory: This Lab designated with research in the area of Multicore Architecture and Systems like Optimising Network On Chip Architecture, Cache Optimisation in Tiled Chip Multi-Processors (TCMP), Machine Learning based accelerators for NoCs, enhancing Non-Volatile Memory (NVM) Technology, Secure System on Chip Design Techniques, Disaggregated Memory Management in Data Centre Architectures, Performance Enhancement in Wireless Network On Chips, etc.

This Lab Facilitated with Server, Workstations, High-end Desktops, Xilinx evaluation kits, various Architectural Tools and Simulators, Development kits with DE1-SOCMLT2, etc.

3 Nos. UG Soft Laboratory, 2 Nos. PG Soft Laboratory, 3 Nos. Research Scholar Laboratory: These Labs are designated computing Facility for B.Tech , M. Tech Students & Research Scholars. These are 24x7 Lab facilities; one workspace allocated to each student. Major activates of these Labs are Soft Project, Tutorials, BTP & MTP, Individual research works by Ph. D. Students etc.

All workspace are equipped with N/W cum Wi-Fi facility, High-end Desktop cum other computing Facility, IBM Rational Rose software development suite, Oracle RDBMS with Oracle products and Oracle Academic Initiative, Java compiler and applet viewer, C++ compilers and Lisp interpreters, Rational rhapsody developer, Matlab , Solaris both SPARC and X86 versions, etc.

SUSMA Laboratory: This Lab is designated with research in the area of computer architecture like improving performance and lifetime of the emerging non-volatile memories, NoC architecture optimization, accelerator design for machine learning applications.

This Lab is facilitated with server, workstations, architectural tools and simulators etc.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Theoretical Computer Science
- Computer Architecture and Embedded Systems
- Man-Machine Interfaces
- Computer Systems
- Artificial Intelligence, Machine Learning and Data Mining

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

FASTSIM: A Fast RTL Simulator: An automatic cycle accurate simulation tool that manipulates certain unique features of HLS design to extract a concise, well indented and debug friendly C behaviour from the synthesized RTL.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
01	Hemangee K. Kapoor	P. Das, A. Joshi and H. K. Kapoor, "Hydra: A near hybrid memory accelerator for CNN inference", The Design, Automation and Test in Europe Conference (DATE) 2022, IEEE. March	March 2022	International
02	Pradip Kr. Das	Bhagath Parabattina, Pradip Kr. Das, "TELUGU ANKELU: A Telugu Spoken Digits Corpora for Mobile Speech Recognition", ICPRS 12th International Conference on Pattern Recognition Systems March	March 2022	International
03	Ashish Anand	Akshara Prabhakar, Gouri Sankar Majumder, Ashish Anand, "CL-NERIL: A cross-lingual model for NER in Indian Languages", AAAI 2022 February	February 2022	
04	Manas Khatua, Tamarapalli Venkatesh	K. Tapadar, M. Khatua, V. Tamarapalli, "IMSF: Improved Minimal Scheduling Function for Link Scheduling in 6TiSCH Networks", Proc. of the ICDCN 2022, 124-127, 24 January	January 2022	International
05	Sukumar Nandi	Roshan Singh, Pranav Kumar Singh, Sukumar Nandi, "A Blockchain-based Approach for Optimal Energy Dispatch and Fault Reporting in P2P Microgrid", the 2021 IEEE GLOBECOM Workshops: Workshop on Intelligent Communications for Decentralized Energy Management (EnergyCom), 7-11 December	December 2021	International
06	Sukumar Nandi, Sanasam Ranbir Singh	Ritesh Ratti, Sukumar Nandi, Sanasam Ranbir Singh, "Online Network Attack Detection using Statistical Features", the 2021 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 13-16 December	December 2021	International
07	Sukumar Nandi	Kousik Rajesh, Manoj Das, Sukumar Nandi, "Tree-Based Group Diffie-Hellman for subgroup communication in M2M networks", the IEEE INDICON 2021, 19-21 December	December 2021	International
08	John Jose, Sukumar Nandi	Thejaswini P, John Jose, Sukumar Nandi, "Energy Efficient Approximate MACs", the INDICON 2021, 19-21 December	December 2021	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
09	John Jose, Sukumar Nandi	Thejaswini P, John Jose, Sukumar Nandi, "Energy Efficient Approximate MACs", the IEEE INDICON 2021, 19-21 December	December 2021	International
10	Sukumar Nandi	Bhabesh Mali, Santanu Saha, Daimalu Bhabha, Pranav Kumar Singh, Sukumar Nandi, "Alternate Crop Prediction Using Artificial Intelligence: A Case Study in Assam", the 2021 IEEE International Symposium on Smart Electronic Systems (iSES) (Formerly iNiS), 20-22 December	December 2021	International
11	Sukumar Nandi, Pinaki Mitra	Dipojjwal Ray, Pradeepkumar Bhale, Santosh Biswas, Sukumar Nandi, Pinaki Mitra, "DAISS: Design of an Attacker Identification Scheme in CoAP Request/Response Spoofing", 2021 IEEE Region 10 Conference (TENCON), 7-10 December	December 2021	International
12	Sanasam Ranbir Singh	Jennil Thiyam, Sanasam Ranbir Singh, Prabin K. Bora, "Chart classification: an empirical comparative study of different learning models", The Twelfth Indian Conference on Computer Vision, Graphics and Image Processing, Article No.: 32, 1 - 9 December	December 2021	National
13	Jatindra Kumar Deka	Kunwer Mrityunjay Singh, Santosh Biswas, Jatindra Kumar Deka, "ATPG for Incomplete Testing of SOC Considering Bridging Faults", IEEE REGION TEN CONFERENCE (TENCON 2021), 7 - 10 December	December 2021	International
14	Jatindra Kumar Deka	Mousum Handique, Jatindra Kumar Deka, Santosh Biswas, "A Fault Diagnosis Technique of SMGFs in k-CNOT Based Reversible Circuits", IEEE REGION TEN CONFERENCE (TENCON 2021), 7 - 10 December	December 2021	International
15	Jatindra Kumar Deka	Nanu Alan Kachari, Santosh Biswas, Jatindra Kumar Deka, "FOSS conversion of Virtual Lab Experiments: A Case Study of Virtual Labs by NMEICT", IEEE TALE 2021, 05 - 08 December	December 2021	International
16	Pinaki Mitra	Pinaki Mitra, "DAISS: Design of an Attacker Identification Scheme in CoAP Request/Response Spoofing", TENCON 2021-2021 IEEE Region 10 Conference (TENCON), 941-946 December	December 2021	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
17	Samit Bhattacharya	Nilotpal Biswas, Debangshu Banerjee, Samit Bhattacharya, "Natural Walking Speed Prediction in Virtual Reality While Using Target Selection-based Locomotion", Proc 27th ACM Symposium on Virtual Reality Software & Technology (VRST 2021), 1-3, 8 December	December 2021	International
18	Rashmi Dutta Baruah, Pradip Kr. Das	Deepankar Nankani, Bhagath Parabattina, Rashmi Dutta Baruah, Pradip Kr. Das, "R-Peak Detection from ECG Signals Using Fractal Based Mathematical Morphological Operators", TENCON 2021 - 2021 IEEE Region 10 Conference (TENCON) December	December 2021	International
19	Pradip Kr. Das	Bhagath Parabattina, Pradip Kr. Das, "Graph Eigenvalue based Structural Method towards Phonetic Boundary Detection", TENCON 2021 - 2021 IEEE Region 10 Conference (TENCON) December	December 2021	International
20	Pradip Kr. Das	Sadu Chiranjeevi, Pradip Kr. Das, "A Defense Method Against Facial Adversarial Attacks", TENCON 2021 - 2021 IEEE Region 10 Conference (TENCON) December	December 2021	International
21	Jatindra Kumar Deka	Mousum Handique, Jatindra Kumar Deka, Santosh Biswas, "Detection of Stuck-at and Bridging Fault in Reversible Circuits Using an Augmented Circuit", Asian Test Symposium, ATS-2021, 22 - 24 November	November 2021	International
22	John Jose, Sukumar Nandi	Vedika Kulkarni, Manju R., Ruchika Gupta, John Jose, Sukumar Nandi, "Packet Header Attack by Hardware Trojan in NoC based TCMP and its Impact Analysis", 15th IEEE/ACM International Symposium on Networks-on-Chip (NOCS-2021), 14-15 October	October 2021	International
23	Jatindra Kumar Deka	Biswajit Bhowmik, Jatindra Kumar Deka, Santosh Biswas, "Selective Fault-Masking for Improving Yield and Performance of On-Chip Networks", IEEE International Conference on System, Man and Cybernatics, SMC-2021, 17 - 20 October	October 2021	International
24	Samit Bhattacharya	Nilotpal Biswas, Samit Bhattacharya, "Finding a Range of Perceived Natural Visual Walking Speed for Stationary Travelling Techniques in VR", IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct 2021), 209-211, 4 October	October 2021	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
25	Sukumar Nandi	Sunit Kumar Nandi, Pranav Kumar Singh, Sukumar Nandi, "Evaluating DASH QoE with MPTCP Under Different MPTCP Buffer Sizes and Path Latencies", IEEE International Mediterranean Conference on Communications and Networking, 7-10 September	September 2021	International
26	Sukumar Nandi	Madhurima Buragohain, Sukumar Nandi, "LPECN: Leveraging PIT placement and Explicit marking for Congestion control in NDN", 8th ACM Conference on Information-Centric Networking (ICN 2021), 22-24 September	September 2021	International
27	Pradip Kr. Das	Bhagath Parabattina, Komal Bharti, Abhishek Kotiya, Pradip Kr. Das, "Feature Selection using Pre-clustering via Affinity Propagation for Speech Classification in Low-resource Languages", 2021 IEEE International Conference on Artificial Intelligence in Engineering and Technology (IICAJET) September	September 2021	International
28	Sanasam Ranbir Singh, Diganta Goswami	Anasua Mitra, Priyesh Vijayan, Sanasam Ranbir Singh, Diganta Goswami, Srinivasan Parthasarathy, Balaraman Ravindran, "Semi-Supervised Deep Learning for Multiplex Networks", ACM SIGKDD 2021, 1234 - 1244 August	August 2021	International
29	Sanasam Ranbir Singh	Jennil Thiyam, Sanasam Ranbir Singh, Prabin K. Bora, "Challenges in Chart Image Classification: A Comparative Study of Different Deep Learning Methods", The 21st ACM Symposium on Document Engineering, Article No.: 29, 1 - 4 August	August 2021	International
30	Hemangee K. Kapoor	N. S. Aswathy, H. K. Kapoor and A. Sarkar, "A Soft Real-time Memory Request Scheduler for Phase Change Memory Systems", The 27th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA) 2021, IEEE., 109-118 August	August 2021	International
31	Moumita Patra	Swagat Ranjan Sahoo, Moumita Patra, Arobinda Gupta, "MDLB: A Matching based Dynamic Load Balancing Algorithm for Road Side Units", International Wireless Communications and Mobile Computing (IWCMC), 9 August	August 2021	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
32	Sukumar Nandi	Sukanta Dey, Sukumar Nandi, Gaurav Trivedi, "Machine Learning for VLSI CAD: A Case Study in On-Chip Power Grid Design", 2021 IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 7-9 July	July 2021	International
33	Chandan Karfa	S. Das, C. Karfa, "Formal Modeling and Verification of Starvation-Freedom in NoCs", 10th International Symposium on Embedded Computing and System Design (ISED) July	July 2021	International
34	Chandan Karfa	S. Das, C. Karfa, "Deadlock Avoidance in Torus NoC Applying Controlled Move via Wraparound Channels", 10th International Symposium on Embedded Computing and System Design (ISED) July	July 2021	International
35	Chandan Karfa	M. Abderrahman, R. Gupta, C. Karfa, "Reverse Engineering Register to Variable Mapping in High-Level Synthesis", IEEE Computer Society Annual Symposium on VLSI, (ISVLSI) July	July 2021	International
36	Chandan Karfa	D. Senapati, A. Sarkar, C. Karfa, "HMDS: A Makespan Minimizing DAG Scheduler for Heterogeneous Distributed Systems", ACM SIGBED International Conference on Embedded Software (EMSOFT) July	July 2021	International
37	Moumita Patra	Meenu Rani Dey, Moumita Patra, Prabhat Mishra, "Real-Time Detection and Localization of Denial-of-Service Attacks in Heterogeneous Vehicular Networks", Design, Automation & Test in Europe Conference & Exhibition (DATE), 16 July	July 2021	International
38	Sukumar Nandi	Pradeep Kumar Bhale, Santosh Biswas, Sukumar Nandi, "ML for IEEE 802.15.4e/TSCH: Energy Efficient Approach to Detect DDoS Attack Using Machine Learning", International Wireless Communications and Mobile Computing Conference (IWCMC 2021), June 28 - July 2 July	July 2021	International
39	Pradip Kr. Das	Bhagath Parabattina, Savinay Parihar, Pradip Kr. Das, "Speech Recognition for Indian spoken languages towards Automated Home appliances", 2021 2nd International Conference for Emerging Technology (INCET) May	May 2021	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
40	Sukumar Nandi	Pradeep Kumar Bhale, Santosh Biswas, Sukumar Nandi, "LIENE: Lifetime Enhancement for 6LoWPAN Network Using Clustering Approach Use case: Smart Agriculture", 21th International Conference on Innovations for Community Services (I4CS 2021), 26-28 May	May 2021	International
41	Hemangee K. Kapoor	A. Nath, M. B. Bhosle and H. K. Kapoor , "SeNonDiv: Securing Non-Volatile Memory using Hybrid Memory and Critical Data Diversion", The 22nd International Symposium on Quality Electronic Design (ISQED) 2021, IEEE April	April 2021	International
42	Rashmi Dutta Baruah	Miroslava Mikusova, Antonin Fuchs, Adrian Karasi?ski, Rashmi Dutta Baruah, Rafa? Palak, Erik Dawid Burnell and Krzysztof Wo?k, "Towards Layer-wise Optimization of Contextual Neural Networks with Constant Field of Aggregation", Asian Conference on Intelligent Information and Database Systems (ACIIDS) April	April 2021	International
43	John Jose	S. Sivakumar, T. M. Abdul Khader and John Jose, "Improving Life time of Non-Volatile Memory Caches by Logical Partioning", Great Lakes Symposium on VLSI , GLSVLSI 2021 April	April 2021	International
44	Hemangee K. Kapoor	M. Baranwal, U. Chugh, S. Dalal, S. Agarwal and H. K. Kapoor, "DAMUS: Dynamic Allocation based on Write Frequency in MULTI-Retention STT-RAM based Last Level Caches", The 22nd International Symposium on Quality Electronic Design (ISQED) 2021, IEEE April	April 2021	International
45	Chandan Karfa	Debabrata Senapati, Arnab Sarkar and Chandan Karfa, "Performance-Effective DAG Scheduling for Heterogeneous Distributed Systems.," in 23rd International Conference on Distributed Computing and Networking, January 2022	January 2022	International
46	Chandan Karfa	Mohammed Abderehman and Chandan Karfa, "An SMT-based Reverse Engineering of Register Allocation in High-level Synthesis," in 5th International Symposium on Devices, Circuits and Systems (ISDCS 2022), March 2022	March 2022	International

Sl. No.	Name of Faculty/ Students	Name of Conf./ Workshop	Date	International/ National
47	Sanasam Ranbir Singh, Diganta Goswami	Semi-Supervised Deep Learning for Multiplex Networks, In the Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, August 2021	August 2021	International
48	Sanasam Ranbir Singh	Manipuri-English Machine Trans-lation using Comparable Corpus. In the Proceedings of 18th Biennial Machine Translation Summit (4th Workshop on Technologies for MT of Low Resource Languages)	August 2021	International
49	Sanasam Ranbir Singh	Manipuri-English Cross-lingual Word Embeddings using a Temporally Aligned Comparable Corpus. In Proceedings of the 2021 2021 International Conference on Asian Language Processing, 2021	October 2021	International
50	Sanasam Ranbir Singh	English-Manipuri Machine Translation: An empirical study of different Supervised and Unsupervised Methods. In Proceedings of the 2021 International Conference on Asian Language Processing, 2021	October 2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Chandan Karfa	Speaker in the Workshop on PROGRAM EQUIVALENCE (PEQ 2022) in ISEC 2022	ISEC 2022	Virtual	February 2022
02	Chandan Karfa	Invited Department Speaker(Computer Science and Engineering) in Research and Industrial Conclave 2022	IIT Guwahati	Virtual	January 2022
03	Chandan Karfa	Speaker in AICTE Training And Learning (ATAL) Faculty Development Program (FDP) Topics in Hardware Security	IIT Ropar	Virtual	December 2021
04	Chandan Karfa	Guest Lecture on "IoT: Research Directions" FDP on Future Internet Technology at Dept. of	JIS College of Engineering, West Bengal	Virtual	June 2021

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
		Information Technology			
05	Pinaki Mitra	Artificial Intelligence and Machine Learning	Indrashil University	Virtual	October 2021
06	Samit Bhattacharya	Invited talk on "HCI: what, why & how"	Kristu Jayanti College (Autonomous), Bengaluru	Virtual	June 2021
07	Samit Bhattacharya	Invited talk on "User Centric Design and Virtual Reality" (FDP under ATAL (AICTE) on "Virtual and Augmented Reality for Robotics")	Vimal Jyothi Engineering College, Kannur, Kerala	Virtual	June 2021
08	Samit Bhattacharya	Invited talk on "HCI: What, Why and How"	Kalinga Institute of Industrial Technology (KIIT)	Virtual	July 2021
09	Samit Bhattacharya	Invited talk on "user-centric computing: what, why & how" (FDP under ATAL on "computational intelligence")	NIT Agartala	virtual	January 2022
10	S. B. Nair	Keynote on "The Immune Network: A Computational Perspective" at Third International Conference on Advances in Distributed Computing and Machine Learning (ICADCML)	Department of Computer Science and Engineering (CSE), National Institute of Technology, Warangal	Virtual	15/01/22
11	S. B. Nair	Keynote on "The Immune Network: A Computational Perspective" at International Symposium on AI 2022	Haldia Institute of Technology in association with Computer Society of India (CSI), Kolkata Chapter	Virtual	18/02/22
12	S. B. Nair	Lecture on "Nature Inspired Cyber-Physical Systems" at FDP on "Skill sets requirements and research opportunities in Industrial Revolution 4.0"	Baselios Mathews II College of Engineering, Kollam, India	Virtual	28/04/21
13	S. B. Nair	Lecture on "Nature Inspired Artificial Intelligence" at FDP on	School of Computer Engineering, Kalinga institute of Industrial	Virtual	10/06/2021

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
		"AI and Deep Learning + Compiler front end and back end"	Technology, KIIT, Bhubaneshwar, India		
14	S. B. Nair	Lecture on "Nature inspired CPS" at STTP on "Cyber Physical Systems"	Computer Engineering Department, Ramrao Adik Institute of Technology, Nerul, Mumbai, India	Virtual	02/07/2021
15	S. B. Nair	Lecture on "Nature Inspired Artificial Intelligence and Demonstration " at AICTE ATAL Academy sponsored STTP on "Recent Advances in Artificial Intelligence"	Dept. of Computer Science, Amravati University, Amravati, India	Virtual	13/07/2021
16	S. B. Nair	Lecture on "Artificial Immune Systems" at STTP on "Machine Learning and Data Science"	Centre for Excellence in IoT & Python, G. H. Rasoni Institute of Business Management, Jalgoan, India	Virtual	20/04/2021
17	S. B. Nair	Lecture on "Nature inspired mechanisms for robots" at FDP on Robotics: Exploring Technology of Tomorrow (Sponsored by AICTE - Training and Learning, ATAL, Academy)	Dept. of Electronics & Telecommunication Engg., Institute of Engg. & Tech., Devi Ahilya University, Indore, India	Virtual	15/09/2021
18	S. B. Nair	Lecture on "Nature Inspired AI in Robotics" at AICTE-ATAL FDP on Robotics	Dept. of Computer Science, Banaras Hindu University, Varanasi, India	Virtual	03/08/2021
19	S. B. Nair	Lecture on "Artificial Immune Systems" at AICTE-ATAL FDP on Reinforcement Learning and its Applications	Dept. of Computer Science & Engg., Indian Institute of Technology Ropar, India	Virtual	11/11/2021
20	Sanasam Ranbir Singh	Keynote: Opinion Mining on Social Media Data, InCITe 2022			
21	Sanasam Ranbir Singh	Keynote: Social Media Analysis, 7th International Conference on Mathematics and			

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
		Computing (ICMC 2021)			
22	Sanasam Ranbir Singh	Opinion Mining on Social Media Data- Challenges and solution approaches, UGC-HRDC, MZU 18 March 2022			
23	Sanasam Ranbir Singh	Social media data mining, AI and ML for Pattern and Voice Recognition, 14th-18th Feb. 2022, NIT Manipur			
24	Sanasam Ranbir Singh	Natural Language Processing, ATAL PDP Course on Overview of Speech Processing 13-17, Dec, 2021 IIT Dharwad			
25	Sanasam Ranbir Singh	Sequential Neural models, ATAL FDP on Predictive Modelling Using Data-Science Techniques, September 6 – 10, 2021, IIT Guwahati			
26	Sanasam Ranbir Singh	Emotion detection on Social Media Data, STC on New Avenues of Emotion Recognition, 23/8/2021-28/8/2021, MAKAU, WB			
27	Sanasam Ranbir Singh	Social Media Data Mining, Recent Advances in Machine learning, UGC-HRDC, MU, 5 January 2022			
28	Sanasam Ranbir Singh	Keynote: Deep Learning, Recent Advances of NLP using Deep Learning (NLP-DL-2021), 8th March to 12th March 2021, NIT Silchar			

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
01	Chandan Karfa	MOOC Course on C Based VLSI Design	MoE, GOI	July-October 2021	National	4668

PATENTS

No. of Patents Applied: 1

No. of Patents Granted: 1

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Prof. Shivashankar B. Nair, Dr. W. W. Godfrey, Dr. Shashi S. Jha	A Mobile Agent Framework for an Internet of Things	23/09/2021 (Granted)	674/KOL/2012	Granted

AWARDS AND HONOURS

- Chandan Karfa: Received the Qualcomm Faculty Award 2021
- John Jose: Received the Qualcomm Faculty Award 2021
- Shivashankar B. Nair: Best Student Paper Award, IEEE Congress on Evolutionary Computation, CEC 2021
- Rashmi Dutta Baruah: Selected for Marie Curie (CONEX-Plus) Fellowship at University Carlos III of Madrid
- Hemangee K. Kapoor: Appointed as Associate Editor IEEE design and test
- Hemangee K. Kapoor: Appointed as Member of ACM DEI council
- Hemangee K. Kapoor: Appointed as Guest editor CACM India region special issue

STUDENTS' ACHIEVEMENTS

- Arshdeep Kaur, Subham Das and Param Aryan Singh: Received 3rd Prize at HeLLO: CTF 21, A worldwide competition on Hardware Logic Locking and Obfuscation
- Pooja Gajendra Bhagat: Received the Samsung Fellowship 2021
- Jayprakash Patidar: Received the Best M.Tech Thesis Award 2021 at CSE, IIT Guwahati
- Harsh Gupta: Received the Samsung Fellowship 2021
- Gali Jaya Prakash Reddy: Received the Samsung Fellowship 2021
- Panthadeep Bhattacharjee: Received the Best Ph. D Thesis Award ICDCIT-22 Conference, a Ph. D Research Symposium
- Divya D. Kulkarni: Received the Best Student Paper Award at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland for paper titled: An Immuno-Inspired Transfer Learning Paradigm
- Divya D. Kulkarni: Chaired the session "Evolved Neural Networks - II" at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland
- Divya D. Kulkarni: Won the participation grant to attend workshop at IEEE Conference on Congress on Evolutionary Computation (CEC) 2021, Kraków, Poland

FACULTY MEMBERS

Sl. No.	Name	Name of the University/ Institute/ Org. PhD degree received from	Designation	Areas of Interest
01	Ashish Anand	Nanyang Technological University, Singapore	Associate Professor	NLP, Clinical Text Mining, Machine Learning and its application in computational biology, Deep Learning
02	Amit Awekar	North Carolina State University, Raleigh, NC, US	Associate Professor	Data Mining, Machine Learning
03	Rashmi Dutta Baruah	Lancaster University, United Kingdom	Assistant Professor	Evolving Intelligent Systems, Computational Intelligence, Online Machine Learning, Learning from Data streams
04	Purandar Bhaduri	Washington State University, Pullman	Professor	Formal Verification and Analysis of Embedded and Cyber-Physical Systems, Controller Synthesis, Compositional Verification, Interface and Contract Theories for Component-based Design
05	Sukanta Bhattacharjee	ISI Kolkata	Assistant Professor	Design Automation Algorithms, Microfluidics, Security
06	Samit Bhattacharya	IIT Kharagpur	Associate Professor	Human Computer Interaction, User Modeling, Model Based Evaluation of Interactive Systems, Rehabilitation Engineering
07	Pradip Kr. Das	University of Delhi, New Delhi	Professor	Speech Processing, Man-Machine Intelligence Systems, Algorithms, Software Engineering, Smart Devices, Mobile Robotics
08	Jatindra Kumar Deka	IIT Kharagpur	Professor and Head	Formal Modelling and Verification, CAD for VLSI and Embedded Systems (Design, Testing and Verification)
09	Diganta Goswami	IIT Kharagpur	Professor	Distributed Systems, Software Engineering
10	R. Inkulu		Associate Professor	Algorithms

Sl. No.	Name	Name of the University/ Institute/ Org. PhD degree received from	Designation	Areas of Interest
11	John Jose	IIT Madras	Associate Professor	Computer Architecture, Network on Chips (NoC), Memory system design for multicore processors, Machine Learning based accelerators for NoCs Non-Volatile Memory (NVM) Technology, Secure System on Chip Design Techniques, Disaggregated Memory Management in Data Centre Architectures
12	Benny George K.		Assistant Professor	Word combinatorics, algorithms and combinatorics
13	Hemangee K. Kapoor	London South Bank University, UK	Professor	Multiprocessor Computer Architecture, Formal Methods, Network-on-Chip design, Asynchronous systems
14	Chandan Karfa	IIT Kharagpur	Associate Professor	Formal Verification, Electronic Design Automation with special interest in High-level Synthesis, Embedded System Verification, Verification of Compiler Optimizations, Hardware Security
15	Sushanta Karmakar	IIT Kharagpur	Associate Professor	Distributed algorithms, fault-tolerance, distributed algorithms for ad hoc and sensor networks
16	Deepanjan Kesh	IIT Kanpur	Associate Professor	Commutative Algebra, Data Streaming
17	Manas Khatua	Indian Institute of Technology Kharagpur	Assistant Professor	Wireless Networks, Sensor Networks, Internet of Things, Network Security, Smart Grid, Mobile Cloud Computing
18	Pinaki Mitra	Simon Fraser University, Canada	Associate Professor	Computational Geometry, Parallel Algorithms, Randomized Algorithms, Optimization
19	Shivashankar B. Nair	Amravati University, Maharashtra, India	Professor	Artificial Intelligence, Intelligent and Nature-Inspired & Emotional Robots, Mobile Agent based systems, Artificial Immune Systems, Intelligent Internet of Things, Cyber-Physical Systems, Natural Language Processing, Genetic

Sl. No.	Name	Name of the University/ Institute/ Org. PhD degree received from	Designation	Areas of Interest
				Algorithms, Fuzzy Systems & Neural Networks
20	Sukumar Nandi	IIT Kharagpur	Professor	Networks (Specially: QoS, Wireless Networks), Computer and Network Security, VLSI, Computational Intelligence
21	Moumita Patra	IIT Madras	Assistant Professor	Ad hoc wireless networks, Internet of vehicles, IoT, Network performance analysis
22	S. V. Rao	IIT Kanpur	Professor	Wireless Networks, Software Defined Networking, Algorithms
23	Aryabartta Sahu	IIT Delhi	Associate Professor	Multicore (Architecture, Scheduling and Programming) and Computational Social Systems
24	G. Sajith	IIT Kanpur	Professor	External Memory Algorithms, Algorithmic Game Theory, Parallel and Distributed Algorithms, Complexity Theory
25	V. Vijaya Saradhi	IIT Kanpur	Associate Professor	Machine Learning, Kernel Methods, Data Mining and their applications
26	Sanasam Ranbir Singh	IIT Madras	Associate Professor	Open Source Intelligence (Social Media/Social Network Analysis), Information Retrieval, NLP
27	Arijit Sur		Associate Professor	Computer Vision, Image and Video Processing, Media Forensics: Image and Video Watermarking, Steganography, Steganalysis, Multimedia Streaming
28	T. Venkatesh	IIT Madras	Associate Professor	Computer Networks

External Faculty Members:

Sl. No.	Name	Designation	Current Affiliation	Area of Interest
01	S. Ramesh	Adjunct Professor	Senior Technical Fellow, General Motors	Formal methods for embedded system design

			Global R&D, Warren, MI, USA	
02	Ashish Mukhopadhyay	Honorary Professor	Professor, School of Computer Science University of Windsor 401 Sunset Avenue Windsor Ontario N9B 3S4 Canada	Computational Geometry
03	Deep Medhi	Honorary Professor	Curators' Distinguished Professor School of Computing and Engineering University of Missouri-Kansas City 546 Flarsheim Hall 5110 Rockhill Road Kansas City, MO 64110 USA	Computer Network

LABORATORY FACILITIES**I. Ergonomics Laboratory**

Ergonomics Laboratory at Department of Design, IIT Guwahati was set-up in 1999 under leadership Prof. Debkumar Chakrabarti. This is a well-equipped Laboratory with various basic and applied research facilities for both physical and cognitive ergonomics. Apart from equipment for traditional ergonomics evaluation, modern sophisticated equipment are available for virtual ergonomics evaluation and cognitive workload study. Four (03) faculty members (Prof. D. Chakrabarti, Dr. S. Karmakar, and Dr. U.R. Salve) and 18 PhD students are currently associated with this laboratory. Facilities available in the Laboratory include (a) Anthropometric measurement kit, (b) Equipment/ tools for biomechanical analysis, (c) Kit for environmental variable measurement, (d) Tools/equipment for cognitive workload analysis, (e) Digital human modeling software for virtual ergonomics evaluation, (f) Eye-tracker for visual attention analysis, and (g) Equipment for physiological variable analysis (ECG, EMG, EEG etc.).

II. Sustainability and Social Innovation Laboratory

Design for Sustainability (DfS) is an emerging and significant domain. It is also one of the prime needs of the hour considering the burden of human consumption and production. In order to create sustainable human consumption and production, a complete revamp of the consumption structure is needed. Through the SSI Lab, the Department of Design at IIT Guwahati, aims to foray into this domain.

Vision - To promote and contextualize sustainability through R&D along the three pillars of sustainability: social, economic and environmental.

The objective of the labs are:

- To provide infrastructure and guidance to student projects related to DfS
- Conduct training sessions for interested local institutions and bodies in the application of DfS
- Research into DfS, Sustainable Frugal Design & developing case studies in DfS through execution of projects
- Development of course material related to DfS
- Developing tools & methodologies for the implementation of DfS in the emerging, marginalized & industrialized contexts

III. Computer Laboratory**IV. Workshop/Design Laboratory****V. Media Laboratory****VI. Material Laboratory****VII. Embedded Interaction Laboratory****VIII. Design Futures Studio (previously named as E-Kalpa Laboratory)****IX. Usability Engineering and HCI Laboratory****X. Product Design & Development Studio**

XI. Animation research Laboratory

XII. Visualization Laboratory

XIII. Photographic Laboratory

XIV. Visual Communication studio

XV. 3 D Printing Laboratory

XVI. Master Craftsman Laboratory

XVII. Fine Mechanics and Product Development Laboratory

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Design for sustainability, Design for social innovation, Craft pedagogy, Design for sustainability applied to Industry 4.0
- Design Management
- Design and development of two different innovative equipment/ devices for cutting and extracting the liquid out of defectively manufactured liquid-filled (oil, shampoo, detergent, etc.) pouches/ sachets. The devices would reduce drudgery and safety concerns among FMCG shop-floor's re-work activity
- Design and development of a collaborative IPR platform for budding designers, researchers, and entrepreneurs
- Physical and Cognitive ergonomics aspect of product design evaluation, Product Service System Design for Sustainability, Product Design in Agricultural Machinery, Comic studies, Game design, Design for Users with varying Tech Readiness, Multimodal and Assistive User Interface Design, Speech Based Interfaces. Human Computer Interaction, Virtual Reality, Information Communication Technology for Development (ICTD), Input Interactions for Flexible and Deformable Devices
- We are involved in various socio-economic developmental projects with relevance to strategic design intervention. Such initiatives include diagnostic studies, design management strategies, impact assessment studies, cluster management and development, design interventions in livelihood generation, design entrepreneurship, social research, marketing research etc

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

Department of Design, IIT Guwahati proposes Strategic Design Management Interventions in Eri and Muga Silk sector in Diagnostic Study Report.

The Department of Design, IIT Guwahati has successfully completed the 'Diagnostic Study on Weaver's need in respect of Eri and Muga Silk' under the World Bank financed Assam Agribusiness and Rural Transformation Project (APART). For the first time in Assam, such an in-depth study has been conducted with extensive scientific field research for Eri and Muga Silk from design management perspective. Dr. Pratul Ch Kalita and Prof. Amarendra Kr Das, Department of Design, led the extensive study. The project primarily focuses on the study of the existing Design Value Chain of Eri and Muga Silk in Assam; starting from weaving (supply side – value creation) to marketing (demand side – value delivery), and formulation of Design Management Strategy to align demand and supply.

Dr. Pratul Ch. Kalita, Department of Design, IIT Guwahati, reveals five strategic design management interventions for alignment of demand and supply side of the Design Value Chain of Eri and Muga Silk. The report describes the strategies with detail plan. The five design management strategies formulated are (i) Skill development & Skill-up gradation strategy, (ii) Design Studio and Digital Design Bank (iii) System Design Solution for integrated Supply Chain Management (iv) Frame Loom and a new Semi-Automatic Loom to improve productivity and quality (v) Attracting weavers for Eri-Muga weaving.

The research could gather and demonstrate very insightful interpretations on the basis of huge amount of field level data. Final report has been accepted by the World Bank consultants. The research output of this study will play a very significant role in formulating development strategy in this sector. Assam Rural Infrastructure and Agricultural Services (ARIAS) Society, Government Assam is keen to implement the strategies proposed in the report. This project is a strategic contribution of Department of Design, IIT Guwahati, towards socio economic development of Assam.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Sheetal Gokhale	London Centre for Interdisciplinary Research, "Narratives of Temporality: Continuities, Discontinuities, Ruptures"	Online format	24/07/2021	International
02	Sheetal Gokhale	Humanizing Work and Work Environment, 2021	Online format	03/12/2021	International
03	Dr. Sougata Karmakar	ICOH 2022 - Melbourne-Rome global digital Congress 33rd International Congress on Occupational Health "Sharing solutions in occupational health through and beyond the pandemic"	Melbourne-Rome, Italy	07/02/2022 - 10/02/2022	International
04	Supradip Das	23rd International Conference on Engineering and Product Design Education(E&PDE 2021)	VIA University College, Herning, Denmark	09/09/2021 - 10/09/2021	International
05	Dr. Mriganka Madhukaillya	"Thinking through Temporalities and Care in Habitation", part of Four Conversations on Spatial Pedagogy	School of Environment and Architecture, Bombay	06/05/2021	International
06	Dr. Pratul Ch. Kalita	23rd International Conference on Engineering and Product Design Education(E&PDE 2021)	VIA Design, VIA University in Herning, Denmark	09/09/2021 - 10/09/2021	International
07	Dr. Pratul Ch. Kalita	6th International Conference on Advanced Production and Industrial Engineering	DTU, New Delhi	18/06/2021 - 19/06/2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Urmi R. Salve	Annual Conference of Physiological Society of India	Berhumpore Girls' College	West Bengal	14/03/2022 - 16/03/2022
02	Dr. Urmi R. Salve	Design for Everyday Use	AICRP- Home Science, AAU Jorhat	Jorhat	10/05/2021
03	Dr. Urmi R. Salve	Dimensions in Carrier - Physiology	Berhumpore Girls' College	West Bengal	23/08/2021
04	Dr. Sharmistha Banerjee	Design thinking for sustainable product design	RV College of Engineering	Bengaluru	10/12/2021
05	Dr. Sharmistha Banerjee	Sustainable technologies for post COVID world	NIT Silchar	Silchar	17/1120/21
06	Dr. Sharmistha Banerjee	Design thinking for sustainable product design	Sree Vidyanikethan Engineering College	Tirupati	16/09/2021
07	Dr. Sougata Karmakar	Awareness session on "Office & Shop-floor Ergonomics"	Hamilton Housewares Pvt. Ltd,	Chaygaon, Kamrup, Assam	05/03/2022
08	Dr. Sougata Karmakar	Ergonomics in Industrial Safety	National Power Training Institute (NPTI-NER).	Guwahati	23/02/2022
09	Dr. Sougata Karmakar	Human Factor issues in Manufacturing Industries	SRM Institute of Science and Technology	Kattankulathur, Tamil Nadu.	07/12/2021
10	Dr. Sougata Karmakar	AICTE-ISTE Sponsored Refresher Program "Current Trends in Industrial Engineering" Phase-III Topic: Anthropometric and biomechanical data for ergonomic design interventions in industrial shop-floor	G H Patel College of Engineering & Technology, Vallabh Vidyanagar	Gujarat, India	22/05/2021 - 28/05/2021
11	Dr. Sougata Karmakar	AICTE-ISTE Sponsored Refresher Program "Current Trends in Industrial Engineering" Topic: Ergonomics/ Human Factors in Product Design and Manufacturing	G H Patel College of Engineering & Technology, Vallabh Vidyanagar	Gujarat, India.	14/04/2021 - 20/04/2021
12	Supradip Das	Expert speaker invitation for ATAL online FDP on 'Design Thinking And Product Development'	NIT Arunachal Pradesh	Arunachal Pradesh	23/08/2021 - 27/08/2021
13	Dr. Pratul Ch. Kalita	Expert speaker invitation for ATAL online FDP : Design Thinking and Product Development: Design Management and Entrepreneurship	NIT Arunachal Pradesh	Arunachal Pradesh	26/08/2021
14	Dr. Pratul Ch. Kalita	Diversified career options for textile design	Development Commissioner for	Guwahati	16/03/2022

			Handlooms, Ministry of Textiles, Government of India		
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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
01	Dr. Urmi R. Salve	Humanizing Work and Work Environment, 2021	NA	01/12/2021 - 03/12/2021	International	330

PATENTS

No. of Patents Applied: 10

No. of Patents Granted: 07

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-held Pineapple Fruit Harvester	12/05/2021	343374-001	Design [FER Reply Filed]
02	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-held Pineapple Harvester	30/06/2021	345481-001	Design [Granted]
03	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-operated Pineapple Harvester	13/07/2021	346209-001	Design [Granted]
04	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Ergonomic Pineapple Harvester	13/07/2021	346195-001	Design [Granted]
05	Bighna Kalyan Nayak, Gurdeep Singh, Divya Zindani, Sougata Karmakar	Ergonomic Cymbal Design Registration	25/04/2021	342724-001	Design [FER Reply Filed]
06	Jitesh Singh Chauhan, Sougata Karmakar, Gurdeep Singh	Floating Device for Aquatic Crop.	27/09/2021	350209-001	Design [Granted]
07	Jitesh Singh Chauhan, Sougata Karmakar, Gurdeep Singh	Floating Aid for Aquatic Agriculture	27/09/2021	350248-001	Design [Granted]
08	Gurdeep Singh, Abhishek Singh, Sougata Karmakar	Cutting and Squeezing Apparatus for Defective Pouch/ Sachet Rework	14/03/2022	360578-001	Design [Filed]
09	Pratul Ch. Kalita and Abhishek Singh, Gurdeep Singh, Raksha Singh	Portable Vending Cart	07/04/2021	Indian Design No. 330933-001, Class 12-02	Design [Granted]

10	Pratul Ch. Kalita and Abhishek Singh, Gurdeep Singh, Raksha Singh	Convertible Tent cum Vending Cart	22/12/2021	Indian Design No. 330952-001, Class 12-02	Design [Granted]
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AWARDS AND HONOURS

- Dr. Sougata Karmakar: Received ICOH-2022 Paper presentation grant from ICOH - International Commission on Occupational Health
- Dr. Urmi R. Salve: Prof. Satpati Chaterjee Oration; Physiological Society of India for Research Achievements

STUDENTS' ACHIEVEMENTS

- Gurdeep Singh: Received the IEA-Kingfar Award at International Ergonomics Association, Switzerland for Innovative safety- enriched hand tool for FMCG industries
- Achyut Shanbhag: Received the Lexus Design Award India 2021
- Prashant Patil: Received the Green Concept Award Pre-Selection 2022 for Furniture Design
- Vigneshkumar C.: Received the National Scholarship Programme of the Slovak Republic from Technical University of Kosice
- Abhishek Singh (co-authored with Dr. Pratul Ch. Kalita): Received the Best Paper award for paper entitled Hybrid Infrastructure for Effective Sustainable Growth in the in the Track: Transportation and Mobility Systems at the International Conference on Infrastructure Development (ICID): Theory, Practice and Policy

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute PhD degree received from	Designation	Areas of Interest
01	Pradeep Yammiyavar (Till 31.05.2021)	IISc Bangalore	Professor	Human Computer interaction Design
02	Amarendra Kumar Das	IIT Guwahati	Professor	Industrial Design, Rapid Prototyping and tooling, space Design, Environment Graphics, Design for Disabled
03	Debkumar Chakrabarti (Till 31.01.2022)	University Colleges of Science, Calcutta	Professor	Ergonomics Research, Human Compatibility Factor, Design ergonomics, Product Environment Interface Design, Occupational Health
04	Ravi Mokashi Punekar (Till 31. 12. 2021)	IIT Guwahati	Professor	Industrial Design, Space Design, Facility Design, Environmental Graphics, Design for disabled
05	Utpal Barua	IIT Guwahati	Professor	Graphic Design, Design drawing and Visualisation, Visual design Principles and applications, Indian Symbology
06	Manoj Majhi	IIT Guwahati	Associate Professor	Animation, Special Effects, Cartooning

07	Sougata Karmakar	Bharathiar University	Associate Professor	Virtual Simulation (CAD and Digital Human Modeling), Physical and Cognitive Ergonomics, Design and work environment, Design and Occupational Health
08	Keyur Sorathia	IIT Guwahati	Associate Professor	Interaction Design, Gesture controlled User Interfaces, Design for development
09	D.Udaya Kumar	IIT Bombay	Associate Professor	Topography, Type Design, Information Graphics, Motion Graphics, design Research, Exhibition Design, Architecture
10	Pratul Chandra Kalita	IIT Guwahati	Associate Professor	Design Management, Design Strategy, Design Methods, Systems Approach to Design, Design for Development, Experience Design
11	Mriganka Madhukailya	IIT Guwahati	Assistant Professor	Short Film, New Media theory, Video Art, Documentary Film, Participatory Theory
12	Shareka Iqbal	--	Assistant Professor	Adaptive Resue , Solar Passive Architecture
13	Sharmistha Banarjee	IIT Guwahati	Assistant Professor	Design for sustainability, Bio-inspired design , Medical product Design
14	Abhishek Singh	IIT Guwahati	Assistant Professor	Automotive design, Product Design, Graphic Design, Design Research
15	Pankaj Upadhyay	IIT Guwahati	Assistant Professor	Product design, Industrial Design, Design for Manufacture, Consumer product Design, Industrial Equipment design.
16	Sheetal M. Gokhale	--	Assistant Professor	Film & Video, Animation Graphic Design
17	Abhishek Shrivastava	IIT Bombay	Assistant Professor	Interaction Design, Design for Development, New Media, graphic Design & cartooning
18	Supradip Das	--	Assistant Professor	Origami Inspired Product Development, Toy for tomorrow, Paper Craft, Transformable furniture, Structural packaging design
19	Urmi Ravindra Salve	University of Calcutta	Assistant Professor	Human factor engineering, Occupational Ergonomics, Research Methodology
20	Debayan Dhar	IIT Guwahati	Assistant Professor	Human Computer Interaction (HCI) Design, Instructional Design, User Experience Design, Psychological Studies in Design, Usability Engineering
21	Shakuntala Acharya	IISc Bangalore	Assistant Professor	Environmental Design, Sustainability, Creativity & innovation, Design Pedagogy, Built - Environment

LABORATORY FACILITIES

Advance Photonics Simulation Laboratory (Instructional): The Advance Photonics Simulation Laboratory is well-equipped with several experimental setups and several software packages for experiments. The facilities include loss measurement; LED Characterization etc. The major software available in this Laboratory are: OptiSystem, OptiSPICE, OptiGrating, OptiFDTD, OptiFiber, Silvaco TCAD 3D.

Undergraduate Project Laboratory: The lab has started functioning from August 2016. This lab is specially designated for B.Tech students to perform experiments related to their bachelors' projects.

Communication and Networking Laboratory (R&D)/ Advance Photonics Laboratory: Dark room for characterization and experimental facilities for Optoelectronics and Photonics systems/devices.

Communication Laboratory-I (R&D): Research Scholars working in different areas related to communication engineering use this lab.

Communication Laboratory-II (R&D): Research Scholars working in different areas related to communication engineering use this lab.

Communication Laboratory-III (R&D): Research Scholars working in different areas related to communication engineering use this lab.

Control & Instrumentation Laboratory-I (R&D): The Control and Instrumentation Laboratory - I focuses on the research and development activities related to Control Theory and Applications, Stochastic Systems, Robotics, Ultrasonic Instrumentation, Underwater Acoustics etc. Some of the current areas of interest include Robust and Adaptive Control theory, Relay Control Theory and Applications, Mobile Robotics and Multi-Agent Systems, MEMS and SAW Devices, Fractional Order Systems. Discrete Event Systems. Laboratory infrastructure includes personal computers for research scholars and a number of experimental set-ups, namely, Mobile Robot Platforms, Multi DOF manipulator, Twin Rotor MIMO System, Inverted Pendulum Systems, Level Control System.

Control & Instrumentation Laboratory-II (Instructional): The Control and Instrumentation Lab II is the instructional Laboratory used for lab courses such as control and instrumentation lab (UG), and applied control lab (PG). The Laboratory has work benches equipped with advanced test and measuring instruments like 200 MHz DSO, DDS function generator, 5½ digit DMM, multioutput DC power supply, and PC. The lab is equipped with large number of transducers for measurement of physical quantities like temperature, displacement, level, force and strain, in addition to PLC, process calibrator, hot chamber, coupled tank system, motor speed control system and other facilities for instructional laboratory. The students instruction is focused to learn the design and implementation of signal conditioning circuits and controllers like PID.

Electrical Machine Laboratory (Instructional): The machine lab is equipped with all kinds of AC and DC motors and generators required for undergraduate lab session and research activities in the field. For the better understanding of control of various motors lab also has braking and drive modules for some motors.

Electro-Medical & Speech Laboratory (R&D): The Lab was set up in the year 2004. The Laboratory focuses on the research and development activities related to biomedical signal and image processing, speech signal processing, coding and technology areas. Some of the current topics of interest include speech enhancement, speaker recognition, children speech recognition, speech synthesis, stressed speech processing, fundus image processing, ECG signal processing, biometrics and handwriting data processing.

Electronic Circuit Laboratory- I (Instructional)

Electronic Circuit Laboratory-II (Instructional): The Electronic Circuits Lab – I & II mainly hold basic electronics lab for first year undergraduate students of all the departments. The labs are equipped with large number of set ups each containing cathode ray oscilloscope, function generator, digital multimeter, and multioutput DC power supply. The labs are well-stocked with electronic components like resistors, capacitors, diodes, transistors, analog and digital ICs. Experiments performed in the lab cover hardware design and implementation of basic circuits which include rectifiers, transistor characteristics, comparators, combinational logic circuits, synchronous and asynchronous counters, latches, and opamp circuits.

Embedded System Laboratory (Instructional): Microprocessors and Embedded Systems Laboratory provides students with hands-on experience with building, programming, testing, and debugging processor based systems. For example, systems that students build may incorporate audio and various input devices. It is an instructional laboratory. Lab courses like Digital Signal Processors Lab, Digital Circuits and Microprocessors Lab and Embedded Systems Lab are held here.

EML: e-mobility Laboratory: This is a new initiative for developing state of the art technologies for electric vehicles (EVs). The major research interests of this lab include:

- Electric motor design
- Power electronics converters of EVs
- Inductive charging systems
- Grid to vehicle interaction (G2V)
- Vehicle powertrain control algorithms

High Frequency & Communication Laboratory (Instructional): High Frequency & Communication Lab at EEE, IIT Guwahati is an instructional laboratory. Research works are carried out in the area of antennas, analog & digital communication systems and microwave engineering. Lab courses like Microwave Engineering Lab, Communication Design Lab, etc. are held in this Laboratory.

HPC and FPGA Design Laboratory (R&D): High Performance Computing and FPGA Lab (HPC and FPGA Lab) was established in 2012 at Department of Electronics and Electrical Engineering, IIT Guwahati with initial support from IIT Guwahati and Nvidia. The work at HPC & FPGA Lab is focused towards exploring possibilities of high performance computing and FPGA based system design in various fields related to Electrical Engineering and Scientific Computing in non-electrical engineering disciplines. Our group's mission is to carry out multidisciplinary research in reconfigurable, parallel and distributed computing as a basis for long-term partnership and collaboration amongst industry, academia, and government; focus on research in advanced computer architectures, algorithms, networks and systems, both theoretical and applied; to carry out state-of-the-art research and development with collaborators with maximized synergy and pooled, leveraged resources. Being an educational institute, to enrich the education of high-quality students, has been the first priority. In turn, focus is to contribute knowledge and technologies in this field.

Image Processing and Computer Vision Laboratory (R&D): The ongoing major activities in the Image Processing and Computer Vision(IPCV) Laboratory include music signal processing, histopathology image processing, denoising, video processing, image super resolution, image forensic, computer vision, image hashing, Gesture Recognition and HCI.

Post Graduate Project Laboratory: The lab has started functioning from August 2016. This lab is specially designated for M.Tech students to perform experiments related to their masters' projects.

Multimedia Analytics Laboratory (R&D): The Multimedia Analytics Laboratory was set up in July 2013. This lab focuses on research and development activities related to analysis and analytics generation from multi-modal (video, speech and text) data. The research work focuses on applications related to Deep Learning, Broadcast Analytics, Surveillance Video Analytics, Language and Vision, Deep Fake Synthesis and Handwriting Recognition.

Power & Control Laboratory-I (R&D)

Power & Control Laboratory-II (R&D): Research and Development Activities related to Power & Control areas are conducted in this lab. Research Scholars, M.Tech/B.Tech students and Project Engineers working in these areas use this laboratory.

Smart Energy Conversion Laboratory: The major research interests of this lab include AC and DC distribution grid, microgrid, power quality improvement, HVDC and FACTS, electric vehicles, etc. The research lab has prototype of various power electronics devices like bi-directional dc-dc converter, three phase grid connected inverters, distribution static compensator (DSTATCOM), dynamic voltage restorer (DVR), unified power quality conditioner (UPQC), dual active bridge (DAB) converter, smart transformer, battery charger, etc. Controllers like Dspace microlab box and eZDSP28335 are being used to control the various converters.

Power Electronics Laboratory (Instructional): The lab has started functioning from August 2015. It contains the major facilities required to perform undergraduate and postgraduate experiments related to power electronics. In addition, design of power electronic hardware, implementation of prototype and testing can be performed in the lab. DSP and FPGA controllers for power electronics applications also can be tested.

Power System Laboratory (Instructional): The Power Systems Laboratory is well-equipped with several experimental setups and several software packages for real time experiments. The facilities include overcurrent, under voltage and differential relays. The major equipment in the Power Systems Laboratory include the following.

Relay Demonstration Setup: IDMT over current relay, Instantaneous over current relay, IDMT under voltage relay, Current transformer, Negative sequence relay, Differential relay, High Voltage AC/DC/Impulse setup.

List of Software: PSS/E, PSCAD, DigSilent.

Signal Informatics Laboratory (R&D): Research and Development Activities related to Security & Document Processing areas are conducted here. The Research Scholars and Project Engineers working in these areas use this laboratory. A separate cubicle has been created for housing the EEG signal recording facility.

Signal Processing Laboratory (R&D): The Lab has started functioning from 2016. Research and Development Activities related to Speech Processing, Image Processing, Biometric Face Recognition, Music Signal Processing, Machine Learning and Cleft Monitoring System areas are conducted here. The Research Scholars working in these areas use this laboratory.

System Simulation Laboratory(Instructional): The System Simulation Laboratory is a fully computerized Laboratory equipped with highly configured PCs and various computational and simulation software like Matlab 7.3, Borland C++, FPGA Advantage from Mentor Graphics, Xilinx's ISE foundation, Zeland's IE3D EM simulation SW, Altera's Quartuswebpack, Electronics Workbench, MicroSim Design Lab (EDA software), Cadstar PCB Design, Elanix's Systemview, HP-Eesof, Hypersignal and Operating System such as HP Unix, Sun Solaris, Redhat Enterprise Linux, Microsoft windows 2003 and windows 2000/XP.

VLSI Laboratory-I (R&D)

VLSI Laboratory-II (R&D): VLSI design lab was setup in the year 2004 as an integral part of the department of Electronics and Electrical Engineering (EEE). Followed by commencement of PG (M.Tech) and Ph.D. programme in the field of VLSI design subsequently.

Ever since its inscription the VLSI lab has constantly been upgraded to match with the technologies of the modern era. The VLSI library integrated with the lab helps the students, researchers and all enthusiasts to acquire all the much needed concepts to deal with different practical experiments. The focus of this lab is widely spread towards different pros and cons of the entire upgrading VLSI domain. Development works at different levels like semiconductor device simulation, circuits & system design and research in some recent trends like Biomedical signal processing has extensively been carried out.

VLSI-ADSP & Communication Laboratory (R&D): The Department has set up a sophisticated DSP & Communication Laboratory with the state-of-the-art equipment from Analog Devices and Texas Instruments, and Real Time DSP Software from Hyperception Inc. The Department has also received a donation from Analog Devices Inc. consisting of hardware kits and Visual DSP software.

Anechoic Chamber: For measurement of antenna pattern, EMI-EMC, radar cross-section, a state of the art Anechoic chamber is developed under the IMRPINT-I scheme of MHRD and DST under the grant number of 7802.

Major equipment in the lab: VNA Anritsu (8KHz-20 GHz), RF signal generator (R&S), Microwave source (2 KW), RF-Sensor, Automatic positioner system.

Silicon Photonics and Microelectronics Laboratory (R&D): For fabrication of Silicon Photonics and Microelectronic Devices equipped with class 1000 clean room, photolithography room, class 100 work benches organic and inorganic, E-beam Evaporator of 4kW, Mask Aligner MJB4 with 800nm critical dimensions, etc.

Microelectronics Laboratory (Instructional): This Laboratory is providing hands on experience to the B.Tech. (ECE) students.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Handheld Optical Spectrum Analyser
- Desktop PC : Intel Core-i7-10700, with 16 GB RAM, 1 TB HDD, 21.5" Monitor (48 Nos.)

- LED Solar Simulator
- Keithley Digital SMU
- Organic Clean Bench of Class 100
- Inorganic Clean Bench of Class 100

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Image Processing, Computer Vision, Speech Processing, Biomedical Signal and Image Processing, Multimedia Signal Processing; Microwave, Antenna Design, Wireless Communication, Error Control Coding; Analog and Digital Design, MEMS, VLSI CAD, Photonics, Semiconductor Devices, Solid-State Sensors, Electrical Converters, Electric Drives, Smart Grids, Wind Energy, Solar Energy, Solar Photovoltaic, Power Electronics and Power Systems; Control Systems, Stochastic Systems, Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications, Electrical machine design, contactless charging system for EVs, Pattern Recognition, Machine Learning, Multimedia Analytics, Silicon Photonics, Microwave wireless power transfer, metamaterial, High Voltage engineering and liquid Dielectrics, Battery management system for EVs, Optoelectronics Devices; Distributed optical fiber sensors for structural health monitoring, National Highways, and Indian Railways, Biometrics and Biometric counter-spoofing; Cryptography and Privacy preserving analysis; Image forensics and analytics: Depth map generation from single still images; Deep Learning, Broadcast Analytics, Surveillance Video Analytics, Language and Vision, Deep Fake Synthesis.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- A prototype for contactless charging system for EVs
- Development of a smart urban transportation system

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Indrani Kar	Indian Control Conference	IIT Bombay	20/12/2021 - 22/12/2021	International
02	Indrani Kar	ACODS 2022	NIT Silchar	22/02/2022 - 25/02/2022	International
03	Rakesh Singh Kshetrimayum	IEEE 19th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)	Held virtually from Winnipeg, Canada	August, 2021	International
04	Rakesh Singh Kshetrimayum	International Symposium on Antennas and Propagation (ISAP)	Held virtually Taipei, Taiwan	October, 2021	International
05	Rakesh Singh Kshetrimayum	Asia-Pacific Microwave Conference (APMC)	Held virtually from Brisbane, Australia	December, 2021	International

06	Rakhesh Singh Kshetrimayum	IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)	Held virtually from Singapore	December, 2021	International
07	Rakhesh Singh Kshetrimayum	IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE), Dec. 2021.	Held virtually from Penang, Malaysia	December, 2021	International
08	Prithwijit Guha	The 27th National Conference on Communications (NCC 2021)	Held virtually from IIT Kanpur	July 2021	National
09	Sonali Chouhan	Conference on New Age Technologies	Hosted virtually by IIT Indore	December, 2021	National
10	Sonali Chouhan	Intel India Conclave for Leaders in Education '21	Hosted virtually by Intel India Pvt. Ltd.	December, 2021	National
11	Sonali Chouhan	Brooklyn 6G Summit	Hosted virtually by IEEE	December, 2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Rakhesh Singh Kshetrimayum	Inter-antenna Interference in MIMO Wireless	IEEE Texas Symposium on Wireless and Microwave Circuits and Systems	Hosted virtually from Waco, Texas, USA	May 2021
02	Rakhesh Singh Kshetrimayum	Inter-antenna interaction and its effects in MIMO wireless	IEEE International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)	Hosted virtually from Winnipeg, Canada,	August 2021
03	Rakhesh Singh Kshetrimayum	Inter-Antenna Interaction and Its Effects in MIMO Wireless	ATAL FDP on Nanoelectronics and RF Engineering organized by SRM Institute of Science and Technology	Hosted virtually from Delhi-NCR Campus	September 2021
04	Rakhesh Singh Kshetrimayum	Inter-Antenna Interaction in MIMO Wireless	Inter-disciplinary Online Refresher Course in Science & Technology	Hosted virtually from MZU, Aizawl	October 2021
05	Rakhesh Singh Kshetrimayum	New Performance Metrics of MIMO Antennas	Indian Conference on Antennas and Propagation (InCAP)	Hosted virtually from MNIT Jaipur	December 2021
06	Rakhesh Singh Kshetrimayum	Inter-antenna interaction and its effects in MIMO wireless	IEEE INDICON	Hosted virtually by IIT Guwahati	December 2021

07	Rakshesh Singh Kshetrimayum	Inter-antenna interaction and its effects in MIMO wireless	IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE)	Hosted virtually from Penang, Malaysia	December 2021
08	Rakshesh Singh Kshetrimayum	Inter-antenna interaction in MIMO wireless: wireless and antenna perspectives	Workshop on Intelligent Device Computing, Communication and Signal Processing	Hosted virtually from NIT Hamirpur	January 2022.
09	Rakshesh Singh Kshetrimayum	Performance metrics of MIMO antennas for MIMO wireless communications	International Workshop on Modern Antenna Design and Its Challenges	Hosted virtually from MZU, Aizawl	February 2022
10	Sreenath J. G.	Distributed Architectures for Power System State Estimation	AICTE Training and Learning (ATAL) Academy sponsored Faculty Development Program	Hosted virtually from IIT, Pune	November 2021
11	Roy Paily Palathinkal	Double Sided Mask Aligner	1st Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	Centre for Nanotechnology, IIT Guwahati	04/04/2022
12	Roy Paily Palathinkal	Fabrication of FET for Detection of Glutathione	INUP-i2i 2022 Workshop at IIT Guwahati	Centre for Nanotechnology, IIT Guwahati	03/03/2022
13	Roy Paily Palathinkal	Introduction to Circuits for Neural Interface	Online Faculty Development Program on Emerging Trends & Materials for Wearable Electronics (EMWEEMWE-2022)	VIT Chennai	28/01/2022
14	Roy Paily Palathinkal	Nanofabrication of semiconductor devices	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i)	Centre for Nanotechnology, IIT Guwahati	12/12/2021
15	Roy Paily Palathinkal	New Ecosystems of the Electronic Industry	Short term Training Program (STTP) on "Emerging Issues of VLSI Design"	ITM University Gwalior	25/11/2021
16	Roy Paily Palathinkal	Emerging Trends in Nano-Electronics Devices	Keynote Talk in the International Conference on Emerging Trends in Engineering – Yukthi 2021	Government Engineering College Kozhikode, Kerala	24/09/2021
17	Roy Paily Palathinkal	Essential Tips for Analog Integrated Circuits Design	Custom IC design for PG students in VLSI	Government Engineering	23/09/2021

			and Embedded Systems, TEQIP Phase II programme	College Idukki, Kerala	
18	Roy Paily Palathinkal	Amplifier Design with Impedance Perspective	STC on Analog and Digital VLSI Design	ECE Department of NITTTR Chandigarh	16/09/2021
19	Roy Paily Palathinkal	Detection of Hepatitis B using a MEMS device	ATAL Academy (Online FDP) on "Micro Electro Mechanical Systems (MEMS '21)	Electronics and Instrumentation Engineering, Annamalai University	30/07/2021
20	Chayan Bhawal	Online course on Mathematics for Radar and Electronic Defense	University of Capetown	Online	28/03/2022 - 01/04/2022
21	Chayan Bhawal	FDP on Numerical & Engineering Computation, Optimization for Physicists, Scientists & Engineers - SCILAB	EICT Academy MNIT Jaipur and NIT Patna	Online	28/02/2022 – 03/03/2022
22	Sudarshan Mukherjee	Edge Computing in 5G: How will it work with massive MIMO?	short term course on "Future Opportunities and Challenges in 5G Technology", organized by the ECE Dept. in association with IEEE Student Chapter of Madanapalle Institute of Technology & Science (MITS), Madanapalle	Hosted virtually from Madanapalle Institute of Technology & Science (MITS), Madanapalle	16/10/2021
23	Rishikesh Dilip Kulkarni	IoT embedded system, sensors and components	Electronics and ICT Academies	ONLINE	14/02/2022
24	Rishikesh Dilip Kulkarni	Digital Holographic Microscopy for Bio-Imaging Applications	NIT Rourkela	ONLINE	08/02/2022
25	Rishikesh Dilip Kulkarni	Embedded Systems and Sensors – The Things in IoT	SRM Institute of Science & Technology	ONLINE	20/01/2022
26	Ravindra Kumar Jha	Electron Microscopy	INUP-i2i 2022 1 st Offline Familiarization Workshop	IIT Guwahati	April 2022
27	Ravindra Kumar Jha	Introduction to CMOS compatible Next Generation Nano-Sensors	FDP on Recent trends in VLSI and Nano-Electronics: The materials-based device Technology	Hosted virtually from NIT, Andhra Pradesh	March 2022
28	Ravindra Kumar Jha	Electronic Materials for Room Temperature Chemiresistive Gas Sensors	INUP-i2i 2022 Familiarization Workshop	Hosted virtually from IIT Guwahati	March 2022

29	Ravindra Kumar Jha	Introduction to Micro-Sensors for Monitoring Environmental NO ₂ Level	Recent Advances in Environmental Engineering and Management (RAEEM-2022)	Hosted virtually from NIT Rourkela	February 2022
30	Ravindra Kumar Jha	Chemiresistive Gas Detectors: Progress and Challenges	Organized by IEEE Patna Students Chapter	Hosted virtually from IIT Patna	December 20 21
31	Sanjib Ganguly	Particle Swarm Optimization: Basics and an Application in Power Distribution System Planning	NIT Srinagar	Srinagar, J&K	09/07/2021
32	Sanjib Ganguly	Particle Swarm Optimization: Basics and an Application in Power Distribution System Planning	Rajiv Gandhi Proudyogiki Vishwavidyalaya	Bhopal, MP	30/07/2021
33	Debabrata Sikdar	Plasmonics: A nano-photonics technology for the Next-generation devices	Indian Nanoelectronics Users Program (INUP) – i2i-2022 organized by IIT Guwahati	Online	02/03/2022
34	Debabrata Sikdar	Promises of Integrated Photonic Device Technology with AI	Faculty Development program on “Application of Artificial Intelligence in VLSI and Communication Technology (AAIVCT-2022)” organized by Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT, M&G), Jaipur	Online	07/03/2022
35	Debabrata Sikdar	Promises of Integrated Photonic Device Technology with AI	AICTE ATAL FDP on “High-Speed Optical Links and Photonic Devices for Next-Generation Data Transmission” organized by Indian Institute of Information Technology, Kota	Online	12/10/2021
36	Kuntal Deka	Non-orthogonal Multiple Access	AICTE Training and Learning (ATAL) Academy sponsored Short Term Training Program (5 Days) on	IIT Dharwad, Held virtually	December 2021

			"6G Wireless Communication		
37	Kuntal Deka	Basics of Information Theory and Polar Codes	Rajkiya Engineering College, Sonbhadra	Uttar Pradesh, Organized Virtually	February 2022
38	Kuntal Deka	Introduction to Polar Codes	Assam Engineering College	Guwahati, Assam	February 2022
39	Kuntal Deka	A Course on Advanced Engineering Mathematics	University of Cape town	South Africa	March 2022
40	Prithwjit Guha	A course on Medical Devices	NIPER Guwahati	Guwahati	August 2021
41	Prithwjit Guha	TV Commercial Detection	IACS Kolkata	Kolkata	December 2021
42	Salil Kashyap	Massive MIMO as an Enabler for Next Generation Wireless Communication	IIT-BHU	Online	August 2021
43	Salil Kashyap	MIMO and Massive MIMO for Wireless Communication	NERIST	Online	September 2021
44	Salil Kashyap	Wireless Energy Transfer Using Massive Number of Antennas	IIT-BHU	Online	October 2021
45	Ankush Bag	LPCVD Growth of Ga2O3	International Conference On Physics of Materials and Technology	Sikkim Manipal University, Sikkim	Feb 2022
46	Ankush Bag	Ga2O3 for Emerging Power and Opto-Electronics: Fabrications and Characterization	INUP-i2i 2022 Familiarization Workshop	Hosted virtually from IIT Guwahati	March 2022
47	Ankush Bag	Chemical Vapor Deposition	INUP-i2i 2022 1st Offline Familiarization Workshop	IIT Guwahati	April 2022
48	Sonali Chouhan	Energy efficient edge computing for green 6G networks	ATAL FDP on "Green Communication"	Hosted virtually by BMSIT&M, Bangalore	August 2021
49	Sonali Chouhan	Communication and Networking in IoT	ATAL FDP on "Internet of Things in 5G Wireless Communication"	Hosted virtually by NERIST, Ar. P.	September 2021
50	Sonali Chouhan	Edge Computing for smart cities	ATAL FDP on "Internet of Things in 5G Wireless Communication"	Hosted virtually by Osmania University, Hyderabad	September 2021
51	Sonali Chouhan	IoT and Data Acquisition	ATAL FDP on "IoT: Concepts and Implementations"	Hosted virtually from NMIMS, Indore	December 2021
52	Sonali Chouhan	Speaker, Plenary Session, "New Age Technologies for	Conference on New Age Technologies	Hosted virtually by	December 2021

		Rural Empowerment and Urban Development"		IIT Indore	
53	Sonali Chouhan	Multi-Access Edge Computing for 5G Communication	AICTE-ISTE Refresher program on "5G Cognitive Communication"	Hosted virtually by CIT, AP	January 2022
54	Sonali Chouhan	Productive Implementation of ICT in Pedagogy	AICTE-RGPV Joint Teachers Training Programme on 'Effective use of ICT in Pedagogy'	Hosted virtually by RGPV, MP	March 2022
55	Ramesh Kumar Sonkar	International Workshop on Group IV Photonics	National Institute of Technology Delhi	Delhi	15/03/2022 - 19/03/2022
56	Ramesh Kumar Sonkar	FDP on Photonics	Global Academy of Technology, Bengaluru	Bengaluru	15/11/2021 - 19/11/2021
57	Ramesh Kumar Sonkar	AICTE QIP sponsored Online FDP on "Intelligent Nanophotonics"	NITTTR Chandigarh	Chandigarh	04/10/2021 - 09/10/2021

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
01	Indrani Kar, Somanath Majhi (jointly with NIT Silchar)	ACODS 2022 held at NIT Silchar	IFAC co-sponsored	22-25 February	International	170
02	Chayan Bhawal as Co-chair of publication committee	ACODS 2022 held at NIT Silchar (organised jointly with IIT Guwahati)	IFAC co-sponsored	22-25 February	International	170
03	Prithwjit Guha as Signal Processing and Multimedia Track Co-Chair	IEEE INDICON 2021			National	200

PATENTS

No. of Patents Applied: 03

No. of Patents Granted: 02

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Uttam Manna, Roy P. Paily, Supriya Das, Rajan Singh, Avijit Das, Sudipta Bag	Low-strain based, water repellent and highly sensitive human motion sensor	22/06/2021	202131028045	Indian Patent filed

02	Rohith Sangineni, Shashank Satish Kulkarni and Sisir Kumar Nayak	Design and development of an electromagnetic interference free non-intrusive test setup for condition assessment of insulating oils using antenna	11/03/2021	202231013474	Indian Patent filed
03	Chandan Kumar and Dwijasish Das	METHOD FOR ESTABLISHING MESHED HYBRID AC AND DC GRIDS WITH SMART SOLID STATE TRANSFORMER	21/10/2021	202131048001	Application Status: Published
04	Arijit Roy, Salil Kashyap and Ratnajit Bhattacharjee	System for simultaneous wireless information and energy transfer in a heterogeneous network and method thereof	03/12/2021	202131056231	Indian Patent filed
05	Harshal B. Nemade and Basudeba Behera	Dual drive surface acoustic wave motor and the package	15/06/2021	878/KOL/2014 Patent Grant No.: 369369	Indian patent granted
06	Amit Kumar Baghel, Shashank Satish Kulkarni, Sisir Kumar Nayak, D. Senthil Kumar	Parabolic Pyramidal Horn Antenna	28/12/2021	385322	Indian patent granted

AWARDS AND HONOURS

- Ramesh Kumar Sonkar: Selected as Senior Member of Optica

STUDENTS' ACHIEVEMENTS

- Anurag R. Lambor, Shashank Satish Kulkarni, Amarnath Kumar, and Sisir Kumar NayakL Received Prof. S. K. Mukharjee Gold medal for National Winner, First Prize in Engineering & Technology at National Student Research Convention Anveshan 2021-2022, Association of Indian Universities, India
- Ashish Kumar Chowdhary: Received the AWSAR Award 2021 from DST, Govt. of India
- Ashish Kumar Chowdhary: Received the Best Poster Award at American Physical Society (APS) Division of Laser Science (DLS)
- Ashish Kumar Chowdhary: Received 2021 Incubic Milton Chang Travel Grant CLEO from Milton and Rosalind Chang, Optical Society of America (OSA)
- Ashish Kumar Chowdhary: Received the Student Delegate Grant at IEEE, Organizing committee of Metamaterials-2021 Congress
- Tanmay Bhowmik: Received the ONR and NSF Student Grant from the Office of Naval Research (ONR) and the National Science Foundation (NSF), USA
- Dwijasish Das: Received the Intel India Research Fellowship 2021 from Intel India.
- Hrishikesan V. M.: Received the POSOCO POWER SYSTEM AWARDS (PPSA)-2022. This is a CSR activity of Power System Operation Corporation Limited (POSOCO) – a Government of India Enterprise

- Rajdip Dey: Awarded the Best Oral Presentation Award at 5th International Conference on Smart Grid and Smart Cities (ICSGSC 2021), organized in Tokya, Japan

SPECIAL MENTION

- Dr. Chandan Kumar joined at IEEE System Journal as an Associate Editor from October 2021.
- Dr. Chandan Kumar founding chair, IEEE Guwahati Sub-section
- Dr. Sanjib Ganguly has been enlisted to world top 2% scientist list published in PLOS journal by the researchers of Stanford University, USA
- Dr. Sanjib Ganguly chaired a session in IEEE INDICON conference held on December 2021 in IIT Guwahati
- Dr. Sanjib Ganguly chaired a session in 13th IEEE PES Asia pacific Power and Energy Engineering Conference held on 21-23 November in Trivandam, Kerala
- Dr. Prithwijit Guha chaired a session in The 27th National Conference on Communications (NCC 2021), held during July 2021
- Dr. Debabrata Sikdar gained a lot of media attention across the globe on Research work on 'Smart Windows for Automatic Climate Control'. The research work was recognized and covered by 80+ international and national news media

FACULTY MEMBERS

Sl. No.	Name	Name of the University/ Institute/ Org PhD degree received from	Designation	Areas of Interest
1	Ravindranath Adda	IIT Kanpur	Assistant Professor	Power Electronics, Distributed Generation and Power Quality
2	Shaik Rafi Ahamed	IIT Kharagpur	Professor	Adaptive Signal Processing, Mobile Communications, VLSI Signal Processing, Biomedical Signal Processing
3	Arun B. Alosious	IIT Madras	Assistant Professor	Quantum computation, Quantum error correction, Coding theory.
4	Mahima Arrawatia	IIT Bombay	Assistant Professor	Energy Harvesting, RF Circuit Design, Microstrip Antennas
5	Manoj B. R.	IIT Delhi	Assistant Professor	Wireless communications and networks; Deep learning for wireless communications and signal processing; Adversarial machine learning; Security and robustness of deep learning based wireless systems; Large-scale sensing using radio signals; Joint sensing and communications; Buffer-aided relaying networks; Markov chains and their applications

6	Ankush Bag	IIT Kharagpur	Assistant Professor	Wide Bandgap Semiconductors, Power Semiconductor Devices, Deep UV Photodetector.
7	Ratnajit Bhattacharjee	Jadavpur University	Professor	Electromagnetics, Microstrip Antennas, Microwave Engineering, Wireless Communication
8	Manish Bhatt	IISc Bangalore	Assistant Professor	Biomedical Imaging and Signal Processing, Ultrasound Elastography and Photoacoustic Tomography, Deep Learning for Medical Imaging, Medical Image Reconstruction, Biomedical Ultrasound and Optics, Inverse Problems.
9	Chayan Bhawal	IIT Bombay	Assistant Professor	Optimal Control, DAE systems, Model Order reduction, Multi-agent systems , Chaos theory, Robust control
10	Parijat Bhowmick	IIT Kharagpur	Assistant Professor	Robust control, Negative-imaginary systems, Passivity-based control and Dissipativity, Vibration control of flexible structure systems, Cooperative control of multi-agent systems (including multi-robot systems), Control of Smart/Micro-grid systems using Cyber-Physical Systems approach.
11	M. K. Bhuyan	IIT Guwahati	Professor	Image and Video Processing, Computer Vision, Pattern Recognition and Human Computer Interactions (HCI)
12	Prabin Kumar Bora	IISc Bangalore	Professor	Image Processing and Computer Vision
13	Sanjay Kumar Bose	Stony Brook, USA	Professor	Modeling, Simulation and Analysis of Communication Networks
14	Sonali Chouhan	IIT Delhi	Associate Professor	Wireless Sensor Networks, Coding Theory, Wireless Communications
15	Samarendra Dandapat	IIT Kanpur	Professor	Signal Processing, Speech Processing, Biomedical Signal & Image Processing, Biomedical Instrumentation
16	Smarajit Das	IISc Bangalore	Assistant Professor	Information theory, Error correcting codes
17	Anirban Dasgupta	IIT Kharagpur	Assistant Professor	Machine Learning, Image Processing, Computer Vision, Signal Processing, Embedded Systems.
18	Kuntal Deka	IIT Guwahati	Assistant Professor	Communication, Error Correcting Codes and Information Theory.
19	Kalpana Dhaka	IIT Delhi	Associate Professor	Channel modeling and resource allocation for wireless relay systems, cooperative communications, multihop relaying, and multicasting in wireless networks.

20	Tanmay Dutta	National University of Singapore (NUS)	Assistant Professor	Non-volatile memory, Spintronics, MRAM (SOT,STT), Race-track memory, HDD (Hard disk drives), SSD (Solid state drives), Quantum computing, Neuromorphic memory.
21	Sanjib Ganguly	IIT Kharagpur	Associate Professor	Power distribution system planning and optimization, Distributed generation, Custom power devices, Evolutionary algorithms, Multi-objective optimization
22	Prithwijiit Guha	IIT Kanpur	Associate Professor	Computer Vision, Machine Learning, Deep Learning, Signal Processing
23	Tony Jacob	IIT Kanpur	Associate Professor	Statistical Signal Processing and Information Theory
24	Ravindra K. Jha	IIT Kharagpur	Assistant Professor	Humidity and Gas Sensors Development based on various transduction techniques like resistive, capacitive, optical, piezoelectric, FETs, electrochemical etc.; Flexible Gas Sensor devices; Data Interpretation of Sensors/Sensor Arrays; Interface Circuit design and development for in house developed gas sensors; Density Functional theory to understand gas molecule-semiconductor interface behaviour; Characterization of Semiconductors and Solid State Devices.
25	Sreenath J. G.	IIT Kanpur	Assistant Professor	Power system state estimation, Cyber-security in power systems, Applied signal processing for power system monitoring, Synchrophasor technology applications, Stability and control of networked microgrids.
26	Indrani Kar	IIT Kanpur	Associate Professor	Control Theory and Applications, Soft Computing Applications, Neural Network Based Adaptive Control, Applications of Fuzzy Logic and Neural Networks in Nonlinear Control, Kinematic and Dynamic Control of Robot Manipulators
27	Kannan Karthik	University of Toronto, Canada	Associate Professor	Biometric Counter-spoofing; Privacy Preserving Analysis; Image and Data Forensics; Secure Key management and Exchange in Wireless Networks;
28	Salil Kashyap	IISc Bangalore	Assistant Professor	Wireless communications and signal processing, Massive MIMO (a leading 5G wireless technology), Algorithm design for wireless systems and its

				performance analysis, Green communications, Cognitive radio
29	Srinivasan Krishnaswamy	IIT Bombay	Assistant Professor	Control Systems, Cryptography
30	Rakesh Singh Kshetrimayum	NTU Singapore	Professor	Electromagnetic Band Gap, Filters, Metamaterials, Computational Electromagnetics and Periodic Structures
31	Rishikesh Dilip Kulkarni	EPFL, Switzerland	Assistant Professor	Digital Holography, speckle metrology, interferometry, digital signal processing
32	Chandan Kumar	IIT Madras	Associate Professor	Smart Transformer Application in Power System, Grid Connected Converters and Microgrid, Power Quality Improvement using STATCOM, DVR, UPQC, Predictive Control of Power Converters, Parallel Operation of Voltage Source Converters
33	Praveen Kumar	Delft University of Technology, The Netherlands	Professor	Optimisation of electrical motors and drives, Algorithm development for Multi-objective optimisation and multicriteria decision making in engineering systems, Simulation and design of electrical motors and actuators using Finite Element Methods (FEM), Analytical modeling of electrical motors for rapid simulation, Simulation and Analysis of Hybrid and Electric Vehicles
34	Chitralkha Mahanta	IIT Delhi	Professor	Control System Theory and Applications, Control of Nonlinear Uncertain Systems, Artificial Intelligence based Control, Identification and Control of Nonlinear Systems
35	Somanath Majhi	University of Sussex, Brighton, UK	Professor	Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications
36	Arun Tej Mallajosyula	IIT Kanpur	Assistant Professor	Photovoltaics, Large Area Electronics, Organic and Organic-Inorganic Hybrid Semiconductor Devices and Layered 2D Materials
37	Sudarshan Mukherjee	IIT Delhi	Assistant Professor	Next Generation Wireless Communications, Signal Processing for large scale antenna systems, Edge computing, Ultra-dense wireless networks
38	Nagarjuna Nallam	IIT Delhi	Assistant Professor	Analog and RF integrated circuits

39	Shabari Nath	University of Minnesota	Associate Professor	Power Electronics, Application of Power Electronics to Power Systems.
40	Sisir Kumar Nayak	IISc Bangalore	Professor	Nanofluid for transformer, Metamaterial enhanced WPT, PV integration with grid
41	Harshal B. Nemade	IIT Bombay	Professor	Electronic Instrumentation, Systems Design, Ultrasonic Instrumentation, Non-destructive testing, Electronic product design, EMI/EMC issues, Acoustic sensors, Under-water acoustics, Surface acoustic wave devices, MEMS
42	Roy Paily Palathinkal	IIT Madras	Professor	Devices, VLSI and MEMS
43	Alentallil Rajesh	IIT Kanpur	Associate Professor	Coding and Modulation Techniques
44	Ribhu	IIT Roorkee	Assistant Professor	Signal Processing for Wireless Communication, MIMO Systems, Adaptive and Statistical Signal Processing
45	Saravendranath Rimalapudi	IISc Bangalore	Assistant Professor	Intelligent reflecting surfaces, Cell-free massive MIMO, Machine learning for wireless communication, Spectrum sharing.
46	Ashwini Sawant	Ulsan National Institute of Science and Technology (UNIST), South Korea	Assistant Professor	Gyrotrons, Vacuum Electronic Devices, Orbital angular momentum (OAM) communication, Metamaterial structures.
47	Hanumant Singh Sekhawat	University of Twente, The Netherlands	Assistant Professor	System Theory, Applied Mathematics & Signal Processing
48	Rohit Sinha	IIT Kanpur	Professor	Speech and Audio Processing, Speech Recognition, Signal Processing
49	Debabrata Sikdar	Monash University, Australia	Assistant Professor	Plasmonics and metamaterials, Light-matter interaction in nanoscale, Dynamic tuning in plasmonic metamaterials and metadevices, Plasmon-assisted optical switching, directional scattering, wideband absorption, ultrasensitive detection, tunable optical devices etc., Electrovariable nanoplasmonic devices
50	Ramesh Kumar Sonkar	IIT Kanpur	Associate Professor	Silicon Photonics, Integrated Photonics, Fiber Lasers Optoelectronics Device Characterization and Fabrication, Microelectronics and III-V Compound Semiconductors, Photonics

				Integrated Circuits, Fiber Optics Communication, Non-invasive measurement of physiological parameters of human blood, Structural health monitoring, Antennas, Vacuum Electron Devices
51	Suresh Sundaram	IISc Bangalore	Associate Professor	Pattern Recognition, Image / Video Processing and Computer Vision
52	Praveen Tripathy	IIT Kanpur	Associate Professor	Power system dynamics and stability studies, Wide Area Monitoring and Control of Power System, Optimal power dispatch and state estimation, Security analysis and control, Energy management system and distribution automation
53	Gaurav Trivedi	IIT Bombay	Associate Professor	VLSI, HPC, Embedded Systems, IoT, Computer Architecture, Electronic System Design and Manufacturing (ESDM), Quantum Computing, Hardware Security

LABORATORY FACILITIES

Language-Cognition Laboratory: The lab is engaged in research in language from a cognitive science perspective. We explore the relationship of human language with cognition, with culture as a possible third angle through studies of language processing in various domains.

Phonetics and Phonology Laboratory: Research on language and speech is an exciting area encompassing research in the fields of language technologies and human-computer interfaces in a way which can be employed to various ends ranging from language learning of intelligent systems to the learning capabilities of humans. To fulfill these ends this lab would like to start a modern academic research lab which is focused on the way speech is produced and comprehended. The lab will be involved with experimental investigations of speech processes and their acquisition. Topics include: articulatory movements, measurements of pressures and airflows in speech production, computer-aided waveform analysis and spectral analysis of speech, perception and discrimination of speech like sounds, speech prosody, models for speech recognition, speech disorders, and language acquisition. This Laboratory will also play an important role in recording and archiving the languages of the North-East. Apart from that, the facilities in this Laboratory will also promote advanced research on languages of the region.

Sleep & Cognition Laboratory: The Sleep & Cognition is a specialized lab where research work in the area of cognition and sleep is being carried out. The present project is funded by the department of science and technology, GOI. This lab has few specialized equipments such as 40 channel Nihon-Khodon polysomnography system, 32 channel active electrode, EEG/ERP system and DC current brain stimulator for designing experiment.

Psychology Laboratory: Psychology Laboratory is also used for conducting experiments in the area of social psychology and organizational psychology on regular basis by faculty and research scholars. Psychology lab has already initiated the process of procuring various instruments, which will be used for conducting lab sessions for under-graduate courses in Psychology.

Archaeological Sciences Laboratory: The Laboratory is used for facilitating research in the area of Archaeological Sciences. The facilities include soil testing (ph, organic carbon, calcium carbonate), sample processing facilities for SEM-EDX experiments, XRD, FTIR, etc experiments. Polaroid Microscope is available for reading petrographic slides for material analysis of artifacts like pottery, stone tools, sediments etc. Color identification, texture analysis, particle size, particle shape and other optical properties is also done. Titration setup, GPS, calipers of various sizes are available for students work.

English Language Training Laboratory: This is for the compulsory audit course on English Language training in the B.Tech programme. The software Wordsworth English Language Lab Software is used for the purpose. Besides courses on ELT are also offered to PG students of the institute using the Laboratory facilities.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- STATA
- Desktop (26 Nos.)

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

The faculties in the HSS department carry out research in several fields of humanities and social sciences. This includes English and Indian literature, Linguistics, Economics, Psychology, Philosophy, Political Science, Archeology, Sociology and History. Faculties and doctoral students pursuing research within these disciplines have been engaged in teaching and research. Major areas of research include Dalit literature, Marathi literature, North-Eastern Archeology and Heritage Management, Common Wealth Literature, Aesthetics, Cultural Studies, Ecocriticism and Translations, Development Economics, Industrial Economics, Labour Economics, Phenomenology and Cognitive Science, Phenomenology and Religion, Ethical Issues related to Science and Technology, Organizational Behaviour, Human Resource Management, Social/Environmental Psychology, I-O Psychology, Literary and Cultural Theory, Microeconomics, Agricultural Economics, Environmental Economics, Econometrics, Philosophy of Technology, Applied Philosophy, Peace Studies, Critical Thinking, Applied Ethics, Philosophy of Education, Phonological theory with special interest in Optimality Theory, vowel harmony, Experimental approaches to Phonology and its acquisition, Social & Environmental History of Assam, Sociology of Science, Historical Sociology, Cognitive linguistics, Endangered and lesser known languages, Language typology, Sociolinguistics, Sleep and Information Processing, Macroeconomics, Applied Game Theory, Sociology of Gender, Sociology of Law, Sociology of Communication, Socio-economic understanding of climate risk and resilience, Urban Living and Sustainable cities, Development Economics, Informal Sector, Issues in Food Security and Social Security, Economics of Education, Identity issues of ethnic minorities, local governance, development policies, social movements, ethnic violence and conflict prevention, Health and Clinical Psychology, Phonetics, Phonology, Acoustic Phonetics, Tibeto-Burman tones, Psychoacoustics, Perception, Public Economics, Dynamic Economic Theory, Christianity, conversion, ethnic violence, kinship and family, urban issues, Socio-economic history.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

The Department is starting a new 2-year program Masters in Liberal Arts (MLA) from July 2022. Seats sanctioned is 30. The total number of credits for the programme is 160. There will be 10 core courses of 8 credits each over the 4 semesters that will include Introduction to Liberal Arts, Essentials of Political Theory, Study of Society, Introduction to Literary Studies, Theories and Thinkers: The Concept of Culture, Qualitative Research Methods in Social Sciences, International Relations and Diplomacy, Historical Studies, Foundational Linguistics and Cultural Studies. There will be 8 elective courses of 6 credits each that will be offered by each discipline (English, History, Political Science, Geography, Linguistics, Philosophy, Archaeology) over the 4 semesters. There will also be 2 projects of 16 credits each where students will be encouraged to explore research methodologies and applications in a monitored self-learning project in each semester of the final year.

The Master's in Liberal Arts programme will be the first of its kind in North East India.

The MLA program was inaugurated on March 28th, 2022. Prof. T.G. Sitharam inaugurated the program website and delivered the inaugural speech. It was addressed by Prof. R. Radhakrishnan, Chancellor's Professor, Humanities, University of California-Irvine, USA who in his address talked specifically on the

introduction of Liberal Arts in the HSS curriculum of IIT's in India. Appreciating the courses specially included in the program proposal he called it a welcome move and specially congratulated the Dept. of HSS for designing a world class program in Liberal Arts.

Graduate Research Meet 2021: The Graduate Research Meet brought together a diverse range of interdisciplinary researchers and offered a platform to showcase innovative and cutting-edge research in the humanities and social sciences. The event was organized by the PhD scholars of the Department of Humanities and Social Sciences (HSS), Indian Institute of Technology Guwahati. The primary objective of the GRM was to highlight the interdisciplinary and significance of recent research in the humanities and social sciences. It explored the varied and complex methodology which underpins such research. The Meet offered an excellent opportunity for doctoral students to present their findings and work-in-progress and receive valuable feedback from peers and experts alike.

Last year Department of Humanities and Social Sciences had the seventh edition of GRM conducted by Dept. of Humanities and Social Sciences, IIT Guwahati from November 11-12th 2021. The key note speaker for the GRM 2021 was Dr. Madhura Swaminathan, Economic Analysis Unit, Indian Statistical Institute. She delivered a lecture on "The Inequality Crisis".

The Department of Humanities and Social Sciences received 507 abstracts from research scholars from various universities across India and 81 abstracts were selected. The themes of the various panels were Gender, Rights and Social Exclusion; Mental Health and Well-Being Amidst Covid-19; Diseased Subjects: Humans and Non-Humans in Colonial India; Nature, Environment and Economic Development; Northeast and Migration; Urban planning and spatial processes: emerging practices in making "new cities"; Crisis in Public Health and Challenges of Pandemic; Premodern and Modern-Philosophy of the text; Cognition and Language; The Evident and The Anonymous: Investigation of Art, Religion & Landscape; Imagining Core and Periphery: Legal and Human Testimonies; Islands of new narratives; Cinema, art and identity; Education, Institutions and Marginalisation; Fraught Contours: Language, Labour and Nationalism; Language, Morality & Society: Philosophical Reflections; Identity and Fiction- Tales from the soil; Education and Employment; Pedagogy and Pandemic- Narratives of uncertain times; Credit and Bond Market; Politics of Language, Environment and Citizenship; Aspects of Cultural Anthropology – Culture, Criticisms and Challenges; Whose city? (Re)thinking spatial inequalities; Texts and Lives- Narratives of resistance; Crises and Democracy: Political and Personal Attestations.

Mother language day was celebrated by the Department on February 21st 2022. Prof. T. G. Sitharam, Director, IIT Guwahati inaugurated the program which was also graced by Registrar of IIT Guwahati, Prof. A. Sreenivasan and other faculty members of the Department. President of Axom Sahitya Sabha, Dr. Kuladhar Saikia delivered the keynote address. Other speakers of the program were Sri Ramesh Thaoson, President, Dimasa Sahitya Sabha, Sri Nirmal Koch, Koch Sahitya Sabha, Sri Longsing Teron, Centre for Studies in Karbi Language and Culture, Sri Prasanta Boro. General Secretary, Bodo Sahitya Sabha. All the dignitaries representing the various literary organisations of Assam delivered brief speeches about their efforts to preserve language. All the dignitaries opined that it was for the first time that senior representatives of all major literary groups of Assam were sharing the same platform. They lauded the efforts made by the Dept. of HSS in research on mother language preservation and conservation.

Faculties from the Dept. of HSS, IIT Guwahati chaired the various panels and also performed as discussants to the papers presented. The papers presented were circulated earlier among the chairs so that an engaged interaction could be carried out and well thought out comments could be provided on each paper. Students from these universities and institutes also attended the sessions.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED

Sl. No.	Name of Faculty	Name of Conf./Workshop	Institute	Place	Start Date	End Date	International/National
01	Ngamjahao Kipgen	National Seminar on Equity with Special Emphasis on North Eastern Region	Dr. Ambedkar Chair, Tezpur University In Collaboration with ICSSR, New Delhi & ICSSR NERC, Shillong	Tezpur University, Tezpur	2021-06-18	2021-06-18	National
02	Rohini Mokashi-Punekar	Indian and Cross-Cultural Approaches to Marginality	Centre for English Studies, School for Languages and Literature, Jawaharlal Nehru University	New Delhi	2022-03-09	2022-03-09	International
03	Mithilesh Kumar Jha	26th World Congress of Political Science	International Political Science Association	Virtual	2021-07-10	2021-07-15	International
04	Pahi Saikia	78th Annual MPSA conference	MPSA Chicago (online mode)		2021-04-14	2021-04-17	International
05	Mrinal Kanti Dutta	81st Annual Conference of Indian Society of Agricultural Economics	Mata Vaishno Devi University, Katra	Mata Vaishno Devi University, Katra, J&K	2021-12-01	2021-12-03	National
06	Bodhisattva Sengupta	ACEGD, 2021	Indian Statistical Institute	New Delhi	2021-12-20	2021-12-22	International
07	Ngamjahao Kipgen	Development Days 2022: Infrastructure, technologies, and vulnerabilities in global development	University of Helsinki, Finland	Helsinki	2022-02-17	2022-02-18	International
08	Mrinal Kanti Dutta	The 10th Asian Society of Agricultural Economics Conference	Asian Society of Agricultural Economists Peking University	Peking University	2021-12-06	2021-12-08	International
09	Sambit Mallick	46th Annual Conference of the Society for Social Studies of Science (4S)	Toronto, Canada	Toronto, Canada, virtual	2021-10-06	2021-10-09	International
10	Sambit Mallick	46th ISS All India Sociological Conference	University of Mumbai	Mumbai	2021-12-08	2021-12-10	National
11	Debapriya Basu	Renaissance Society of America 68th Annual Meeting	Fordham University	Dublin	2022-03-30	2022-04-02	International
12	Sambit Mallick	International Workshop on	Indian Institute of Technology Tirupati	Tirupati, virtual	2022-02-24	2022-02-25	International

		Public Policies for the Post-Pandemic Era					
13	Sukanya Sharma	82nd Annual Meeting of the Society for Applied Anthropology, held from March 22-26, 2022, Salt Lake City, UT.	Society for Applied Anthropology	Salt Lake City, UT. (virtual)	2022-03-25	2022-03-25	International
14	Sukanya Sharma	Windows into the Forest Gardens of the world- Webinar	Belipola Arboretum and Earth Restoration www.belipolaarboretum.earth www.restore.earth	Sri Lanka (Virtual)	2022-7-26	2022-7-26	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl .N o.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Start Date	End Date
01	Mrinal Kanti Dutta	SUB REGIONAL CONNECTIVITY, TRADE AND GROWTH- THE CASE FOR NORTH EAST INDIA	Dakshin Kamrup College	Dakshin Kamrup College, Mirza	2021-04-18	2021-04-18
02	Mrinal Kanti Dutta	Inclusive Rural Development of Assam through Rural Development Schemes	Pub Kamrup College, Baihata Charial, Kamrup	Pub Kamrup College, Baihata Charial, Kamrup	2021-08-19	2021-08-19
03	Sambit Mallick	Centre for Brand Building and Ranking and Centre for Quality Assurance	Muthayammal Engineering College	Namakkal, Tamil Nadu	2021-04-28	2021-04-28
04	Ngamjahao Kipgen	Contesting Development: Matrix of Ecological Politics in North East India	Sikkim Government College, Gangtok	Online	2021-11-12	2020-11-13
05	Ngamjahao Kipgen	National Webinar	St. Edmund's College, Shillong	Online	2021-04-09	2021-04-09
06	Sambit Mallick	National Workshop on Research Methodology and the Research Process in Social Sciences	Women's College, Shillong	Shillong	2021-07-27	2021-07-27
07	Sambit Mallick	Workshop on Research Methods and Statistical Analysis	Physical Education Foundation of India	New Delhi	2021-08-02	2021-08-02
08	Pahi Saikia	Symposium organised by IIT Guwahati on Sarvodaya: The Gandhian Thought	IIT Guwahati	Guwahati	2021-09-15	

09	Sambit Mallick	Science and Society Intersections	University of Science and Technology, Meghalaya	Meghalaya	2021-10-16	2021-10-16
10	Sambit Mallick	Science, Technology, Innovation and Development through NEP 2020	Indian Institute of Information Technology Vadodara	Vadodara	2021-11-12	2021-11-12
11	Sambit Mallick	Philosophy of the Social Sciences	Dr. Harisingh Gour Viswavidyalaya	Sagar	2021-12-09	2021-12-09
12	Sambit Mallick	National Education Policy 2020: Scientific Temper and Social Inclusion	North East Regional Institute of Education, National Council for Educational Research and Training	Umiam, Shillong	2021-12-17	2021-12-17
13	Sambit Mallick	Technology-Society Interface: Historical Explorations	International Committee for the History of Technology	Virtual	2022-01-17	2022-01-17
14	John Thomas	Department of History Lecture Series	Sree Sankaracharya University of Sanskrit	Kalady	2021-12-13	2021-12-13
15	Sambit Mallick	Science and Nationalism in India	JNU, Vigyan Bharati, NIScPR and Vigyan Prasar	Virtual	2022-02-28	2022-03-01
16	Sambit Mallick	Positivism	Krishna Kanta Handiqui State Open University	Guwahati	2022-03-21	2022-03-21
17	Sambit Mallick	Critique of Positivism	Krishna Kanta Handiqui State Open University	Guwahati	2022-03-21	2022-03-21
18	Bodhisattva Sengupta	Panel Discussion on State and Union Budget 2022	K Handiqui State Open University	Guwahati	2022-03-22	2022-03-22
19	John Thomas	Themes and Perspectives in Indian History: Issues and Prospects	Newman College	Thodupuzha	2021-09-28	2021-09-28
20	Daksha Parmar	Keynote Speech at ICSSR Sponsored Two Day National Seminar on Contemporary Economic Issues of Developing Countries	Dept. of Economics, School of Humanities and Social Sciences, Assam Don Bosco University	Assam	2022-03-14	2022-03-15

VISITORS FROM OTHER INSTITUTES/ UNIVERSITIES/ ORGANISATIONS/ INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Prof. S. N. Sridhar	Professor S. N. Sridhar is SUNY Distinguished Service Professor of Linguistics and India Studies, and Director of the Mattoo Centre for India Studies at Stony	Talk on ENGLISH IN INDIA'S MULTILINGUAL ECOLOGY	30/09/2021	Online

		Brook University, New York			
02	Dr. Ritu Tripathi	Indian Institute of Management, Bangalore, India	Talk on Methodological Considerations in the Study of Culture and Motivation	08/10/2021	Online
03	Prof. Shahnaj Husne Jahan Leena	Centre for Archaeological Studies at the University of Liberal Arts Bangladesh	Talk on Archaeology and Beyond: Understanding Communities and Cultural Heritage of Bhitargarh	28/10/2021	Online
04	Dr. Divya Kannan	School of Humanities and Social Sciences (SHSS), Shiv Nadar University	Talk on Textbooks, Children, and Schooling in Colonial Kerala	17/11/2021	Online
05	Prof. Arunava Sen	Indian Statistical Institute, New Delhi	Talk on Fostering Collaborations in Matching Platforms	22/01/2022	Online
06	Prof. Deepankar Basu	University of Massachusetts, Amherst	Book Discussion on "The Logic of Capital"	21/02/2022	Online
07	Prof. Deepti Goel	Azim Premji University	Talk on "Drivers of Performance in Higher Secondary Public Schools in Delhi"	07/03/2022	Online
08	Profs. Kimi King and James Meernik	University of North Texas	Talk on "An Examination of Factors Influencing Language Endangerment."	23/03/2022	Offline
09	Prof. T. Sundararaman	Prof T Sundararaman is currently the Global Coordinator of the People's Health Movement (PHM), which is a global network that brings together grassroots health activists, civil society organizations and academic institutions from around the world, particularly from low and middle income countries.	Lectures in Development Studies: 'Lessons from India's Covid-19 Pandemic Response - What we got right and what we need to do better'	09/04/2021	Online
10	Dr. Dolly Kikon	University of Melbourne, Australia	Book discussion: 'Living with Oil and Coal: Resource politics and militarization in Northeast India'	27/08/2021	Online
11	Dr. Raile Rocky Ziipao	IIT Bombay	Talk on 'Infrastructures of Injustice: State and Politics in Manipur and Northeast India'	08/09/2021	Online
12	Prof. Mohan Rao	Centre of Social Medicine and Community Health (CSMCH), School of Social Sciences, Jawaharlal Nehru University, New Delhi	Talk on 'Population Policy: Contemporary Debates in India'	17/09/2021	Online

13	Prof. Rama Baru	Centre of Social Medicine and Community Health, Jawaharlal Nehru University	Talk on 'Covid-19 Pandemic: Response of Private Health Care to a Medical Emergency'	13/09/2021	Online
14	Prof. Lyla Mehta	Institute of Development Studies, UK	Talk on 'Transformation as Praxis in Marginal Environments: Reframing nature-social relations, knowledges and livelihoods'	09/11/2021	Online
15	Preeti Sampat	Dr. B. R. Ambedkar University Delhi	Lecture Series on India's Rentier Economy - The case of Dholera Smart City	22/02/2022	Online
16	Dr. Gorky Chakraborty	Institute of Development Studies Kolkata	Lecture Series on Analysing Land, Conjuring Identities - Lessons from Northeast India	08/03/2022	Online
17	Dr. Awanish Kumar	British Academy Newton International Fellow at the School of Social and Political Science, University of Edinburgh	Lecture Series on Dr. BR Ambedkar's Perspective on the Land Question in India	22/03/2022	Online
18	Jaideep Saikia	Jaideep Saikia is a Terrorism and Conflict Expert and author or editor of several books, including Mind Over Matter (2017), Terrorism: Patterns of Internationalization (2009, with Ekaterina Stepanova); Frontier in Flames: North East India in Turmoil (2007); Terror Sans Frontiers: Islamist Militancy in North East India (2004); Development Challenges in India: Assam Faces the 21st Century (2002); and Contours: Essays on Security and Strategy (2001)	Talk on Mapping the North East and the strategic encirclement	08/04/2021	Online
19	Alex Waterman	University of Leeds	Talk on Conflict, Development and Armed Ordering in the Indo-Myanmar borderlands	12/04/2021	Online
20	Anil Trigunayat	Anil Trigunayat (IFS Retd), Former Ambassador of India to Hashemite Kingdom of Jordan, Libya and Malta; He is a post Graduate in Physics from the	Talk on West Asia and India – Responding to the Changing Dynamic	30/07/2021	Online

		Agra/Kumaon University and also studied Russian History, Culture and Language at the Jawaharlal Nehru University, New Delhi. As a visiting fellow he also conducted research work on "WTO and Regional Trading Blocs" at the Oxford University			
21	Commander (Dr.) Sibapada Rath	Commander (Dr.) Sibapada Rath was commissioned into the Education Branch of Indian Navy in Jan 1996. The officer has served as the Senior Education Officer, INS Valsura and Command Education Officer at Headquarters, Andaman and Nicobar Command, Port Blair, besides other appointments	Talk on China in Western Indian Ocean: Implications for India	02/11/2021	Online

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Start Date	End Date	International / National	No. of participants
01	Vasundhara Jairath	Decolonising Knowledge Production: A dialogue on environmental politics in Assam	IIT Guwahati and Institute of Development Studies, Sussex, UK	2022-02-11	2022-02-12	International	30
02	Sambit Mallick	EnviPol and Global Policy Insights: Climate Governance and Global Commons	IIT Guwahati and Global Policy Insights, New Delhi	2022-01-07	2022-01-07	National	249
03	Ngamjahao Kipgen	EnviPol and Global Policy Insights: Climate Governance and Global Commons	IIT Guwahati and Global Policy Insights, New Delhi	2022-01-07	2022-01-07	National	211
04	John Thomas	Effective Academic Writing: British Academy	Kerala Council for	2021-12-06	2021-12-10	International	20

		Skills Development Workshops, 2021	Historical Research				
05	John Thomas	Effective Academic Writing: British Academy Skills Development Workshops, 2021	Highland Institute	2021-12-13	2021-12-17	International	20
06	Mrinal Kanti Dutta	Workshop on Credit Delivery and Absorption in the Rural Economy of the North East	IIT Guwahati and NEEA	2021-09-03	2021-09-04	National	150
07	Mrinal Kanti Dutta	11th Conference of North Eastern Economic Association	IIT Guwahati	2021-09-09	2021-09-10	National	200
08	Mrinal Kanti Dutta	A short Term Course on Research Methods and Computer Application in Humanities and Social Sciences	IIT Guwahati	2021-09-12	2021-09-23	National	40
09	Mrinal Kanti Dutta	Workshop on 'Time Series Econometrics' in collaboration with the Indian Econometric Society (TIES)	IIT Guwahati	2021-09-19	2021-09-23	National	60
10	Prabhu Venkataraman and Kashyap Abhishek	Symposium on Indian Philosophy	IIT Guwahati	2021-03-15	2021-03-17	National	30

STUDENTS' ACHIEVEMENTS

- Chayasmita Deka: Received Young Scientist Summer Program (YSSP)'s Jyoti and Kirit Parikh Fellowship at International Institute for Applied Systems Analysis (IIASA), Vienna, Austria
- Kashmiri Das: Received the NEEA Best Paper Presenter Award from the Department of Economics, Rajiv Gandhi University

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
01	Anamika Barua	University of Leeds, UK	Professor	Climate Change and Water security, Ecological Footprint, Virtual Water flows through trade, Water governance including transboundary water governance
02	Debapriya Basu	Jadavpur University	Assistant Professor	English and European Renaissance literature, early modern English women's writing, women's literary history, gender and genre, poetics and gender, theatre, textual editing and

				bibliographical studies, translation, digital humanities theory and practice (text technologies, TEI-XML, hypertextualities, digital archives, the digital early modern)
03	Rajshree Bedamatta	University of Calcutta	Associate Professor	Food security, Nutrition, and Public Health
04	Debarshi Das	Jawaharlal Nehru University	Associate Professor	Development Economics, Political Economy, Macroeconomics
05	Liza Das		Professor	Cultural Studies
06	Mrinal Kanti Dutta	Gauhati University	Professor & Head	Agricultural Economics, Environmental Economics, Regional Economic Development
07	Vipul Dutta	Kings College London	Assistant Professor	South Asian Diplomatic & Military History ; Indian Business History
08	Dilwar Hussain	IIT Kanpur	Associate Professor	Psychology of Trauma, Psychology of Well-being
09	Vasundhara Jairath	University of Delhi	Assistant Professor	Social Movements, Development and Displacement, Indigenous Politics, Latin America, Decolonisation of Knowledge
10	Mithilesh Kumar Jha	University of Delhi	Assistant Professor	Political theory, Political thought in comparative perspectives particularly Indian and western political thought, Indian politics especially language and related issues of state formation in modern India
11	Naveen Kashyap	IIT Bombay	Associate Professor	Sleep and Information Processing, Human Memory
12	Kiran Keshavamurthy	University of California, Berkeley	Assistant Professor	Modern Indian Literatures
13	Prasad Khanolkar	University of Toronto	Assistant Professor	Politics of Urbanization in South Asia; Urban Housing and Slum Settlements; Social Lives of Infrastructure; Urban Land Markets; Spaces of Finance Capital; Urban Informal Economies; Urban Commons and Emerging Collectivities; Urban Theory and Methods; Cinema and City; Religion and Urban Space; South Asian Studies; Critical Theory; Urban Ethnography
14	Ngamjahao Kipgen	Indian Institute of Technology Delhi	Associate Professor	Environmental sociology, political sociology, religion and cultural politics
15	Amarjyoti Mahanta	Jawaharlal Nehru University, Centre for Economic S...	Assistant Professor	Game Theory, Auction Theory, Industrial Organization
16	Shakuntala Mahanta	Utrecht University, The Netherlands	Professor	Theoretical Phonology, Acoustic Phonetics and perception, Information Structure, Tone and intonation
17	Sambit Mallick	University of Hyderabad	Professor	Sociology of Science and Technology; Historical Sociology; Philosophy of the Social Sciences

18	Daksha Parmar	Jawaharlal Nehru University, New Delhi	Assistant Professor	Public Health and Development, Health Systems in India, Global Public Health, Women's Health, Health Policy and Politics
19	Venkataraman Prabhu		Professor	
20	Rohini Mokashi Puneekar	Gujarat University	Professor	Translation, Postcolonial Studies, Culture Studies, Indian Writing in English and Modern British Literature.
21	Sawmya Ray	University of Hyderabad (Hyderabad Central University)	Professor	Gender Violence and Law, Sex Trafficking and Sex Work, Gender and Legal Pluralism, Caste in Urban Spaces
22	Arupjyoti Saikia	University of Delhi	Professor	Economic, environmental and political history of modern Assam
23	Pahi Saikia	McGill University, Canada	Associate Professor	International Relations; Foreign Policy between India and neighbouring countries; Ethnic identity politics, tribes and indigenous people in Northeast India; Governance & political development in developing areas; Security issues in borderlands Asia; Social movements and conflict prevention
24	Agnirup Sarkar	Durham University	Assistant Professor	Macroeconomics, Monetary Economics, Finance
25	Priyankoo Sarmah	University of Florida	Professor	Phonetics and phonology of vowels and tones, Tibeto-Burman languages, language technology development, speech perception, speech recognition
26	Borbora Saundarjya	Gauhati University	Professor	Development Economics, Regional Development
27	Bodhisattva Sengupta	McGill University	Associate Professor	Public Economics and Policy, Dynamic Economic Theory
28	Sukanya Sharma	Deccan College PG & Research Institute, Poona	Professor	Archaeology
29	Bidisha Som	Jawaharlal Nehru University, New Delhi	Associate Professor	language processing, culture and cognition, social linguistics.
30	John Thomas	Centre for Historical Studies, Jawaharlal Nehru University	Assistant Professor	Religion and Formation of Cultural and Political Identities; Religion and Politics in North-East India; Social and Intellectual History of 19th Century Travancore; History of Missionary Encounter in South Asia
31	Nachiketa Tripathi	IIT Kanpur	Professor	Organizational Behaviour, HRM and Social Psychology
32	Abhishek Kashyap	IIT Bombay	Assistant Professor	Research Interests: Philosophy of Science, Philosophy of Physics, Bayesian Epistemology, Social Epistemology

LABORATORY FACILITIES

Maths E-block Laboratory

Maths E1-block Laboratory

Two Research Scholars Laboratories

All laboratories are equipped with LAN and wireless network connectivity. An LCD projector with motorized screen is available in each Laboratory for tutorial and demonstration sessions. Almost all the students who are enrolled in B.Tech., M.Sc. and regular Ph.D. programmes are allotted an individual computer in these laboratories.

In addition to the standard personal computers in the laboratories, the department has several workstations, high-end servers and a storage area network. All laboratories except research scholars laboratories are equipped with CCTV cameras.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Upgradation/buyback of Kyocera Taskalfa 3550ci MFP to A3 monochrome MFP Make: Konica Monolta, Model: Bizhub 958
- Pen Tablet Make: Wacom, Model: CTL-672 (10 Nos.)
- Upgradation/Buyback of Lenovo 80M1 Laptop to Intel Core i5 touch laptop (02 Nos.) and purchase of new Core i5 touch laptop (01 No.)
- Upgradation/Buyback of Lenovo Think Centre E63Z AIO desktop to Intel Core i7 desktop Make: Dell, Model: Optiplex 5090 Tower (25 Nos.)

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Algebra, Linear Algebra, Number Theory, Combinatorics, Graph Theory, Functional Analysis, Harmonic Analysis, Complex Dynamics, Low Dimensional Topology, Differential Equations, Numerical Analysis, Fluid Dynamics, Mathematical Biology.

Probability, Stochastic Processes, Random Graphs, Stochastic Control Theory, Queuing Theory, Financial Mathematics, Distribution Models, Life Time Data Analysis.

Algorithms, Theoretical Computer Science, Computer Networks and Security, Distributed Computing, Quantum Computing, Computational Geometry.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

Modeling Long-term Groundwater Levels by Exploring Deep Bidirectional Long Short-Term Memory using Hydro-climatic Data

Authors: Sangita Dey, **Arabin Kumar Dey**, Rajesh Kumar Mall

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CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Dr. Palash Ghosh	Bernoulli-IMS Young Researchers Pre-Meeting 2021	Online (Seoul, Korea)	17/07/2021 - 18/07/2021	International
02	Prof. Rupam Barman	National webinar on Recent Trends in Mathematics	Cotton University, Guwahati	18/08/2021 - 19/08/2021	National
03	Prof. Rupam Barman	National Workshop on Mathematics	USTM, Meghalaya	18/08/2021 - 19/08/2021	National
04	Prof. Rupam Barman	International Conference on class groups of number fields and related topics	Kerala School of Mathematics	21/10/2021 to 24/10/2021	International
05	Prof. K. V. Krishna	19th International Conference on Relational and Algebraic Methods in Computer Science (RAMICS 2021)	CIRM - Luminy, Marseille, France (Hybrid Mode)	02/11/2021 - 05/11/2021	International
06	Prof. Rafikul Alam	International Conference on Linear Algebra and Its Applications	Manipal	15/12/2021	International
07	Prof. Rupam Barman	International Conference on Recent Trends in Mathematics 2021	Delhi University	22/12/2021 - 24/12/2021	International
08	Prof. Rafikul Alam	Workshop on Functional Analysis and Its Applications	IIIT Allahabad	14/01/2022	National
09	Prof. Siddhartha Pratim Chakrabarty	International Conference on Nonlinear Dynamics and Applications (ICNDA 2022)	Sikkim Manipal Institute of Technology, Majitar	09/03/2022 - 11/03/2022	International

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Dr. Palash Ghosh	Bernoulli-IMS Young Researchers Pre-Meeting 2021	Online (Seoul, Korea)	17/06/2021 - 18/06/2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Rupam Barman	Delivered six lectures on the Theory of Groups	Kohima Science College	Kohima, Nagaland	15/04/2021

02	Prof. Swaroop N. Bora	Sturm-Liouville Theory, Power Series and Orthogonal Polynomials	Kokrajhar Govt. College	Kokrajhar	20/04/2021
03	Dr. Palash Ghosh	How to use different statistical models to analyze and predict COVID-19 in India?	Paasha Public Lecture (Organized by Dr. Prajmitra Bhuyan, Imperial College, London)	Webinar	01/05/2021
04	Dr. Palash Ghosh	How to use different statistical models to analyze and predict COVID-19 in India?	Research Seminar Series, Mathematical Biology, Ahmedabad University	Webinar	04/08/2021
05	Prof. Sukanta Pati	Laplacian matrices and algebraic connectivity	Amrita Vishwa Vidyapeetham	Coimbatore, India	04/08/2021
06	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	Cotton University	Guwahati	18/08/2021
07	Prof. Siddhartha Pratim Chakrabarty	Portfolio Optimization and Capital Asset Pricing	Dr. Shyama Prasad Mukherjee International Institute of Information Technology	Naya Raipur	21/08/2021 - 22/08/2021
08	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	ICFAI University	Tripura, Agartala	25/08/2021
09	Prof. K.V. Krishna	Faculty Development Programme on Mathematics and Its Application in Science & Engineering	Shri Mata Vaishno Devi University	Katra, Jammu & Kashmir	27/09/2021 – 01/10/2021
10	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	Dr. Shyama Prasad Mukherjee International Institute of Information Technology	Naya Raipur	08/10/2021
11	Prof. Siddhartha Pratim Chakrabarty	# Financial Risk Management: A Commentary in the Paradigm of Basel Regulations # Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Indian Institute of Science Education and Research	Thiruvananthapuram	25/10/2021 - 27/10/2021
12	Prof. Swaroop N. Bora	Mathematics - Walking Hand in Hand with Science and Engineering	Girijananda Institute of Management and Technology	Guwahati	25/10/2021
13	Prof. Gautam Kumar Das	The Maximum Independent Set and Minimum Dominating Set Problem in Unit Disk Graphs	International Workshop on Domination in Graphs (IWDG-2021) IIT Ropar	Ropar, Punjab	15/11/2021

14	Prof. Jiten Chandra Kalita	Fractals and Scientific computing	Bhattadev University	Pathsala, Assam	30/11/2021
15	Prof. Guru Prem Prasad M.	Holomorphic Dynamics	e-Short Term Training Program on Algebra and Analysis – 2021 SRM Institute of Science and Technology	Kattankulathur	13/12/2021
16	Prof. Partha Sarathi Mandal	Autonomous Mobile Entities and Surveillance with UAVs	Vellore Institute of Technology	Chennai	20/12/2021 - 22/12/2021
17	Prof. Swaroop N. Bora	Differential Equation as a Tool for Modelling Physical Problems	Jawaharlal Nehru College	Boko	30/12/2021
18	Prof. Siddhartha Pratim Chakrabarty	Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Vellore Institute of Technology	Vellore	08/01/2022
19	Prof. Swaroop N. Bora	Some Fundamental Tools in Applied Mathematics	International Workshop on Numerical and Analytical Techniques in Engineering Problems SRM Institute of Science and Technology	Kattankulathur	19/01/2022
20	Prof. Swaroop N. Bora	Utility of Porous Structures as Breakwaters in Coastal and Offshore Regions	Research and Industrial Conclave, IIT Guwahati	Guwahati	21/01/2022
21	Prof. Swaroop N. Bora	A Friendly and Basic Introduction to Water Wave Mechanics	Vellore Institute of Technology	Vellore	22/01/2022
22	Prof. Rupam Barman	Unique factorization and application-I	15 th RC in Mathematics & Statistics organized by HRDC, Gauhati University	Guwahati	24/01/2022
23	Prof. Swaroop N. Bora	Power Series Solutions of Differential Equations with Emphasis on Bessel Functions and Legendre Polynomials	Gauhati University	Guwahati	24/01/2022
24	Prof. Rajen K. Sinha	A Warm-Up to Mathematical Model: Modelling of Heat Conduction in a Solid Body	National Institute of Technology	Calicut	24/01/2022
25	Prof. Rajen K Sinha	Wellposedness of Abstract Variational Problem for Heat Equations	National Institute of Technology	Calicut	25/01/2022
26	Prof. Swaroop N. Bora	A Fruitful Journey through Green's Function and Integral	Gauhati University	Guwahati	27/01/2022

		Equations: A Friendly and Brief Introduction			
27	Prof. Swaroop N. Bora	Mathematics and Physics of Water Waves: A Basic and Brief Introduction	Gauhati University	Guwahati	28/01/2022
28	Prof. Rupam Barman	Unique factorization and application-II	15 th RC in Mathematics & Statistics organized by HRDC, Gauhati University	Guwahati	31/01/2022
29	Prof. Swaroop N. Bora	Some Fascinating Features of Water Wave Propagation and Dissipation: A Mathematical Viewpoint	SRM University	Andhra Pradesh	02/02/2022
30	Prof. Jiten Chandra Kalita	Simulation of Spiral waves in Excitable media	Visvabharati University	Bolpur, West Bengal	15/02/2022
31	Prof. Swaroop N. Bora	A Journey in Quality Research: From Identifying the Problems to Getting Wider Recognition	Vellore Institute of Technology	Vellore	23/02/2022
32	Prof. Siddhartha Pratim Chakrabarty	Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Chennai Mathematical Institute and Indian Statistical Institute	Chennai	04/03/2022
33	Prof. Jiten Chandra Kalita	The world of fractals	Jawahar Navodaya Vidyalaya	Dudhnoi, Assam	12/03/2022
34	Prof. Swaroop N. Bora	Mathematics: Lingua Franca in Science and Engineering	Institute of Advanced Study in Science and Technology	Guwahati	14/03/2022
35	Prof. Rupam Barman	Phanidhar Datta Memorial Lecture titled "Ramanujan and the Partition Function"	Gauhati University	Guwahati	17/03/2022
36	Prof. Rafikul Alam	AICTE sponsored STTP for teachers on Numerical Linear Algebra & Optimization Techniques in Engineering (two lectures)	NIT	Shillong, Meghalaya	15/03/2022 - 16/03/2022
37	Prof. Rajen K Sinha	Local a posteriori error estimates for boundary control problems governed by nonlinear parabolic equations	Utkal University	Bhubaneswar	26/03/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Dr. Tuhina Mukherjee	IIT Jodhpur	Singular double phase Kirchoff problems	18/01/2022
02	Prof. Ken Ono	Thomas Jefferson Professor of Mathematics	Statistical distributions on integer partitions	02/02/2022

		at the University of Virginia		
03	Dr. Mousomi Bhakta	IISER Pune	Lane-Emden equations with Hardy potential and measure data	25/03/2022
04	Dr. Amod Agashe	Florida State University, USA	Stark-Heegner/Darmon points on elliptic curves over number fields	30/03/2022

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
01	Prof. Ashok Singh Sairam	ATAL Academy Faculty Development Programme (Online Mode) On Predictive Modelling Using Data-Science Techniques	AICTE	06/09/2021 - 10/09/2021	National	200
02	Prof. Sukanta Pati	One afternoon Session in ICLAA 15-17 Dec 2021	Manipal University	17/12/2021	International	196

AWARDS AND HONOURS

- Prof. Swaroop N. Bora: Elected as President of Indian Society of Theoretical and Applied Mechanics (ISTAM)

SPECIAL MENTION

Prof. Rajen Kumar Sinha

- Selected as Editorial Board Member of the Journal of the Indian Mathematical Society

Prof. Siddhartha Pratim Chakrabarty

- Election as Fellow: Elected as a Fellow of the Institute of Mathematics and Its Applications, United Kingdom
- Editor of Journal: Joined the Editorial Board of Computational and Mathematical Methods (A Wiley-Hindawi Journal)
- Editor of Journal: Joined the Editorial Board of PLOS ONE
- Editor of Journal: Joined the Editorial Board of Journal of Innovation Sciences and Sustainable Technologies (A Make in India Creation)

Prof. Arabin Kumar Dey

- As part of MedSolu (OPC) Pvt Ltd we launched a Mobile Application, called Connect Medsolu Locally
- Completed New-Gen IEDC project with Fund 2.5 lakhs

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/ Org PhD degree received from	Designation	Areas of Interest
01	R. Alam	IIT Bombay	Professor	Numerical Functional Analysis, Numerical Linear Algebra
02	S. Bandopadhyay	ISI Delhi	Assistant Professor	Linear Algebra, Matrices
03	Rupam Barman	IIT Guwahati	Professor	Number Theory
04	B. Bhattacharjya	IIT Kanpur	Associate Professor	Graph Theory
05	S. Bora	IIT Guwahati	Professor	Numerical Linear Algebra
06	S. N. Bora	Dalhousie University, Canada	Professor	Water Wave Mechanics, River Mechanics, Sloshing Dynamics, Flow through Porous Media, Differential Equation, Fractional Differential Equation
07	S. P. Chakrabarty	University of Illinois at Chicago, USA	Professor	Mathematical Biology, Mathematical Finance
08	A. K. Chakrabarty	IIT Kanpur	Assistant Professor	Functional Analysis
09	Arup Chattopadhyay	JNCASR Bangalore	Assistant Professor	Functional Analysis and Operator Theory
10	D. C. Dalal	IIT Kharagpur	Professor	Computational Fluid Dynamics, Two-phase Flows
11	G. K. Das	ISI Kolkata	Professor	Computational Geometry, Approximation Algorithms, Wireless Networks
12	B. Deka	IIT Guwahati	Professor	Numerical Analysis, Finite Element Method, Interface Problems
13	A. K. Dey	IIT Kanpur	Associate Professor	Distributions models and its applications, Survival Analysis
14	S. Dutta	IIT Kanpur	Assistant Professor	Quantam Computing, Complexity Theory
15	Ayon Ganguly	IIT Kanpur	Assistant Professor	Life Time Data Analysis
16	Palash Ghosh	ISI Kolkata	Assistant Professor	Statistics
17	J. C. Kalita	IIT Guwahati	Professor	Computational and Topological Fluid Dynamics, Numerical methods for Partial Differential Equations, Mathematical Biology
18	S. Kamal	TIFR, Mumbai	Assistant Professor	Probability, Random graphs
19	K. Kapoor	London South Bank University, UK	Professor and Head	Combinatorics, Algorithms

20	K. V. Krishna	IIT Delhi	Professor	General Algebra, Theoretical Computer Science
21	P. A. S. Sree Krishna	SUNY, Buffalo	Assistant Professor	Hyperbolic 3-manifolds, Low-dimensional topology
22	P. Kumar	IIT Kanpur	Associate Professor	Harmonic Analysis
23	P. S. Mandal	Jadavpur University	Professor	Wireless Sensor Networks, Distributed Computing
24	S. Natesan	Bharathidasan University, Thiruchirappalli	Professor	Numerical solution to Differential Equations, Numerical Homogenization
25	Chandan Pal	IIT Bombay	Assistant Professor	Stochastic Control Theory and Mathematical Finance
26	S. Pati	ISI Delhi	Professor	Matrices & Graphs
27	M. G. P. Prasad	IIT Kanpur	Professor	Complex Dynamics and Fractals
28	H. Ramesh	IIT Madras	Assistant Professor	Formal Languages and Automata Theory, Membrane Computing
29	A. Saikia	University of Cambridge, U.K.	Professor	Number Theory
30	Subhamay Saha	IISc Bangalore	Assistant Professor	Probability and Stochastic Process
31	B. K. Sarma	Delhi University	Professor	Spectral Graph Theory, Combinatorial Matrix Theory
32	N. Selvaraju	IIT Madras	Professor	Queueing Theory, Financial Mathematics, Stochastic Modelling, Operations Research
33	R. K. Sinha	IIT Bombay	Professor	Numerical Analysis
34	Ashok Singh Sairam	IIT Guwahati	Professor	Computer Networks and Network Security
35	K. V. Srikanth	SUNY, Buffalo	Assistant Professor	Low Dimensional Topology
36	R. Srivastava	IIT Kanpur	Associate Professor	Harmonic Analysis
37	J. Swain	IIT Madras	Associate Professor	Harmonic Analysis
38	Sweta Tiwari	IIT Delhi	Associate Professor	Differential Equation
39	S. Upadhyay	CMI, Chennai	Assistant Professor	Algebraic Combinatorics
40	V. V. Wagh	University of Pune	Associate Professor	Algebraic Geometry

LABORATORY FACILITIES

Advanced Manufacturing Laboratory: Equipped with advanced equipments for manufacturing including micro-fabrication facility using CO2 Laser cutting technology.

Strength of Materials Laboratory: Basically dedicated for doing all kinds of testing including tensile testing, fatigue testing, compressive testing, torsion testing, hardness testing, impact testing etc.

Materials Science Laboratory: Dedicated for carrying out metallographic studies using highly precise microscope, XRD etc.

Fluid Mechanics Laboratory: This lab has basic fluid mechanics set-up. The lab is equipped with different flow measuring set-ups such as venturimeter, orifice-plate, pitot tube, rotometer etc., where students can visualize the basic theory of working of the flow meter.

Thermal Science Laboratory: This lab consists of heat exchangers, equipments for conducting experiments on conduction, convection and radiation, refrigeration systems etc. All these equipments facilitate learning of basic Thermodynamics and Thermal Engineering at undergraduate level.

Turbo-machinery Laboratory: This lab has different tabletop model of pumps and turbines where students can study the performance characteristics of those machines. Students can strengthen their basic understandings of working and applications of these machines.

IC Engine Laboratory: This lab is for both undergraduates and graduate students. Some of the experiments which are performed by under-graduate students are performance studies of both C.I. and S.I. engines, etc. Moreover, studies on the calorific values, exhaust gas characteristics, extensive studies of bio-diesel with both engines are done by post-graduate students in their respective project works.

Vibrations and Acoustics Laboratory: This lab demonstrates basic vibrational instruments to students at undergraduate level. Also provides facilities for measurement of frequency signals, rpm etc, and facilities for data-acquisition which are very much beneficial for research activities in the domain of vibrational analysis.

Instrumentation and Control Laboratory: This lab performs calibration of pressure transducer/ gauge and other mechatronics apparatus, provides strain-gauge measurement facilities etc.

Theory of Machines Laboratory: This lab consists of all basic equipments for understanding mechanisms, apparatus etc. at undergraduate level such as gyroscope, governor, jib-crane, screw jack, worm-wheel apparatus etc.

Tribology Laboratory: Provides facilities for carrying out wear test of specimens of different materials under the condition of with lubrication/without lubrication.

CAD/CAM Laboratory: Specialized in extending computer-assisted software tools needed for design and analysis such as ABAQUS, ANSYS, Master CAM, Pro/E, ADAMS etc.

3D Printer Laboratory: Provides facilities for 3D printing.

Department Research Laboratories

- Dynamics and Vibration laboratory
- AnuPravaha CFD laboratory
- Biomedical Devices and Biomaterials laboratory
- Biomimetics and Artificial Intelligence Laboratory
- CFD laboratory
- Composite Structures and Fracture Mechanics Lab: Caters to the development of composite laminates and enables NDT through ultrasonic scanning of the composite structures
- Computational Mechanics and Optimization laboratory
- Electromechanics and Microsystems laboratory
- Gas Dynamics laboratory
- Materials and Design in Mechanical Systems & Science and Technology in Traditional Systems
- **Mechatronics and Robotics Laboratory:** The Mechatronics and Robotics Laboratory is equipped with various facilities to educate the students at the undergraduate and postgraduate levels. Most of the robotics activities are facilitated to students by this laboratory
- Micro-machining laboratory
- Microfluidics and Microscale Transport Processes Laboratory
- Miniature Thermal Systems Research Laboratory
- Precision Manufacturing laboratory
- Smart Materials and Structures laboratory
- Thermal Hydraulics and Gasification laboratory
- Welding laboratory
- Wind Tunnel Laboratory: Provides facilities for carrying out wind tunnel related experiments

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- 6-axis Robotic Arm, FANUC
- Hobart Mixer
- Rheonik Mass Flowmeter
- Dual Independent Channel Syringe Pump
- Tower Workstation
- Industrial Robotic System (DOBOT, CR-5)
- Shaker Incubator
- Mini-CTA
- 2D PIV system

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Fluids and Thermal Engineering

- Computational Methods for Incompressible Flows
- DNS and LES of Turbulence
- Energy management and conservation
- High speed aerodynamics

- Interfacial heat and mass transport
- Metal hydride based thermal machines
- Micro and nano-scale thermal/fluid transport
- Micro-fuel cells
- Thermal aspects of biological systems
- Thermal radiation

Machine Design Engineering

- Acoustics
- Active Materials
- Composites.
- Dynamics and Vibrations.
- Finite Element Method and Analysis
- Fracture Mechanics and Design.
- Mechatronics
- Robotics and Control
- Micromechanics
- Nanocomposites
- Rolling Element Bearings Design and Analysis
- Smart Structures
- Tribology

Manufacturing Engineering

- Bio-MEMS
- Casting
- CAD/CAM/CIM
- Coating
- Composites
- Computer Application in Metal Forming
- Design and Manufacturing
- Electromagnetic pulse processing
- FEM, Neural Network
- Fuzzy Set Application
- Genetic Algorithms and Fuzzy logic in manufacturing
- Mechatronics
- Metal Forming
- Unconventional machining processes
- Welding of light weight metals
- Welding Process Monitoring and Control

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- Prof. Biranchi Panda and his team developed 3D Printing Technology which can cut concrete use by 75 %. This received special attention of the media (see here - <https://www.indiatoday.in/amp/education-today/news/story/iit-guwahati-develops-3d-printing-technology-that-can-cut-concrete-use-by-75-1903906-2022-01-24>)

Details: The IIT Guwahati researchers utilised a specially-developed printable concrete containing industrial waste as binders to manufacture 3D printed furniture. The manufactured piece had a height of 0.4 m, a width of 0.4 m, and an arch-shaped support that was modelled

and sliced using SolidWorks and Simplify3D, respectively. Each layer had a 10 mm height, and the complete unit was printed layer by layer at an 80 mm/s pace. Before being utilised, the unit was wrapped in wet gunny bags for 7 days to cure after printing. The concrete printer was jointly developed by IIT Guwahati and Deltasys E Forming and can print components up to 1 m long, 1 m wide and 1 m tall. It may also be noted that the Department of Science and Technology (DST), India is funding the developments related to process automation and advanced print head design in the PI team

- Scientists of the College of Veterinary Science, Khanapara under the Assam Agricultural University in collaboration with IIT, Guwahati have developed a device named piggy flask which will help farmers engaged in pig husbandry to boost pig production. Prof. Kanagaraj was the collaborator from IIT Guwahati. Details may be found here (<https://thehillstimes.in/assam/aau-scientists-develop-pig-flask-to-boost-pig-production?amp=1>)
- Prof. Muthukumar and his team developed a novel burner provides fuel saving in the range of 25 per cent to 50 per cent and can be operated with LPG, biogas and kerosene stoves. Details may be found here “<https://energy.economictimes.indiatimes.com/news/power/innovation-iit-guwahati-transfers-to-industry-partner-energy-efficient-cookstoves-technology/87216668>”. One technology in this regard has been transferred by Prof. Muthukumar to Industry –Highly efficient and less polluting Porous Radiant Burners for LPG, PNG, CNG, Bio-gas, Methanol and Ethanol fuels used for both cooking and Industrial applications to M/S TEJAL BURNERS INDIA Pvt Ltd., D. No. 12, PEELAMEDU INDUSTRIAL ESTATE, THANEERPANDAL, COIMBATORE -641004 (10 Dec 2021)

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Uday S. Dixit	Introduction to Numerical Techniques in Mechanical Engineering	NIT Manipur	Manipur	17/03/2021
2	Uday S. Dixit	Mechatronics Education on online FDP on “Model Curriculum	NIT MIZORAM	Mizoram	19/03/2021
3	Uday S. Dixit	Evolution of Mechanical Engineering	Indira Gandhi Institute of Technology (IGIT), Sarang, Odisha	Odisha	27/03/2021-28/03/2021
4	Uday S. Dixit	Sterilization Box	IIT Guwahati	IIT Guwahati	11/05/2021
5	Uday S. Dixit	Modelling and Simulation of Manufacturing Processes	SVNIT, Surat, India	Surat	10/06/2021
6	Uday S. Dixit	Estimation of parameters in laser-based materials processing through inverse modelling	IIT Indore	Indore	14/06/2021
7	Uday S. Dixit	Additive Manufacturing: Past, Present and Future	IIT Kanpur	Kanpur	16/07/2021 - 20/07/2021

8	Uday S. Dixit	Vedantu in "Technothlon, IIT Guwahati	IIT Guwahati	Guwahati	03/08/2021
9	Uday S. Dixit	Machine Learning in Machining and Metal Forming	NIT Patna	Patna	06/08/2021
10	Uday S. Dixit	Sustainability issues in 3D Printing	Institute of Engineering & Management, Kolkata	Kolkata	12/08/2021
11	Uday S. Dixit	Past, present and future of 3D Printing	NIT Srinagar	Srinagar	26/08/2021
12	Uday S. Dixit	Indian Knowledge Systems	IIT Guwhati	Guwahati	09/09/2021
13	Uday S. Dixit	Lecture on Hindi Diwas	Assam Science and Technology University	Guwahati	14/09/2021
14	Uday S. Dixit	Lecture on Hindi Diwas	NIT Manipur	Manipur	14/09/2021
15	Uday S. Dixit	Lecture on the importance of Hindi	SAMEER, IIT Guwahati	Guwahati	21/09/2021
16	Uday S. Dixit	Environmentally Friendly Machining	NIT Patna	Patna	20/09/2021 - 24/09/2021
17	Uday S. Dixit	NEP2020	NIT Silchar	Silchar	27/11/2021
18	Uday S. Dixit	Research Publications: Facilitator and Indicator of Research" in a STC "TAPAS - Purposeful Research Methodology (PRM)	IIT Guwhati	Guwahati	19/12/2021
19	Amaresh Dalal	Migration of Hydrogel Drug Carriers Through Narrow Passages and Flow Dynamics of Cancer Cells Through Constricted Microchannels	NIT Rourkela	Rourkela	15/10/2021
20	Pranab Kumar Mondal	Dynamics of Magnetic-fluid Droplet in Lab-on-a-Chip Devices: The Role of External Field and Surface wettability	Technical University Darmstadt, Germany	Germany	19/11/2021
21	R. K. Mittal	Development of High-Speed Micromachining Center	IITRAM, Ahmedabad, Gujarat,	Ahmedabad	16/12/2021
22	R. K. Mittal	STI ecosystem towards Atmanirbhar Bharat: Human Capacity Development	Dept. of Science and Technology, Govt. of India, NASTEC, Nagaland	NASTEC NAGALAND	22/10/2021
23	Sajan Kapil	Introduction to Robotics for 3D Printing	Delhi Technical University	Delhi	12/03/2021
24	Sajan Kapil	Omnidirectionality in Additive Manufacturing Systems	NSS College of Engineering	Palakkad	13/03/2021

25	Sajan Kapil	Omnidirectionality in Additive Manufacturing Systems	Jawaharlal Nehru Technological University	Kakinada	02/04/2021
26	Sajan Kapil	Mechanisms for Powder Feedstock Handling in Directed Energy Deposition	Jodhpur Institute Of Engineering & Technology	Jodhpur	26/04/2021
27	Sajan Kapil	Updating the mechanical engineering pedagogy using new technologies – IITG experiences	Wipro3D, Siddaganga Institute of Technology	Tumkur	05/05/2021
28	Sajan Kapil	Toolpath Planning for Additive Manufacturing	Amity University	Kolkata	25/05/2021
29	Sajan Kapil	Computer Assisted Teaching and Learning in Manufacturing and Kinematics of Machinery	Wipro 3D Addwize Program	Pune	29/05/2021
30	Sajan Kapil	Powder Handling Systems for Directed Energy Deposition Process	IIT Hyderabad	Hyderabad	21/06/2021
31	Sajan Kapil	Omnidirectionality in Additive Manufacturing Systems	IIT Hyderabad	Hyderabad	22/06/2021
32	Sajan Kapil	Effective Online Laboratory Teaching – IITG MED Experiences	IIT Kharagpur	Kharagpur	10/07/2021
33	Sajan Kapil	Omnidirectionality in Additive Manufacturing Systems	College of Engineering Pune	Pune	07/08/2021
34	Sajan Kapil	Introduction to Additive Manufacturing	Aliah University, Kolkata	Kolkata	12/08/2021
35	Sajan Kapil	Powder Handling Systems for Metal Additive Manufacturing	College of Engineering Pune	Pune	16/08/2021
36	Sajan Kapil	Omnidirectionality in Additive Manufacturing Systems	NIT Srinagar	Srinagar	25/08/2021
37	Sajan Kapil	STL Graphics	C-DAC Hyderabad	Hyderabad	15/09/2021
38	Sajan Kapil	Omni-Directionality in AM	C-DAC Hyderabad	Hyderabad	15/09/2021
39	Sajan Kapil	Powder Handling Systems for Directed Energy Deposition Process	Sardar Patel College of Engineering, Mumbai	Mumbai	24/09/2021
40	Sajan Kapil	Fundamentals of Wire Arc Additive Manufacturing	Wipro3D	Pune	10/10/2021
41	Sajan Kapil	Additive Manufacturing Technologies	Jawaharlal Nehru Technological University	Hyderabad	26/10/ 2021
42	Sajan Kapil	CAD/CAM for Additive Technologies	Jawaharlal Nehru Technological University	Hyderabad	27/10/2021
43	Sajan Kapil	CAD models for Additive Manufacturing	MBM Engineering College Jodhpur	Jodhpur	28/10/2021

44	Sajan Kapil	Utilization of open-source software for effective teaching of Computer-Aided Design (CAD): Demonstration & hands-on training	Nowgong Polytechnic	Nagaon, Assam	21/12/2021
45	Sajan Kapil	Effective Online Laboratory Teaching and DIY Experiments: Case - Studies	Nowgong Polytechnic	Nagaon Assam	22/12/2021
46	Sajan Kapil	CAPP for Additive Manufacturing	SOS Engg.& Technology Bilaspur	Bilaspur	18/01/2022
47	Sajan Kapil	Rapid manufacturing of biomedical devices: process alternatives, selection and planning	IIT Guwahati	Guwahati	15/07/2021
48	Sajan Kapil	Fundamentals of Wire Arc Additive Manufacturing	Chennai Institute of Technology	Chennai	21/02/2022
49	Sajan Kapil	Effect of Part Orientation on Strength	IIITDM Kancheepuram	Kancheepuram	22/02/2022
50	Sajan Kapil	Tool Path Planning for 5 Axis CNC Machines	NIT Shrinagar	Shrinagar	08/03/2022
51	Deepak Sharma	Introduction to Optimization and Evolutionary Computation	Department of Automobile Engineering, PSG College of Technology,	Coimbatore, Tamil Nadu	21/04/2021
52	Deepak Sharma	Differential Evolution for Real Parameter Optimization: DE	Department of Automobile Engineering, PSG College of Technology,	Coimbatore, Tamil Nadu	21/04/2021
53	Deepak Sharma	Industry 4.0: Introduction, Key Technologies and Case Studies	Automobile Engineering Department, Government College of Engineering and Research	Pune	07/05/2021
54	Deepak Sharma	Industry 4.0: An Introduction	Mechanical Engineering Department, G H Rasoni University	Saikheda, Madhya Pradesh	July 13 2021
55	Deepak Sharma	Introduction to Evolutionary Computation	North Eastern Regional Institute of Science and Technology (NERIST)	Itanagar	15/07/2021
56	Deepak Sharma	Particle Swarm Optimization: Concept, Theory, and Simulations	North Eastern Regional Institute of Science and Technology (NERIST)	Itanagar	16/07/2021

57	Deepak Sharma	Multi-Objective Evolutionary Algorithm: NSGA-II	North Eastern Regional Institute of Science and Technology (NERIST)	Itanagar	16/07/2021
58	Deepak Sharma	Data-Drive Smart Manufacturing	North Eastern Regional Institute of Science and Technology (NERIST)	Itanagar	15/07/2021
59	Arup Nandy	Electromagnetic Crimping to Produce tube-to-tube Joint in Annual Research Symposium	IISc Bangalore	Bangalore, India	30/07/2021
60	S. Senthilvelan	Challenges: Polymer Product Design and Manufacturing and Performance	CIPET Chennai	Online Mode	11/03/2022
61	S. Senthilvelan	Designing with Plastics	Indian Naval Academy (INA), Ezhimala	Online Mode	27/09/2021
62	S. Senthilvelan	TRIZ: Theory of Inventive Problem Solving	Indian Naval Academy (INA), Ezhimala	Online Mode	30/07/2021
63	S. Senthilvelan	Thermoplastic Gear	Thiagarajar College of Engineering, Madurai	Online Mode	06/12/2021
64	S. Senthilvelan	Wear Failure	Kalyani Centre for Technology & Innovation R&D of Bharat Forge	Pune	16/03/2022
65	Pranab Kumar Mondal	Art of Fluid Mechanics at Microfluidic Scale: The Role of Internal Energy	Energy Systems, Drives and Automations - Proceedings of ESDA 2021	Kolkata	30/01/2022
66	Sachin S. Gautam	Application of Machine Learning in Missile Structural Design	DRDL	Hyderabad	26.10.2021
67	Sachin S. Gautam	Introduction to Nonlinear Finite Element Analysis	FEM and Modal Analysis in Engineering (FEMMAE-22), NIT Jalandhar	Jalandhar	12.03.2022
68	Shyamanta M. Hazarika	Motor Imagery Induced Mental Fatigue: Towards an Adaptive Brain Machine Interface	Indian Academy of Neurosciences (IAN) Society Meeting	IISER Kolkata	16/12/2021
69	Prasenjit Khanikar	3D-Printed Microlattice Architecture having Tuneable Mechanical Properties	Indian Institute of Technology Delhi	Online Mode	21/07/2021
70	Prasenjit Khanikar	3D-Printed Microlattice Architecture having	Indrashil University, Gujarat	Online Mode	08/01/2022

		Tuneable Mechanical Properties			
71	Prasenjit Khanikar	3D-Printed Cellular Metamaterial and its Application in Bone Implant	Vasavi College of Engineering, Hyderabad	Online Mode	31/01/2022
72	Nelson Muthu	Irwin's Plastic Zone Correction, Dugdale Model and R-Curve	VJTI Mumbai	Online Mode	05/07/2021 - 09/07/2021
73	Nelson Muthu	Applications of Modern Manufacturing in Biomedical Engineering	Karunya University	Online Mode	03/08/2021 - 07/08/2021
74	Nelson Muthu	Applications of Modern Manufacturing in Biomedical Engineering	Easwari Engineering College	Online Mode	27/09/2021- 08 /10/2021
75	Nelson Muthu	Engineering Drawing and 3D printing	Nowgong Polytechnic	Online Mode	21/12/2021 - 28/12/2021
76	Nelson Muthu	Biomedical Innovation	Nowgong Polytechnic	Online Mode	21/12/2021 - 28/12/2021
77	P. Muthukumar	Green energy Technologies	NIT Trichy	Online Mode	20/08/2021
78	P. Muthukumar	Desing and testing of large scale hydrogen storage systems	NTPC	Online Mode	18/12/2022
79	P. Muthukumar	Sustainable energy solution	Honeywell	Online Mode	08/01/2022
80	P. Muthukumar	Energy efficient and environment friendly Porous Radiant Burners	Kongu Engg colelge	Perundurai	29/12/2021
81	P. Muthukumar	Porous Radiant Burners for cooking and industrial applications	Oddisiya	Coimbatoure	30/12/2021
82	P. Muthukumar	Sustainable Solution in Refrigeration and Airconditioning	ISHRAE Guwahati	Guwahati	12/03/2022
83	P. Muthukumar	Energy efficient and environment friendly Porous Radiant Burners	1st International Conference on Emerging Trends in Science and Technology (ICETST-2022)	online Mode	30/03/2022
84	R. Ganesh Narayanan	Forming and joining of adhesive bonded sheets and sandwich sheets	Department of Mechanical Engineering, DAVIET Jalandhar.	online Mode	07/06/2021 - 12/06/2021
85	R. Ganesh Narayanan	Fabrication of tailor-made metallic structures for lightweight applications and deformation behavior	The Indian Institute of Welding, Chennai branch	online Mode	23/07/2021 - 24/07/2021
86	R. Ganesh Narayanan	Tailor-made sheets for lightweight applications	Department of Mechanical Engineering, Ajay	online Mode	04/10/2021 - 08/10/2021

			Kumar Garg Engineering College, Ghaziabad.		
87	R. Ganesh Narayanan	Microforming of sheets	Department of Mechanical Engineering, School of Studies of Engineering and Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur.	online Mode	17/01/2021 - 21/01/2022
88	M. Pandey	Liquid-vapor Phase-change Phenomena in Miniature Devices	Space Society of Mechanical Engineers, ISRO	Ahmedabad	05/01/2022
89	Niranjan Sahoo	Compressible Flow – Theory and Experimental Facilities	AICTE Faculty Development Programme (FDP) on Experimental and Computational Methods in Fluid Flow and Heat Transfer in Engineering Applications, National Institute of Technology Manipur	online Mode	15/02/2021 - 19/01/2021
90	Niranjan Sahoo	Review of Compressible Flow Theory, TEQIP III Short Term Course (STC) on Aerospace Technology – Theory and Practice	TEQIP III Short Term Course (STC) on Aerospace Technology – Theory and Practice, Department of Mechanical Engineering, Indian Institute of Technology Guwahati	online Mode	17/02/2021 - 21/02/2021
91	Niranjan Sahoo	Experimental Facilities and Measurement Diagnostics for Compressible Flow	TEQIP III Short Term Course (STC) on Aerospace Technology – Theory and Practice, Department of Mechanical Engineering, Indian Institute of Technology Guwahati	online Mode	17/02/2022 - 21/02/2022
92	Niranjan Sahoo	Fundamental Aspects of Combustion and Fuels	TEQIP III Short Term Course (STC) on Aerospace Technology – Theory	online Mode	22/02/2021 - 26/02/2021

			and Practice, Department of Mechanical Engineering, Indian Institute of Technology Guwahati		
93	Niranjan Sahoo	Study of Alternative Fuels Towards Emission Reduction in Internal Combustion Engines	TEQIP III Short Term Course (STC) on Combustion, Emission and Power Technology, Centre for Energy, Indian Institute of Technology Guwahati	online Mode	22/02/2021 - 26/02/2021
94	Niranjan Sahoo	Thermal Measurement Diagnostics of Internal Combustion Engines and Aero Engines	TEQIP III Short Term Course (STC) on Combustion, Emission and Power Technology, Centre for Energy, Indian Institute of Technology Guwahati	online Mode	22/02/2021 - 26/02/2021
95	Niranjan Sahoo	High velocity forming behavior of metallic sheets through impact loading using a shock tube	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and Department of Mechanical Engineering Indian Institute of Technology Guwahati	online Mode	10/01/2022 - 19/01/2022
96	Niranjan Sahoo	Forming behavior of sheet materials under gas loading in a shock tube	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and Department of Mechanical Engineering Indian Institute of Technology Guwahati	online Mode	10/01/2022 - 19/01/2022

97	Niranjan Sahoo	Introduction to shock tube and its application for impulsive loading	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and Department of Mechanical Engineering Indian Institute of Technology Guwahati	online Mode	10/01/2022 - 19/01/2022
98	Niranjan Sahoo	Principles of wave propagation	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and Department of Mechanical Engineering Indian Institute of Technology Guwahati	online Mode	10/01/2022 - 19/01/2022
99	Niranjan Sahoo	Introduction to high speed flow diagnostics	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and Department of Mechanical Engineering Indian Institute of Technology Guwahati	online Mode	10/01/2022 - 19/01/2022
100	Niranjan Sahoo	Mechanical characterization techniques under different strain rate regime	GIAN Course on Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies, Centre for Educational Technology and	online Mode	10/01/2022 - 19/01/2022

			Department of Mechanical Engineering Indian Institute of Technology Guwahati		
101	Niranjana Sahoo	Shock tube as an impulsive device for multidisciplinary research	Joint Degree Satellite Symposium (Gifu University Kebangsaan Malaysia (UKM) and IITG)	online Mode	30/03/2022
102	B. Sandeep Reddy	Novel grippers for pipe climbing Robots	Mechatronics & MEMS	Online Mode	09/07/2022
103	Pankaj Biswas	Advancement in Friction Stir Welding	ATAL FDP on Advancement in Manufacturing Technology,	Guru, Ghasidas V.V., Koni, Bilaspur(C.G.),	17/01/2022 - 21/01/2022
104	Pankaj Biswas	3D-Thermo-mechanical analysis of Additive Manufacturing Process	ATAL FDP on Advancement in Manufacturing Technology	Guru, Ghasidas V.V., Koni, Bilaspur(C.G.),	17/01/2022 - 21/01/2022
105	Pankaj Biswas	Advances in Friction Stir Welding-A Green Technology	ATAL Faculty Development Program on "Green Technology: Applications in Manufacturing" sponsored by AICTE Training and Learning (ATAL) Academy" to be held at	National Institute of Technology Patna	20/09/2021 - 24/09/2021
106	Pankaj Biswas	Some Advanced Research and Development on Welding Technology	Seminar NSWEST 2021 on "Welding Science and Technology- Present Status and Future Direction", during 23rd - 24th July 2021,	IGCAR, Kalpakam	24/07/2021
107	Pankaj Biswas	Thermo-mechanical Analysis of Fusion Welding Process	Faculty Development Program on Simulation of Welds and Optimization Techniques (SWOT' 21) Talk Date		12/07/2021

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
01	Uday S. Dixit and Biranchi Panda	Fundamentals and Applications of Engineering Dynamics	TEQIP	05/03/2021 - 07/03/2021		
02	Prof Uday S. Dixit	Spoken Assamese	CIKS	10/12/2021 - 19/12/2021		
03	Amaresh Dalal and Partha P. Mukherjee (Purdue University)	Modeling and Simulation in Energy Storage	GIAN, Ministry of Education	03/01/2022 - 09/01/2022	International	90
04	Sajan Kapil	NPTEL Course on Fundamentals of Additive Manufacturing	NPTEL-MOOCs	26/07/2021 - 24/10/2021	International	2253
05	Sajan Kapil	Challenges and opportunities In underwater technologies	TIH - IIT Guwahati	Aug 30 - 31 2021	National	50
06	Sachin Singh Gautam	NPTEL Course on Computational Continuum Mechanics	NPTEL-MOOCs	26/07/2021 - 24/10/2021	International	430
07	Muthukumar P.	7th National and 1st International Conference on Refrigeration and Air Conditioning (NCRAC 2022)	Nil	24/02/2022 - 26/02/2022	International	370
08	S. Kanagaraj	3D Printing Techniques and their Applications in Biomedical Devices	NECBH	15-07-2021	National	45
09	Ujjwal K. Saha and Niranjana Sahoo	Aerospace Technology: Theory and Practice	TEQIP III	17-21 February 2021	National	
10	Niranjana Sahoo and Pankaj Kalita	Combustion, Emission and Power Technology	TEQIP III	22-26 February 2021	National	
11	Niranjana Sahoo and Pranab K. Mandal	NPTEL Course on Applied Thermodynamics (UG)	NPTEL-MOOCs	26 July - 24 October 2021	National	2707
12	Niranjana Sahoo	NPTEL Course on Fundamentals of Compressible Flow (PG)	NPTEL-MOOCs	26 July - 24 October 2021	National	339
13	Niranjana Sahoo, Prasenjit Khanikar and Prof. A. M. Rajendran (University of Mississippi, USA)	Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies	GIAN, Ministry of Education	10-19 January 2022	International	57

PATENTS

No. of Patents Applied: 21

No. of Patents Granted: 00

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Sudip Shyam, Dhruv Wankawala, Pranab Kumar Mondal	A Passive droplet formation and splitting microfluidic device for symmetric or asymmetric droplet generation and a process thereof.	15/02/2022	202231008005	
2	Ritam Sarma, Sajan Kapil and S. N. Joshi	Systems and Methods For a Width-Independent Toolpath	27/05/2021	202131023533	
3	Atul Singh Rajput, Sajan Kapil, and Manas Das	An Apparatus for Enabling Magnetorheological Fluid Assisted Finishing (Mfaf) Process	27/10/2021	202131048986	
4	Atul Singh Rajput, Ambrish Singh, Sajan Kapil, and Manas Das	Method and Apparatus for Magnetorheological Fluid-Assisted Finishing (MFAF) of Cemented Carbide Based Cutting Tools	09/02/2022	202231006807	
5	Ritam Sarma, Atul Singh Rajput, Sajan Kapil, Manas Das	A System and Method for Fabricating Density-Based FGM using H-WAAM	16/03/2022	202231014151	
6	Yengala Sasibhushan, Nelson Muthu, Subramani Kanagaraj	A Versatile Standing Cum Sitting Device For Rehabilitation And Standing Aid For Paraplegic Patients	25/06/2021	202131028647	
7	Muthukumar P., Sunita Deb	Self-aspirated clustered porous radiant burner stove for clean and efficient large-scale commercial cooking applications,	Published on 12/11/2021.	202131040236	
8	Muthukumar P., Pratibha Maurya	Self-Aspirated Pressurized Methanol Cookstove with a Porous Radiant Burner	Published 10/12/2021	202131051305	
9	Muthukumar P., Alok Kumar	System and Process for hydrogen Separation through Metal Hydride reactors,	Published on 21/01/2022	202131059468	
10	A. Mishra, S. K. Biswal, Sukhomay Pal, S. Bag	Method and apparatus for high frequency induction welding	29/8/2021	202131039107	

11	S. K. Biswal, Sukhomay Pal	High frequency induction coil	07/07/2021	345878-001	
12	S. K. Biswal, V. Haldar, Sukhomay Pal	Portable forming setup	25/9/2021	350154-001	
13	A. Mishra, S. K. Biswal, Sukhomay Pal, S. Bag	Manual high frequency induction welding machine	25/9/2021	350155-001	
14	Ashirbad Jana, S. Senthilvelan and S. Kanagaraj	A novel processing technique for the development of machining free acetabular cup from ultra-high molecular weight polyethylene powder to be used in total hip replacement surgeries	Granted 21-10-2021	379704	
15	Murali Krishna V., Kishore Kumar Padi, Akash Handique, Ganesh Narayan, Subramani Kanagaraj	Suture mediated closure device	29/06/2021 (Applied)	202131029072	
16	Aparna Zagabathuni, Ragdeep Raj, and Subramani Kanagaraj	A self-powered straight cochlea basilar membrane set to replace the function of damaged inner ear	14/07/2021 (Applied)	202131031545	
17	P. Kishore Kumar, Arnob Dutta, Aparna Zagabathuni and Subramani Kanagaraj	Multi-Phase Auxetic Metamaterial Composite	03/12/2021 (Applied)	202131056082	
18	Manjesh Kumar and Manas Das	An arrangement for polishing poppet valve by magnetorheological fluid-based finishing process	26/03/2021	202131013271	
19	Manjesh Kumar, Anwesa Barman and Manas Das	An arrangement for uniform polishing of narrow complex profiles of miniature gear	28/10/2021	202131049403	
20	Anwesa Barman, Manjesh Kumar, Manas Das	An unique arrangement for uniform magnetorheological polishing of freeform curved surfaces of knee implant	31/08/2021	202131039307	
21	Abhinav Kumar, Manas Das	A system for electropolishing of dynamically tuned gyroscope		202131053833	

AWARDS AND HONOURS

- Prof. Uday S. Dixit: Received the Best Teacher Award by the Department for Teaching Continuum Mechanics, IIT Guwahati
- Dr. Pranab Kumar Mondal: Top cited article at The Canadian Journal of Chemical Engineering.
- Dr. Pranab Kumar Mondal: Top cited article at Electrophoresis
- Prof. P. Muthukumar: Received the Outstanding Engineering Service Award from Institution of Engineers (India) for Contributions to the country's science and technology.
- Prof. P. Muthukumar: Received Abdul Kalam Technology Innovation National Fellowship 2021 from Indian National Academy of Engineering
- Prof. P. Muthukumar: Received the BIRAC-Innovation Challenge Award-SoCH Stage –1 from Department of Biotechnology, Govt. of India
- Prof. P. Muthukumar: BIRAC-Innovation Challenge Award-SoCH Stage –2 from Department of Biotechnology, Govt. of India
- S. Kanagaraj: Invited as a member of Technical Expert Committee in the area of Medical Biotechnology-I (Biomedical Engineering and Bio-design), NER-DBT, Department of Biotechnology, Govt. of India
- S. Kanagaraj: Invited as a member of Technical Expert Committee on Biomedical Engineering and Bio-Design (Devices, diagnostics and implants), Department of Biotechnology, Govt. of India
- S. Kanagaraj: Invited as Guest faculty at NIPER-Guwahati
- S. Kanagaraj: Invited as Expert, Faculty selection NIPER Guwahati
- S. Kanagaraj: Invited as Expert, Faculty selection NIPER Kolkata
- S. Kanagaraj: Invited as Chairman, Early Translation Accelerator (ETA) Expert Committee - BIRAC-BETiC
- S. Kanagaraj: Invited as Member of the Screening Committee for “SERB-SUPRA” - (Scientific and Useful Profound Research Advancement), DST

STUDENTS' ACHIEVEMENTS

- Rahul Meel: Received Samsung Fellowship from Samsung India Electronics Limited
- Ambrish Singh: Third place in the verbal presentation category at University of Waterloo, Canada in Online Mode
- Dr. Harshad Sanjay: Received the Humboldt Post Doctoral Fellowship from Humboldt Foundation
- Dhiraj S. Bombarde: Received the Best Paper Award from Alvas Institute of Engineering & Technology
- J. Sunku Prasad (Prof Muthukumar): Received the Best Paper Award at NCRAC 2022
- Abhishek Parida (Prof Muthukumar): Received PMRS Doctoral Fellowship from MHRD
- Tat Suraj Arun (Prof Muthukumar): Received the Mitacs Gobalink Research Award from Simon Fraser University, Canada
- Arnob Dutta, Kishore Kumar Padi and Z. Aparna: Selected for Tata steel-MaterialNext Program, 2021
- Ashirbad Jana: Received the Best Presentation Award at India International Science Festival IISF
- Arnab Sarmah: Received 1st Prize in Oral presentation-Scientifique at Research and Industrial conclave 2022, IIT Guwahati

SPECIAL MENTION

- Fundamentals of Additive Manufacturing Technologies (UG/PG) – NPTEL course was floated by Dr. Sajan Kapil
- Dr. Sajan Kapil was a Visiting Faculty in the School of Mechanical and Materials Engineering, USA: Washington State University, Pullman from 05/10/2021 to 31/12/2021. A WAAM system for the research group of Prof. Amit, was developed

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	Swarup Bag	IIT Bombay	Associate Professor	Fusion welding processes, Finite element method, Laser micro joining, Heat transfer and fluid flow in fusion welding, Residual stress and distortion, Recrystallization in hot metal forming process, Optimization in manufacturing process
2	Dibakar Bandopadhyaya	IIT Kanpur	Associate Professor	Active materials, Artificial muscle materials, Smart structures, Robotics and mechanism, Composites, MEMS, Bio inspired design
3	Atanu Banerjee	IIT Kanpur	Associate Professor	Compliant Mechanism, Shape memory alloy, Bio-mimetic devices
4	Sandeep Reddy Basireddy	IISc Bangalore	Assistant Professor	Nonlinear Dynamics of Mechanical Systems, Robotics and Control, Applied Dynamics
5	Dipankar Narayan Basu	IIT Kharagpur	Associate Professor	Nuclear Thermalhydraulics, Supercritical Natural Circulation Loops, Domestic Air-conditioning, Computational Fluid Dynamics and Heat Transfer
6	Pankaj Biswas	IIT Kharagpur	Associate Professor	Manufacturing and Design: Computational weld mechanics, Solid state welding, Soft computing modeling of welding processes, FEM, Line heating
7	Debabrata Chakraborty	IIT Kharagpur	Professor	FRP, Composites, FEM, Fracture Mechanics and Design
8	Amaresh Dalal	IIT Kanpur	Associate Professor	Computational Fluid Dynamics, Heat Transfer, Structured Grid Techniques in Curvilinear Coordinates, Finite Volume Methods and Unstructured Grid Techniques, Natural and Mixed Convection Flows, Electrochemical Energy Conversion and Storage
9	Manas Das	IIT Kanpur	Associate Professor	Advanced Finishing and Nano-finishing Processes, Non-traditional Machining Processes, Machining of Advanced

				Engineering Materials, Micromanufacturing, Micromachining, Tribology, Laser Welding
10	Anoop K. Dass	IISc Bangalore	Professor	Computational Fluid Dynamics and Turbomachines
11	Arnab Kumar De	IIT Kanpur	Associate Professor	Numerical Methods in Fluid Flow and Heat Transfer, Convection, Turbulence
12	Uday S. Dixit	IIT Kanpur	Professor	Design and Manufacturing : FEM, Neural Network and Fuzzy Set Application; Mechatronics
13	Santosha K. Dwivedy	IIT Kharagpur	Professor & HOD	Non-linear Dynamics, Design and Robotics, vibrations
14	Sachin S. Gautam	IIT Kanpur	Assistant Professor	Design and Manufacturing : Nonlinear Finite Element Analysis, Computational Contact Impact Analysis, Adhesion, Rough Surfaces, Time Integration Schemes, Mixed Time Integration Schemes, Plasticity, Ductile Fracture, Continuum Damage Mechanics
15	Shyamanta M. Hazarika	University of Leeds, England	Professor	Robotics, Cognitive Systems, Knowledge Representation and Reasoning
16	Shrikrishna N. Joshi	IIT Bombay	Associate Professor	Micro fabrication: Laser micro forming, Micro machining: Micro electric discharge machining (EDM), Web based manufacturing, Process modeling and optimization of advanced manufacturing processes, Application of soft computing techniques in manufacturing
17	Sashindra K. Kakoty	IIT Kharagpur	Professor & Dean, Infrastructure, Planning and Management	Tribology, Duct Acoustics, Mechanical System Design, Rural Technology
18	Karuna Kalita	University of Nottingham	Associate Professor	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
19	S. Kanagaraj	IIT Kharagpur	Professor	Biomaterials, Carbon nanotubes based nanocomposites, Nanofluids, Materials characterization
20	Sajan Kapil	IIT Bombay	Assistant Professor	Rapid Manufacturing (3D Printing), Welding/Cladding Processes, CNC, Manufacturing Automation
21	Prasenjit Khanikar	North Carolina State University	Assistant Professor	Microstructural Materials Modeling, Micro-mechanics, Dislocation Density Based Crystal Plasticity, Deformation and Failure Mechanisms of Metallic Materials, Finite Element Method, Dynamic Behavior of Materials, Fracture Mechanics, Aluminum Alloys, Microstructural Characterization

22	Vinayak Kulkarni	IISc Bangalore	Associate Professor	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
23	Bhaskar Kumar	IIT Kanpur	Assistant Professor	Hydrodynamic Stability, Bluff Body Flows, Computational Fluid Dynamics
24	Poonam Kumari	IIT Delhi	Associate Professor	Theory of plates and shells, Computational mechanics, Smart structures
25	Gavara Madhusudhana	IISc Bangalore	Assistant Professor	Computational Fluid Dynamics, Heat Transfer, Cooling of Electronics, Multi-phase flows, Cooling at Micro/Mini scales, Turbulent Fluid Flow and Heat transfer
26	Pinakeswar Mahanta	IIT Guwahati	Professor	Thermal Radiation with Participating Media, Fluidization, Energy Conservation and Renewable Energy
27	Shubhadeep Mandal	IIT Kharagpur	Assistant Professor	Microswimmers, Complex Fluids, Droplet Microfluidics, Electrohydrodynamics
28	Tapan Krishnakumar Mankodi	IIT Bombay	Assistant Professor	Rarefied Gas Dynamics, Computational Gas Dynamics, Hypersonic Aerothermodynamics, Non-equilibrium Flows, Galerkin Methods
29	Rinku Kumar Mittal	IIT Bombay	Assistant Professor	Machining Dynamics: Chatter Free Machining
30	Satish Kumar Panda	National University of Singapore (NUS), Singapore	Assistant Professor	Artificial Intelligence in Healthcare, Medical Image Processing, Diagnosis, Ophthalmology, Biomechanics, and Finite Element Analysis
31	Pranab Kumar Mondal	IIT Kharagpur	Assistant Professor	Microfluidics, Electrokinetics, Two Phase Transport, Microscale Transport of Heat, Flow Through Porous Media.
32	K. S. R. Krishna Murthy	IIT Kharagpur	Professor	Finite Element Methods, Error Estimation and Fracture Mechanics
33	Nelson Muthu	IIT Bombay and Monash University	Assistant Professor	Meshfree Methods, FEM, Fracture Mechanics, Composites, Structural Health Monitoring, Medical Device Innovation
34	P. Muthukumar	IIT Madras	Professor	Coupled heat and mass transfer analysis; Metal hydride based thermal machines, Conventional and Non-conventional refrigeration systems
35	Arup Nandy	IISc Bangalore	Assistant Professor	Finite Element Development and Analysis in Structure, Acoustics, Electromagnetics, Structural acoustic interaction, Magnetohydrodynamics, MEMS; Optimization
36	Ganesh R. Narayanan	IIT Bombay	Associate Professor	Material Forming and Joining
37	Sukhomay Pal	IIT Kharagpur	Associate Professor	Welding Process Monitoring and Control, Tool Condition Monitoring, Non-Conventional Machining Process Application of Artificial Neural Network,

				Genetic Algorithms and Fuzzy logic in manufacturing
38	Biranchi Panda	NTU Singapore	Assistant Professor	Advanced manufacturing and design, 3D/4D printing, Modelling and Characterization, Energy and sustainable environmental technologies
39	Satyajit Panda	IIT Kharagpur	Associate Professor	Composite materials, Nonlinear vibrations, Smart materials and structures, FEM, Functionally Graded materials and structures, Micromechanics
40	Manmohan Pandey	IIT Kanpur	Professor	Dynamics and Control of Fluid-Thermal Systems, Nuclear Reactor Thermal-Hydraulics
41	P. S. Robi	IIT Bombay	Professor	Coating, Fracture Mechanics, Materials Processing, Metal Matrix composite, Metal Casting, P/M Processing
42	Ujjwal K. Saha	IIT Bombay	Professor	Propulsion, Turbomachinery, Wind Energy Conversion, Internal Combustion Engines
43	Anil D. Sahasrabudhe	IISc Bangalore	Professor (On deputation as Chairman of the All India Council for Technical Education)	Vibration and Noise, Condition Monitoring, CAD/CAM
44	Niranjan Sahoo	IISc Bangalore	Professor	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
45	S. Senthilvelan	IIT Madras	Professor	Composites, Fatigue, Wear and Failure Analysis
46	Atul Soti	Monash University and IIT Bombay	Assistant Professor	Computational Fluid Dynamics and Heat Transfer, Fluid-Structure Interaction, Renewable energy, High Performance Computing, Immersed-Boundary Method, Spectral-element Method
47	Deepak Sharma	IIT Kanpur	Associate Professor	Optimal Design: Modeling and Computation, Engineering Design and Optimization, Genetic Algorithms, Multi-objective Optimization
48	Rajiv Tiwari	IIT Kanpur	Professor	Rotor Dynamics, Vibrations, Identification in Mechanical Systems, Rolling Element Bearing Design and Analysis, Application of Active Magnetic Bearings in Rotors, Vibrations based Condition Monitoring of Industrial Rotating Machines

LABORATORY FACILITIES

Teaching Laboratories:

- Advanced Physics Laboratory-01
- B. Tech 1st year Laboratory -01
- Electronics Laboratory -01
- M. Sc. Laboratory -01
- Numerical Laboratory -01

Research Laboratories:

- Advanced Nanomaterials Laboratory (Involved in cutting-edge research on the development of advanced nanomaterials and exploring their practical applications in the area of energy conversion and storage)
- Cold and Ultra-Cold Atomic Physics Laboratory
- Computational Laboratory
- Computer Generated Holography and Optical Imaging Laboratory
- Electro-ceramics Laboratory
- Fiber Optics Laboratory
- Furnace Laboratory
- High Energy Physics Laboratory
- Laser and Photonics Laboratory
- Low-Temperature Physics Laboratory
- Magnetism Laboratory
- Materials Science Laboratory
- Nonlinear Optics Laboratory
- PPMS Laboratory
- Semiconductor Laboratories (02)
- Spectroscopy Laboratory
- Terahertz Photonics and Plasmonics Laboratory
- Thin Film Physics Laboratory
- XRD Laboratory

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- 1550 laser, Fiber Femtosecond Laser Calmar Optcom, Model No: FPL-04CFF

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

The major research focus of the department is evenly poised between different branches of theoretical and experimental Physics. The thrust areas are:

Condensed Matter Physics (Experiment and Theory)

- Amorphous and nanocrystalline magnetic materials
- Amorphous and nanocrystalline semiconductor thin films for solar cells and other devices. Thin film and Hetero-junction solar cells

- Atomistic Modeling of Materials for Energy and Environmental Applications.
- Biophysics and Biomaterials
- Bosonization
- Cutting-edge research on the development of advanced nanomaterials and exploring their practical application in the area of energy conversion and storage.
- Development of linear giant magnetoresistance devices for magnetic sensors
- Development of triboelectric and piezoelectric, and hybrid nanogenerators for energy harvesting
- Energy conversion and storage
- Hybrid nanomaterials for energy and environmental applications
- High entropy oxides
- Magnetic alloys and thin films for spintronics
- Microwave and piezoelectric bulk and thin films
- Multilayer structured thin films
- Nanostructured and Nanogranular magnetic materials
- Polymer nanocomposites
- Solar Photovoltaics
- Sustainable energy harvesting
- Transition Metal oxide system

Laser and Photonics (Theory and Experiments)

- Fiber & Integrated Optics, Photonic Crystal Fiber and applications, Localized Surface Plasmon Resonance based Sensors, Fiber Bragg Gratings and based Devices, Fiber Optic Sensor, Bio/Nano-Photonics, Graphene immobilized Optical Fiber Sensors
- Laser cooling and trapping of atoms
- Laser Physics and Spectroscopy, Laser produced plasmas
- Nonlinear optics
- Optical devices in C-band
- Programmable Diffractive Optics, Confocal Microscopy
- Plasmonics and metamaterials
- Quantum Optics
- Ultrafast Terahertz Spectroscopy

High Energy Physics (Theory and Experiment)

- Collider Phenomenology: Dark matter studies, Supersymmetric models, Higgs Physics and Top quark Physics, Higher order QCD corrections, Flavour Physics and CP violation
- Cosmology and Astroparticle Physics: Inflationary models, Leptogenesis and Baryogenesis, Dark matter studies, Supernovae neutrinos
- Experimental High Energy Physics: B-Physics, Neutrino Physics, ILC R&D
- Low energy QCD, Effective Field Theory

Cosmology and Gravitation

- Astrophysical flows around compact objects, Ultra high energy cosmic rays, Black hole perturbations, Gravitational waves Cosmology, Ads/CMT
- General theory of relativity, Field theory on curved space times, Black holes

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- Development of Hydrogel-based electrodes for high performance energy storage devices by Dr. U. N. Maiti, Prof. S. Ghosh and Dr. N. Padma

- Development of high entropy oxides using novel approach at ambient conditions by Prof. A. Perumal
- Sustainable energy harvesting from biomechanical activities of daily life by Prof. A. Perumal

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
1	Prof. P. K. Giri	National Conference on 'Two Dimensional Materials: Graphene and Beyond'	Sathyabama Institute of Science and Technology (Deemed to be University), Chennai	28/03/2022 - 29/03/2022	National
2	Prof. Santabrata Das	Astronomical Society of India Annual Meeting 2022	IIT-Roorkee	25/03/2022 - 29/03/2022	National
3	Dr. Uday Narayan Maity	2 nd International Conference On Materials Genome	SRM University, Andhra Pradesh, India (Online)	24/03/2022	International
4	Dr. Debaprasad Maity	Testing Aspects of General Relativity	Organized jointly by IITGN, IITA, and the University of Lethbridge, Canada (ULeth)	11/03/2022	National
5	Prof. Pratima Agarwal	International Conference on Current Trends in Advanced Materials and their Applications for Societal Development (ICTAMASD 2022)	Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P	08/03/2022 - 10/03/2022	International
6	Dr. Uday Narayan Maiti	2 nd Online Familiarization Workshop on Nano- and Bio-Materials and Devices	IIT Guwahati (Online)	02/03/2022	National
7	Dr. Bibhas Ranjan Majhi	Future trends in gravitational physics	S. N. Bose National Centre for Basic Sciences, Kolkata	08/02/2022-10/02/2022	International
8	Dr. Pankaj Kumar Mishra	ATAL Faculty development program on Quantum computing	Tripura University (Online)	07/02/2022-11/02/2022	National
9	Dr. Debaprasad Miaty	Chennai Symposium on Gravitation and Cosmology (CSGC)	IIT, Chennai	02/02/2022	National
10	Dr. Debaprasad Miaty	North East Meet of Astronomers VII (NEMA VII)	Department of Physics, Rajiv Gandhi University, Arunachal Pradesh	27/01/2022	National
11	Prof. Santabrata Das	North East Meet of Astronomers (NEMA-VII)	Rajiv Gandhi University, Arunachal Pradesh	27/01/2022 - 29/01/2022	National

12	Dr. Bibhas Ranjan Majhi	North-East meet of Astronomers (NEMA-VII)	Dept. of Physics, Rajiv Gandhi University (RGU), Arunachal Pradesh	27/01/2022 - 29/01/2022	National
13	Prof. Perumal Alagarsamy	International Conference on Emerging Trends in Nanomaterials Science & Technology (ICETNMST 2022)	NIT Nagaland (Online)	27/01/2022 - 29/01/2022	International
14	Prof. Saurabh Basu	Keynote lecture at National Seminar on Recent trends in Physics Research	Manipur University	21/01/2022	National
15	Prof. Saurabh Basu	Research and Industrial Conclave	IIT Guwahati	21/01/2022	National
16	Prof. Saurabh Basu	Invited Colloquium	IIT Jodhpur	19/01/2022	National
17	Dr. Debaprasad Miaty	4 th LeCosPA Symposium, "Unity of Physics— From Plasma Wakefields to Black Holes"	National Taiwan University, Taipei	29/12/2021	International
18	Prof. Subhash Thota	The 3 rd Indian Materials Conclave and the 32 nd Annual General Meeting of MRSI (MRSI-AGM)	IIT Madras	23/12/2021	National
19	Prof. Subhash Thota	IIT Guwahati and Tokyo Institute of Technology 2 nd Joint workshop on topics in Condensed Matter Physics	IIT Guwahati	17/12/2021	International
20	Prof. Pratima Agarwal	XXI International Workshop on Physics of Semiconductor Devices (IWPSD)	IIT Delhi (Online)	14/12/ 2021 - 17/12/ 2021	International
21	Prof. Perumal Alagarsamy	National Webinar on Recent Advances in the Physics of Materials (RAPM 2021)	National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram (Online)	09/12/ 2021 - 10/12/2021	National
22	Prof. Subhash Thota	IIT and NIMS Materials Science Workshop, 06-09/12/2021	IIT Guwahati	09/12/2021	International
23	Prof. Subhash Thota	Scientific Programme of National conference on Quantum Condensed Matter (QMAT - 2021)	TIFR Mumbai	08/12/2021	National
24	Prof. Pamu Dobbidi	International Conference on Advanced materials and mechanical characterization	SRM, Chennai	02/12/2021 - 04/12/2021	International
25	Prof. Pratima Agarwal	Recent Advances and Innovations in Solar Energy (RAISE)-2021	IIT Madras (Online)	02/12/2021 - 04/12/ 2021	International
26	Prof. Saurabh Basu	National Conference in Frontiers of Modern Physics	ADAMAS University, Kolkata	26/11/2021	National

27	Prof. P. K. Giri	International Webinar on Advanced Hybrid Materials for Sustainability	NIT Durgapur	26/11/2021 - 28/11/2021	International
28	Prof. Perumal Alagarsamy	Symposium of Magnetism and Spintronics (SMS-01)	NISER, Bhubaneswar (Online)	25/11/2021 - 27/11/2021	International
29	Dr. Meduri C. Kumar	Hunting SUSY @ HL-LHC	ICTS, Bangalore (Online)	22/11/2021 - 26/11/2021	International
30	Dr. Debasish Borah	Anomalies 2021	IIT Hyderabad (online)	10/11/2021-12/11/2021	International
31	Prof. Arunansu Sil	Anomalies 2021	IIT Hyderabad (online)	10/11/2021-12/11/2021	International
32	Prof. Subhash Thota	5 th International Conference on Energy Materials and Nanotechnology (Energy & Environmental Materials), ICEMN 2021, School of Material Science and Engineering	Hubei University, China	24/10/2021	International
33	Prof. Perumal Alagarsamy	AICTE Sponsored One week Faculty Development Program on Novel Materials	NIT Mizoram (Online)	04/10/2021 - 08/10/2021	National
34	Prof. P. K. Giri	National Conference on Emerging Trends in Physical Sciences (ETPS-2021)	ICFAI University, Tripura (Online)	27/09/2021 - 01/10/2021	National
35	Prof. Perumal Alagarsamy	Emerging Trends in Physical Sciences (ETPS-2021)	ICFAI University, Tripura (Online)	27/09/2021 - 01/10/2021	National
36	Prof. Santabrata Das	Meeting on Science with XSPECT onboard XPO SAT	URSC, ISRO	22/09/2021	National
37	Prof. P. K. Giri	Recent developments in Gas Phase Synthesis of Nanoparticles and applications	Institute of Physics, UK	15/09/2021	International
38	Dr. Debaprasad Miaty	Mini-Workshop on Inflationary (P)-Reheating as Probe of BSM	"Salerno - Kolkata Joint Physics Activities" conducted by Italian and Indian Research Institutes	27/08/2021	National
39	Prof. Bipul Bhuyan	SUSY2021	Beijing, China	23/08/2021 - 28/08/2021	International
40	Prof. P. K. Padmanabhan	American Chemical Society Meeting Fall 2021	Atlanta, USA. (Online)	22/08/2021 - 26/08/2021	International
41	Prof. Subhash Thota	Conference on Condensed Matter Physics (CCMP) 2021, 16-18/08/2021	Physical Research Laboratory, Ahmedabad	18/08/2021	National
42	Prof. Perumal Alagarsamy	International Conference on Materials Research in Science and Engineering (KMRSE'21)	Kumaraguru College of Technology, Tamilnadu (Online)	23/07/2021 - 25/07/2021	International

43	Prof. Saurabh Basu	John Bardeen and his Seminar Works	Chandigarh University	23/05/2021	National
44	Prof. Perumal Alagarsamy	7 th Edition of International Conference on Nanotechnology for Better Living (NBL-2021)	NIT, Srinagar (Online)	07/04/2021 - 11/04/2021	International
45	Prof. Santabrata Das	Conference on Astrophysical jets and observational facilities: National perspective	ARIES, Nainital	05/04/2021 - 09/04/2021	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Prof. Tarak N. Dey	Atomic vapor based waveguiding and polarization rotation control of vector beams	National Conference on SPS March Meeting, 2022 Recent Developments in Quantum Optics and Quantum Information; 28-29/03/2022, School of Physical Sciences, JNU	Delhi (online)	28/03/2022
2	Dr. Uday Narayan Maiti	Heterostructures as efficient electro-catalysts for water splitting	SRM University	Andhra Pradesh, India (online)	24/03/2022
3	Prof. Pamu Dobbidi	Nanoceramics for electronic applications	Osmania University	Hyderabad	24/03/2022
4	Prof. Amarendra Kumar Sarma	Cavity Optomechanics: Unveiling Quantum in Macroscopic Systems	Indian Institute of Technology Roorkee (IIT Roorkee)	Online	23/03/2022
5	Prof. Bosanta R Boruah	Development of novel confocal and image scanning microscopes	Jagannath Barooah College (Autonomous) Jorhat, Assam – 785001, India	Jorhat	12/03/2022
6	Prof. Pratima Agarwal	Graphene: Synthesis, Characterization and applications in Opto-electronic devices	Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P.	Sagar (Online)	08/03/2022
7	Dr. Gagan Kumar	Terahertz Plasmonic and Metamaterial Devices	IIT Guwahati	Guwahati, Assam, India	02/03/2022
8	Dr. Uday Narayan Maiti	Surface modification of nanostructures for efficient electrocatalytic water splitting	Centre for Nanotechnology, IIT Guwahati	Guwahati	02/03/2022
9	Prof. Bipul Bhuyan	Elementary Particles	UGC-Human Resource Development Centre, Panjab University	Chandigarh	27/02/2022

10	Prof. Perumal Alagarsamy	Science and Technology for sustainable future	Gauhati University	Guwahati	21/02/2022
11	Dr. Debasish Borah	Gravitational Wave Probe of Beyond-WIMP Dark Matter Scenarios	IIT Madras	Online	19/02/2022
12	Dr. Pankaj Kumar Mishra	Spin-Orbit Coupled Bose-Einstein Condensates	Tripura University	Tripura	11/02/2022
13	Dr. Subhaditya Bhattacharya	Dark Matter freeze-in and freeze-out via Effective Operators: A couple of illustrations	International Meeting on EFFECTIVE PATHWAYS TO NEW PHYSICS (IMEPNP)	IOP, Bhubaneswar	09/02/2022
14	Prof. Subhash Thota	SQUID Magnetometry	National Institute of Technical Teachers Training & Research, Chandigarh, 160019	Chandigarh, INDIA	08/02/2022
15	Dr. Debaprasad Miaty	Gravitational reheating and its observable effects	IIT, Chennai	IIT Chennai	02/02/2022
16	Dr. Debasish Borah	Gravitational Waves from Dark Sector Phase Transition in the Light of NANOGrav 12.5 yr Data	North-East Meet of Astronomers (NEMA-VII), Rajiv Gandhi University, Arunachal Pradesh	Online	28/01/2022
17	Prof. Perumal Alagarsamy	The current trend and the future prospect of Spin-Gapless Semiconductor	NIT Nagaland	Dimapur (Online)	28/01/2022
18	Dr. Debaprasad Miaty	Dynamics of reheating and its observable effects	Department of Physics, Rajiv Gandhi University, Arunachal Pradesh	Department of Physics, Rajiv Gandhi University, Arunachal Pradesh	27/01/2022
19	Prof. Santabrata Das	Relativistic viscous accretion flow model for ULX sources: A case study for IC 342 X-1	Rajiv Gandhi University	Arunachal Pradesh	27/01/2022 - 29/01/2022
20	Dr. Gagan Kumar	Frontiers in Terahertz Plasmonic	Jawaharlal Nehru University	New Delhi, India	11/01/2022
21	Dr. Debasish Borah	Cogenesis of Baryon and Dark Matter from Primordial Black Holes	Majorana-Raychaudhuri Seminar Series, ISI Kolkata and INFN Salerno	Online	07/01/2022
22	Dr. Debaprasad Miaty	Dynamics of reheating and its observable effects	National Taiwan University(NTU), Taipei	NTU, Taipei	29/12/2021
23	Prof. Subhash Thota	Reentrant Spin Glass state and Field Induced Transitions in Spinels	IIT Guwahati and Tokyo Institute of Technology 2 nd Joint workshop on topics in Condensed Matter Physics	IIT Guwahati	17/12/2021

24	Prof. Pratima Agarwal	Role of intrinsic and doped a-Si:H layers on performance of c-Si/a-Si:H heterojunction solar cells	IIT Delhi	Delhi (Online)	16/12/2021
25	Prof. Pamu Dobbidi	Development of materials for microwave applications	Koneru Lakshmaiah Education Foundation	Vijayawada	15/12/2021
26	Prof. Perumal Alagarsamy	Approach to linear and large sensitive CIP-GMR sensors for the automotive industry	NIIST, Thiruvananthapuram	Thiruvananthapuram (Online)	09/12/2021
27	Dr. Gagan Kumar	Terahertz Plasmonic waveguide for applications in sensors and modulator	CSIR – National Physical Laboratory	New Delhi, India	09/12/2021 - 11/12/2021
28	Prof. Subhash Thota	Antiferromagnetic Spin-glass Properties of few Spinels: The Role of Dilution and Geometrical Frustration	IIT and NIMS Materials Science Workshop, 06-09/12/2021	IIT Guwahati	09/12/2021
29	Prof. Pratima Agarwal	Carrier selective layers in c-Si based heterojunction solar cells	IIT Madras	Chennai (Online)	02/12/2021
30	Prof. Perumal Alagarsamy	Ferromagnetic Nanocomposites: Development using mechanochemical synthesis and their application in energy harvesting	NISER, Bhubaneswar	Bhubaneswar (Online)	27/11/2021
31	Prof. Perumal Alagarsamy	Spintronics: Achieving large sensitive linear GMR sensors by playing with stack structures	NIT Nagaland	Dimapur	25/11/2021
32	Dr. Debasish Borah	Gravitational Waves: A New Window to the Universe	Royal Global University	Guwahati	25/11/2021
33	Dr. Bibhas Ranjan Majhi	IUCAA Colloquium	IUCAA, Pune	Online	25/11/2021
34	Prof. Alike Khare	Role of Pulsed High Power Laser in Material processing	International Symposium on Materials of the Millennium: Emerging Trends and Future Prospects (MMETFP-2021), Pandit Deendayal Energy University, Gandhinagar, Gujarat, India	Pandit Deendayal Energy University, Gandhinagar, Gujarat, India	19/11/2021 - 21/11/2021
35	Prof. Pamu Dobbidi	Research Methodology	YVNR Govt. College, A.P	Kaikaluru	19/11/2021
36	Dr. Meduri C Kumar	The discovery of Higgs boson at the Large Hadron Collider (Online)	Andhra Loyola College (Autonomous)	Vijayawada	16/11/2021

37	Dr. Debasish Borah	Dark Matter	Symposium of Particle Physics 2021, Assam Don Bosco University	Online	29/10/2021
38	Prof. Arunansu Sil	Imprint of seesaw mechanism on FIMP type dark matter	Centre for Fundamental Physics, Zewail City of Science and Technology, Cairo, Egypt	Online	28/10/2021
39	Prof. Subhash Thota	Magnetic exchange Interactions and Field Induced Phase Transitions in few Spin Ising Chain Coulombites	5th International Conference on Energy Materials and Nanotechnology (Energy & Environmental Materials), ICEMN 2021, School of Material Science and Engineering	Hubei University, China	24/10/2021
40	Prof. Bipul Bhuyan	The Fascinating World of the Elementary Particles	Royal Global University	Guwahati	23/10/2021
41	Prof. Perumal Alagarsamy	Spintronics: Playing with the Layer and Stack Structure for Future Magnetoelectronics Devices	NIT, Mizoram	Aizawl (Online)	07/10/2021
42	Prof. Tarak N. Dey	Singular Beam in Quantum Optics	National Conference on Emerging Trends in Physical Sciences (ETPS-2021) Department of Physics, ICFAI Science School ICFAI University Tripura	Tripura (Online)	29/09/2021
43	Prof. Pamu Dobbidi	The overview of thin film technology (Top down approach to prepare nanomaterials- thin films)	North East Hill University	Shillong	29/09/2021
44	Prof. Perumal Alagarsamy	Spintronics: Playing with GMR stack for Future Technology	ICFAI University, Tripura	Agartala (Online)	28/09/2021
45	Prof. Santabrata Das	Proving the signature of strong gravity in black hole X-ray Binaries	URSC, ISRO	Bangalore	22/09/2021
46	Prof. Perumal Alagarsamy	Giant Magnetoresistance sensors: Approach to linear type over non-linear one	NIT, Srinagar	Srinagar (Online)	09/09/2021
47	Prof. Subhash Thota	Magnetic Properties of few Ising Chain Coulombites	Amity School of Applied Sciences, Amity University Haryana	Gurgaon-122 413, India	04/09/2021

48	Prof. Bipul Bhuyan	Recent Results from Belle and Belle II Experiments	XXVIII International Conference on SUSY 2021, Institute of Theoretical Physics, CAS, Beijing	Beijing, China	23/08/2021 - 28/08/2021
49	Prof. Subhash Thota	Perovskite Thin-film Superlattices	An Online course on 'Nanomaterials and Thin Films' during 26-30/07/ 2021 for engineering colleges and polytechnic teachers. Under O. Plan No. ICTAS-03, Applied Science Department of National Institute of Technical Teachers Training and Research (NITTR)	Chandigarh, INDIA	30/07/2021
50	Prof. Subhash Thota	Physics of Few Strongly correlated Systems: A Focus on Spintronic Devices for On-chip Magnetic Cooling	International Symposium on Advances in Optoelectronics 29-30/07/2021	NIT Warangal (Online)	29/07/2021
51	Dr. Debasish Borah	Baryon asymmetry and dark matter in the presence of primordial black holes	IUCAA Pune	Online	27/07/2021
52	Prof. Perumal Alagarsamy	Spintronics: Current and Future Technologies	KIT, Tamilnadu	Coimbatore (Online)	25/07/2021
53	Prof. Bipul Bhuyan	Physics of the Elementary Particles	2 nd National Webnair on Frontiers in Basic Physics and Applications, Barnagar College	Barnagar	10/07/2021
54	Dr. Subhaditya Bhattacharya	In search of Dark Matter	Physics Webinar	Surendranath College, Kolkata	03/07/2021
55	Dr. Gagan Kumar	Terahertz plasmonic waveguides	Samrat Ashok Technological Institute	Vidisha (M.P.), India	28/06/2021-02/07 2021
56	Dr. Gagan Kumar	Plasmonic Waveguides at Terahertz Frequencies	Inter University Accelerator Centre	New Delhi, India	25/06/2021
57	Dr. Gagan Kumar	Terahertz plasmonic Guided Wave Devices	Department of Electronics and Communication Engineering, The Oxford College of Engineering	Bengaluru, Karnataka, India	15/06/ 2021
58	Dr. Gagan Kumar	Plasmonics	Deenbandhu Chhotu Ram University of Science and Technology	Murthal, Sonapat, India	09/06/ 2021

59	Prof. Subhash Thota	Magnetic Triple Point & H-T phase diagram Few classical antiferromagnets	VIGNAN University	Guntur, Vadlamudi, Andhra Pradesh-, INDIA	01/06/2021
60	Prof. Bosanta R Boruah	Holographic Optical Trapping	Celebration of International Day of Light 2021, Indian Institute of Technology Guwahati, Guwahati, Assam	Indian Institute of Technology Guwahati, Guwahati, Assam	16/05/2021
61	Prof. Alike Khare	Why Attosecond Laser?	Celebration of International Day of Light 2021, Indian Institute of Technology Guwahati, Guwahati, Assam	Indian Institute of Technology Guwahati, Guwahati, Assam	16/05/2021
62	Prof. Subhash Thota	Fundamentals of Semi-magnetic Semiconductor Devices	National Institute of Technical Teachers Training and Research (NITTR)	Chandigarh, INDIA	27/04/2021
63	Prof. Alike Khare	Laser Induced Breakdown Spectroscopy and Implications on PLD thin films	The three days International Web Conference On Laser Spectroscopy and Ultrafast Science (LSUS-2021), Mahatma Gandhi University, Kottayam, Kerala	Mahatma Gandhi University, Kottayam, Kerala, India	07/04/2021 - 09/04/2021
64	Prof. Santabrata Das	Role of pseudo-potentials in studying black holes and X-ray binaries	ARIES	Nainital	05/04/2021 - 09/04/2021

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Prof. Bhupendra Nath Goswami	Department of Physics, Cotton University	Climate Emergency and Challenges of Sustainable Development	28/02/2022	Keynote Lecture in National Science Day, 2022 celebration
2	Prof. Kaustubha Mohanty	Department of Chemical Engineering, IIT Guwahati	Microalgae based biorefinery with circular bio-economy	28/02/2022	Invited lecture in National Science Day, 2022 celebration

3	Prof. Alex Hansen	Norwegian University of Science and Technology, Norway	Statistical Mechanics of Flow in Porous Media	23/02/2022	Online Physics colloquium
4	Prof. Mishkat Bhattacharya	Rochester Institute of Technology, New York	Cavity Optomechanical Sensing and Manipulation of an Atomic Persistent Current	03/01/2022	Online Physics colloquium
5	Dr. Rome Samanta	Institute of Physics, Prague, Czech Republic	Leptogenesis and Gravitational Waves	22/10/2021	Weekly Seminar talk (HEP)
6	Dr. Gaurav Tomar	Technical University of Munich, Germany	Squeezing the parameter space of dark matter	08/10/2021	Weekly Seminar talk (HEP)
7	Dr. Chandramouli Chowdhury	ICTS	The Principle of Holography of Information in Gravity	17/09/2021	Weekly Seminar talk (HEP)
8	Prof. B. Ananathanarayan	IISc. Bangalore	The Life and Scientific Works of Steven Weinberg	01/09/2021	Online Physics colloquium
9	Dr. Jagdish C. Joshi	School of Astronomy and Space Science, Nanjing University, Nanjing, 210093, China	Cosmic Ray Interactions and Transport in our Galaxy and Nearby Starburst Galaxies	20/08/2021	Weekly Seminar talk (HEP)
10	Dr. Bhavesh Chauhan	TIFR, Mumbai	A deuterated liquid scintillator for supernova neutrino detection	05/08/2021	Weekly Seminar talk (HEP)
11	Prof. Ujjwal Sen	HRI, Allahabad	Quantum devices using systems with impurities	04/08/2021	Online Physics colloquium
12	Prof. Jainendra K. Jain	Department of Physics, Pennsylvania State University, University Park, USA	Composite fermions and fractional quantum Hall effect: Status report	11/05/2021	Online Physics colloquium

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.	Prof. B. Bhuyan, Prof. B.R. Boruah, Dr. Debasish Borah and Dr. K. Pandey	National Science Day, 2022	Organized in online mode	28/02/2022	National	~400
2.	Department of Physics, IIT Guwahati	Celebration of International Day of Light, 2021 (meet.google.com/ggq-xwkb-vdo)	SPIE Student Chapter, IIT Guwahati (Organized in online mode)	16/05/2021	International	~170

PATENTS

No. of Patents Applied: 03

No. of Patents Granted: 02

Sl. No.	Name of Faculty and co-researcher	Name	Date Applied/Granted	Application No.	Remarks
1.	Dr. Uday Narayan Maiti and Mr. Pronoy Dutta	Hydrogels of two-dimensional metal carbide, nitride and carbonitride MXene and its preparation method thereof	07/02/2022	202231006408	Applied
2.	Prof. Bosanta R Boruah and Dr. Santanu Konwar	Free space optical communication system apparatus and a method thereof	23/12/2021	2018-521725	Granted Japanese patent no 6998868
3.	Prof. Bosanta Ranjan Boruah, Dr. Ranjan Kalita and Dr. S.S. Goutam Buddha	A System and Method for Laser beam Scanning with Periodic Switching of Polarization of the Beam	24/09/2021	201831006652	Granted Indian patent no 377789

AWARDS AND HONOURS

- Dr. Debasish Borah: Received Visiting Associateship at IUCAA Pune for 2021-24
- Prof. P. K. Giri: Was selected as Fellow of the West Bengal Academy of Science & Technology (WAST)

STUDENTS' ACHIEVEMENTS

- Sreetama Das Choudhury: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Mouli Roy Chowdhury: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Anterdipan Singh: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Dipankar Barman: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Aritra Ray: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Rajnandan Choudhury Das: Received the AWSAR Award 2021 from DST, Govt. of India, for Story on "Laser Cooling Mysteries & Harry's Heroics in Quantumverse" in the "Best Popular Science Stories" under the Ph.D. category
- Rajnandan Choudhury Das: Selected for SHYAMA PRASAD MUKHERJEE (SPM) Fellowship in Physical Science by CSIR-HRDG
- Apurba Das: National Bio Entrepreneurship Competition (NBEC 2021)
- Samik Mitra: Received the Young Researcher Award from Physics Academy of North-East (PANE) for Best oral presentation in the ASTROPHYSICS & COSMOLOGY section of the Physics Academy of North-East conference held at Tripura University
- Anterdipan Singh: Received the award for Best Oral presentation at "Recent Advances and Innovations in Solar Energy (RAiSE)-2021", IIT Madras
- Manvendra Singh Gangwar: Received Best Poster Award (1st Rank) at "Recent Advances and Innovations in Solar Energy (RAiSE)-2021", IIT Madras

- Manvendra Singh Gangwar: Received Best Oral Award (2nd Rank) at Research and Industrial Conclave (RIC 2022), IIT Guwahati
- Manvendra Singh Gangwar: Received Best Poster Award (2nd Rank) at International Conference on Current Trends in Advanced Materials and their Applications for Societal Development (ICTAMASD 2022), Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P.
- Gajendra Singh Bisht: Received the award for Best Oral Presentation International Conference on Advanced Materials and Mechanical Characterization (ICAMMC-2021)" held virtually
- Pragya Gupta: Best Presentation Award at 2021 Around-the-Clock Around-the-Globe Magnetism Conference (AtC-AtG)
- Angana Bhattacharya: Received the award for Best Oral Presentation at IIT Guwahati
- Bhairav Kumar Bhoumik: Received Best Poster award at (FTTA-2021) at CSIR – National Physical Laboratory
- Bhagwat Singh Chouhan: Received Best Poster award at (FTTA-2021) at CSIR – National Physical Laboratory
- Bhagwat Singh Chouhan: Received Best Poster award at WRAP 2022, IIT Bombay

SPECIAL MENTION

- Prof. Bipul Bhuyan has been elected as a member of the Advisory Board for the SAND Consortium, DUNE Collaboration, Fermi Lab, USA
- Prof. Bipul Bhuyan is being appointed as a member of the HEP Working Group for Mega Science Vision Document of India, Office of the Principal Scientific Adviser to the Govt. of India
- The paper titled "Highly Sensitive Novel Fiber Bragg Grating Based Tilt Sensor for Structural Health Monitoring" presented by Debabrata Paul, Sunil Mohan and Prof. S. Khijwania, received the Excellence in Paper Presentation Awards in "FRONTIERS IN OPTICS AND PHOTONICS (FOP21)" at IIT Delhi during 24-27/09/2021
- Dr. Gagan Kumar is an Associate Editor of the journal "Frontiers in Physics: Optics and Photonics"
- Dr. Gagan Kumar is an Editorial Member of "Journal of Physics and Advanced Applications"
- Mr. Gaurang Ramakant Kane, final year B. Tech. (Engineering Physics) student, scored 990 out of 990 in the subject GRE (Physics) 2021

National Science Day, 2022

Department of Physics, IIT Guwahati has been organizing National Science Day on February 28 every year, a day, celebrated in India to mark the discovery of the Raman Effect by Indian Physicist Sir C V Raman on February 28, 1928. This was the fifth edition of the event organized by the department. The primary aim of this event is to highlight the achievements of faculty, research scholars, and postdoctoral fellows of the department, along with discussion and interactions with an invited expert working closely on topics related to the National Science Day theme of a particular year. This year, an outreach component was also introduced, welcoming students from outside to participate in an online Science Quiz competition where more than 300 participants from all over India took part. Out of them, 20 were shortlisted for the final round, and 6 got prizes in the junior and senior categories.

Prof. Bhupendra Nath Goswami, SERB Distinguished Fellow, Cotton University, delivered a keynote lecture on “Climate Emergency and Challenges of Sustainable Development” at the event. There was also an expert talk by Prof. Kaustubha Mohanty, Department of Chemical Engineering, IIT Guwahati, who delivered a talk on “Microalgae based biorefinery with circular bio-economy”. Both the lectures were very interactive, supported by discussions and question-answer sessions. Six research scholars from the department also presented their notable research findings at the event.

Celebration of International Day of Light, 2021

The International Day of Light is celebrated every year on 16th May as an appreciation for a major role of Light in our world in the field of science and technology, art and culture. The application of light and light-based technologies revolutionized the field of medicine, communication, entertainment, culture - which in turn made a strong impact on the society globally. So, after the highly successful International Year of Light and Light-based Technologies 2015, UNESCO has endorsed 16th May as annual International Day of Light (IDL). 16th May is the anniversary of the first successful operation of Laser in the year 1960 by physicist and engineer, Theodore Maiman. Keeping in mind that IDL is not just about Lasers and science, it also includes the sustainable development and growth of societal health and well-being.

SPIE students of IIT Guwahati celebrated the IDL in the Department of Physics, IIT Guwahati on the day 16th May, 2021 in online mode (Google meet, YouTube Live) due to the COVID-19 pandemic situation. This one-day event comprised the lecture series by the eminent professors/speakers and quiz competition. Students from different colleges across India, technical staffs, Professors, as well as students of Indian Institute of Technology were invited to this event. The winners of the quiz competition were facilitated with prizes and certificates. The event was a great success and brought the academic fraternity together. Few photographs of the event are also attached below.

Programme Highlights:

- Lecture by - Prof. Bosanta R. Boruah (Department of Physics, IIT Guwahati)
- Title of the talk “Holographic Optical Trapping”
- Lecture by- Prof. Alika Khare (Department of Physics, IIT Guwahati)
- Title of the talk “Why Attosecond Laser”
- Lecture by – Dr. Sidananda (Department of Physics, IIT Guwahati)
- Title of the talk “Science and Technology Revolutionize our Lives: Let's Discuss the path to move forward”
- Quiz competition and an interaction session with the speakers

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g Ph.D. degree received from	Designation	Areas of Interest
1	Pratima Agarwal	IIT Kanpur	Professor	Thin films and hetero junction solar cells, nanocrystalline Semiconductors,

				nanomaterials, optoelectronic properties
2	Saurabh Basu	IIT Kanpur	Professor	Condensed Matter Physics (Theory); High TC superconductors, Optical lattices, Transport in Magnetic semiconductors
3	Bipul Bhuyan	Delhi University	Professor	High Energy Physics (Experiment); CP violation, Rare K and B meson decays, ILC R & D
4	Subhaditya Bhattacharya	HRI Allahabad	Associate Professor	High Energy Physics (Theory), Phenomenology of Standard Model and Beyond, Supersymmetry, Dark Matter, LHC
5	Bosanta Ranjan Boruah	Imperial College London	Professor	Lasers and Optics (Experiment & Theory); Programmable Diffractive Optics, Confocal Microscopy, Phase Stepping Interferometry, Vectorial Diffraction Theory
6	Debasish Borah	IIT Bombay	Associate Professor	Particle Physics Model Building, Astroparticle Physics and Cosmology
7	Sayan Kumar Chakrabarti	SINP Kolkata	Assistant Professor	High Energy Physics (Theory), General relativity, Black hole perturbations, Gravitational waves, Cosmology
8	Sovan Chakraborty	SINP Kolkata	Assistant Professor	Astroparticle Physics, High Energy Astrophysics, Neutrino Oscillations, Supernovae Neutrinos, Ultra High Energy Neutrinos & Dark Matter
9	Santabrata Das	SNBNCBS Kolkata	Professor	Astrophysics (Theory); Astrophysical flows around compact objects, Ultra high energy cosmic rays
10	Tarak Nath Dey	PRL Ahmedabad	Professor	Quantum Optics (Theory); Coherent control of pulse propagation, Nonlinear optics, Optical solitons, Negative index media, Bose-Einstein condensates
11	Subhradip Ghosh	SNBNCBS Kolkata	Professor	Condensed Matter Physics (Theory); Electronic Structure theory, Ordering and Phase stability of disordered alloys, Vibrational properties of metallic alloys
12	Pravat Kumar Giri	IIT Kanpur	Professor	Condensed Matter Physics (Experimental); Semiconductor nanostructures, Ion-solid interactions, Optoelectronic materials & devices, Nanotechnology
13	Charudatt Y. Kadolkar	IIT Bombay	Associate Professor	Condensed Matter Physics (Theory); Magnetism, Defects in Ionic Materials, Group Theoretical approaches to Molecular Problems
14	Alika Khare	IIT Kanpur	Professor	Laser and Photonics.
15	Sunil K. Khijwania	IIT Delhi	Professor	Fiber Optics (Experiment & Theory); Fiber & Integrated Optics, Photonic Crystal Fiber and Applications, Surface

				Plasmon Resonance based Sensors, Fiber Bragg Gratings and based Devices, Fiber Optic Sensor, Bio/Nano-Photonics
16	Gagan Kumar	IIT Delhi	Associate Professor	Terahertz Plasmonics and metamaterials, Guided Wave Devices, Ultrafast Spectroscopy
17	Meduri Chakravartula Kumar	University of Hyderabad	Assistant Professor	High Energy Physics (Theory); Particle Physics, Higher order QCD corrections for LHC and Tevatron, Standard Model and beyond
18	Debaprasad Maity	IACS Kolkata	Associate Professor	High Energy (Theory); Cosmology, Ads/CMT
19	Uday Narayan Maiti	Jadavpur University, Kolkata	Associate Professor	Energy storage, catalysis, nanomaterials
20	Bibhas Ranjan Majhi	SNBNCBS, Kolkata	Associate Professor	High Energy Physics (Theory); General theory of relativity, Field theory on curved spacetimes, Black holes, Cosmology, Thermodynamical aspects of gravity, Fluidgravity correspondence
21	Pankaj Kumar Mishra	IIT Kanpur	Assistant Professor	Nonlinear Physics (Theory and Simulation): Quantum turbulence, Instabilities and turbulence in thermal convection and MHD, Supercooled liquid and glasses
22	Tapan Mishra	IIA Bangalore	Associate Professor	Condensed Matter Physics (Theory); Quantum Phase Transitions, Many-body physics with strongly correlated quantum gases in optical lattice
23	Malay Kumar Nandy	IIT Kanpur	Associate Professor	Theoretical Physics, Statistical Physics, Condensed Matter Physics, Turbulence Field Theory, Plasma Physics, Quantum Computation
24	Soumitra Nandi	University of Calcutta	Associate Professor	High Energy Physics (Theory); Quark and Lepton Flavour Physics, Flavour Symmetries, CP violation, precision calculations in the SM, Special interest in QCD, Heavy Quark Effective Theory and Soft Collinear Effective Theory
25	Padma Kumar Padmanabhan	IISc Bangalore	Professor	Condensed matter (Theory); Atomistic Modeling and Simulation of Condensed States of Matter
26	Dilip Pal	TIFR Mumbai	Professor	Low Temperature Physics and Material Science (Experimental); Strongly Correlated Electron Systems, Vortex states in superconductors, Superconductivity and Magnetism
27	Dobbidi Pamu	University of Hyderabad	Professor	Condensed Matter Physics; High-k and low loss materials, Ferroelectrics Ceramics, Oxide thin films Nanomaterials

28	Kanhaiya Pandey	IISc Bangalore	Associate Professor	Atomic, molecular and optical physics (Experiment); Laser cooling and trapping of atoms, BEC, Many body physics, artificial gauge field; Atomic coherence, EIT, magnetometry; Spectroscopy and frequency metrology of optical-atomic transitions
29	Perumal Alagarsamy (Head of the Department)	IIT Kharagpur	Professor	Condensed Matter Physics (Experimental); Magnetism, Nanostructured Materials for energy harvesting, Nanocrystalline Materials, Magnetic Thin Films, Metallic Glasses
30	Poulose Poulose	PRL Ahmedabad	Professor	Theoretical Physics; High energy physics phenomenology, CP violation, Mass Generation mechanism, Low energy Gravity
31	Udit Raha	University of Bonn, Germany	Assistant Professor	Quantum Chromodynamics and Nuclear Effective Field Theories
32	Seenipandian Ravi	Univ. of Hyderabad	Professor	Condensed Matter Physics (Experimental); Magnetism, Superconductivity, Low temperature Physics
33	Sitangshu Bikas Santra	Bose Institute, Kolkata	Professor	Condensed Matter Physics (Theory); Condensed Matter Physics, Statistical Physics
34	Amarendra Kumar Sarma	IIT Delhi	Professor	Nonlinear and Quantum Optics (Theory); Quantum Optomechanics, Optical Force, Cavity QED, Coherent control, Extreme Nonlinear Optics, Solitons, Nonlinear Fiber Optics, Nonlinear Dynamics, Plasmonics and Transformation Optics, Parity-time Symmetric Optics
35	Ashwini Kumar Sharma	IIT Kanpur	Professor	Pulsed laser ablation and plasma spectroscopy, Deposition and characterization of nanostructures, Plasmonics
36	Girish Sampath Setlur	University of Illinois	Professor	Theoretical Physics; Optoelectronic properties of graphene, Nonchiral bosonization of fermions in one and higher dimensions
37	Arunansu Sil	University of Calcutta	Professor	High Energy Physics & Cosmology (Theory); Phenomenology of Physics beyond the Standard Model, Supersymmetry and its breaking, Neutrino Physics, Matter-antimatter asymmetry of the Universe, Inflation
38	Ananthakrishnan Srinivasan	IISc Bangalore	Professor	Condensed Matter Physics (Experimental); Glasses and Disordered Materials, Thin Films, Metallic Alloys, Nanophase materials, Shape Memory Alloys

39	Subhash Thota	IIT Kanpur	Professor	Material Science and Engineering; Magnetic Nanostructures, Oxide Heterostructures, Superlattices, Magnetocaloric effects, Semi-magnetic semiconductors, Bandgap Engineering
40	Paolo Gambino	New York University	Adjunct Professor	Theoretical High Energy Physics
41	Alex Hansen	Cornell University, USA	Honorary Professor	Complex matter Physics, computational Physics, Transport and breakdown phenomena in disordered systems, Physics of porous media, Physics of granular media, non-equilibrium statistical Physics
42	Yuya Sakuraba	Tohoku University, Japan	Honorary Professor	Spintronics, Half-metallic Heusler compounds, Anomalous Nernst effect
43	Victoria Martin	University of Edinburgh, Scotland	Honorary Professor	Experimental Particle Physics
44	V. S. Vallabhapurapu	IISc Bangalore	Honorary Professor	Experimental Condensed Matter Physics, Electron Spin Resonance (ESR), Nano Magnetism, Thermal Properties of Nano and Micro Composites, Spintronics
45	Roberto Petti	University of Pavia, Italy	Honorary Professor	High Energy Physics

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Earthquake & Seismology
- Landslide & Erosion
- Flood & Cloud Burst
- Climate Change & Agriculture
- Gender & Socio-Economics
- Cyclones & Tsunami
- Road & Transportation
- CBRN (Chemical, Biological, Radiological and Nuclear)
- Remote Sensing & Geomatics
- ICT & Cyber Risks

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND

- Initiating research and developmental activities in the domain of ‘Disaster resilient Agriculture’, specifically for promoting floating-bed agriculture through developing effective, efficient, and low-cost floating bed agricultural practices in flood-prone and water logged areas
- Initiated independent research in the direction of *Blast induced liquefaction* with a PhD student
- Initiated collaborative research in the direction of *Regional Scale Landslide Analyses through Geophysical Approach* with a PhD student
- Initiated collaborative researches in the direction of *Application of Remote Sensing for Assessing Glacial Lake Outburst Floods (GLOFs) and the development of Landslide Early Warning Systems* with the MS(R) students

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Dr. Sougata Karmakar	International Webinar on Role of Academics and Governance in Disaster Risk Reduction	IIT Guwahati	18/01/2022	International
02	Dr. Sougata Karmakar	International Webinar on Paradigm Shift in Disaster Risk Reduction: Role of Academics, Research, Innovation and Policies	IIT Guwahati	12/07/2021	International
03	Dr. Sougata Karmakar	ICOH 2022 - Melbourne-Rome global digital Congress 33rd International Congress on Occupational Health “Sharing solutions in occupational health through and beyond the pandemic”	Melbourne-Rome, Italy	07/02/2022 - 10/02/2022	International

04	Dr. Arindam Dey	International Conference on Recent Advances in Civil Engineering (ICRACE-2021)	NIT Silchar (Online)	17/09/2021 - 19/09/2021	International
05	Dr. Arindam Dey	7th International Conference on Recent Advances in Earthquake Geotechnical Engineering and Soil Dynamics (7ICRAGEE)	IISc Bangalore (Online)	11/07/2021 - 15/07/2021	International
06	Dr. Arindam Dey	Indian Geotechnical Conference (IGC 2021)	NIT Trichy (Online)	14/12/2021 - 16/12/2021	National
07	Prof. R Ganesh Narayanan	World Congress on Micro & Nano Manufacturing 2021	IIT Bombay (Online)	23/09/2021 - 24/09/2021	International
08	Prof. R Ganesh Narayanan	International Conference on Experimental and Computational Methods in Manufacturing (ICECMM 2021)	NERIST, Nirjuli, Arunachal Pradesh (Online)	2021	International
09	Dr. Sudip Mitra	2-Day Seminar on Advancing Frontiers of Knowledge on Climate Action Cross-sectional Approaches for Mitigation and Resilience	Virtual, Centre for Ecological Economics and Natural Resources (CEENR), Institute for Social and Economic Change (ISEC), Bengaluru	22/10/2021 - 23/10/2021	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Sougata Karmakar	Awareness session on "Office & Shop-floor Ergonomics"	Hamilton Housewares Pvt. Ltd,	Chaygaon, Kamrup, Assam	05/03/2022
02	Dr. Sougata Karmakar	Ergonomics in Industrial Safety	National Power Training Institute (NPTI-NER), Guwahati	Guwahati	23/02/2022
03	Dr. Sougata Karmakar	Human Factor issues in Manufacturing Industries	SRM Institute of Science and Technology	Kattankulathur Chengalpattu, Tamil Nadu	07/12/2021
04	Dr. Sougata Karmakar	AICTE-ISTE Sponsored Refresher Program "Current Trends in Industrial Engineering"	G H Patel College of Engineering & Technology	Vallabh Vidyanagar, Gujarat	14/04/2021 - 20/04/2021

		Topic: Ergonomics/ Human Factors in Product Design and Manufacturing			
05	Dr. Arindam Dey	Nonlinear Ground Response Analysis – A Case Study of Amingaon, North Guwahati, Assam	IISc Bangalore	Bangalore (Online)	15/07/2021
06	Dr. Arindam Dey	Geotechnical Investigations for Landslide Studies	IIT Guwahati	Guwahati (Online)	21/07/2021
07	Dr. Arindam Dey	Rainfall induced Landslide Hazard Assessment of Guwahati City, Assam	IIT Guwahati	Guwahati (Online)	22/07/2021
08	Dr. Arindam Dey	Field Investigations for Landslide Studies	IIT Mandi	Mandi (Online)	20/08/2021
09	Dr. Arindam Dey	Landslide Geotechnology	Easwari College of Engineering	Chennai (Online)	26/08/2021
10	Dr. Arindam Dey	Response of Laterally Loaded Single Pile and Pile Group Embedded in Multilayered Substrata	NIT Warangal	Warangal (Online)	27/08/2021
11	Dr. Arindam Dey	Forensic Analysis of Failure of a Marginally Stable Hillslope	IIT Mandi	Mandi (Online)	23/09/2021
12	Dr. Arindam Dey	Forensic Analysis of a Hillslope Instability	KIIT Bhubaneshwar	Bhubaneshwar (Online)	29/09/2021
13	Dr. Arindam Dey	Elements of Technical Report Writing	VNIT Nagpur	Nagpur (Online)	06/10/2021
14	Dr. Arindam Dey	Frequency-dependent Dynamic Properties of Saturated Brahmaputra River Sand	IIT Roorkee	Roorkee (Online)	27/12/2021
15	Dr. Arindam Dey	Importance of Antecedent Precipitation and its Pattern on Landslide Studies: A Case Study of Guwahati, Assam	Suresh Gyan Vihar University	Jaipur (Online)	05/03/2022
16	Dr. Arindam Dey	Application of ANN in Assessing the DSSI-Induced Natural Periods of Pile Supported Structures	Vardhaman College of Engineering	Hyderabad (Online)	16/03/2022
17	Dr. Arindam Dey	Slope Instability and Mitigation Techniques	Dehradun Institute of Technology	Dehradun (Online)	22/03/2022
18	Dr. Arindam Dey	Rainfall Induced Landslide Hazard Zonation Mapping of Guwahati, Assam	NEHU Shillong	Shillong (Online)	25/03/2022
19	Dr. Kaustubh Dasgupta	Seismic Behaviour of Reinforced Concrete Structural Walls	NIT Warangal	Online mode	24/03/2022
20	Dr. Kaustubh Dasgupta	Numerical Modelling on Soil-Structure Interaction :: An Overview	Vardhaman College of Engineering	Online mode	24/03/2022

21	Dr. Kaustubh Dasgupta	Seismic Soil-Structure Interaction: Basics and Future Trends	DIT University	Online mode	25/03/2022
22	Dr. R. Ganesh Narayanan	Forming and joining of adhesive bonded sheets and sandwich sheets	Department of Mechanical Engineering, DAVIET Jalandhar	Online mode	07/06/2021 - 12/06/2021
23	Dr. R. Ganesh Narayanan	Fabrication of tailor-made metallic structures for lightweight applications and deformation behavior	The Indian Institute of Welding, Chennai branch	Online mode	23/07/2021 - 24/07/2021
24	Dr. R. Ganesh Narayanan	Tailor-made sheets for lightweight applications	Department of Mechanical Engineering, Ajay Kumar Garg Engineering College, Ghaziabad	Online mode	04/10/2021 - 08/10/2021
25	Dr. R. Ganesh Narayanan	Microforming of sheets	Department of Mechanical Engineering, School of Studies of Engineering and Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur	Online mode	17/01/2022 - 21/01/2022
24	Dr. Moumita Patra	Envisioning the Future with Connected Vehicles	G. H Rasoni College of Engineering Nagpur, Maharashtra	Online mode	11/09/2021
25	Dr. Sudip Mitra	Climate change: science & policy at local and global scale	Webinar organized by Royal School of Environmental and Earth Sciences (RSEES), Royal Global University, Assam, India	Online mode	05/06/2021
26	Dr. Sudip Mitra	Reimagining India beyond mitigation-conservation strategies for ecorestoration	World Environmental Day Webinar, IIT Delhi Alumni Association & Maharashtra Pollution Control Board	Online mode	04/06/2021
27	Dr. Sudip Mitra	Agro-ecotechnology and Climate Smart Agriculture: Path towards sustainability	National KVK meet on Technologies in agriculture and allied sectors: the current scenario	Online mode	21/06/2021
28	Dr. Sudip Mitra	Exploring alternate usage of crop residue: avoid burning, enhance soil quality and reduce global warming	Azadi ki Amrit Mahaotsav guest lecture ICAR-National Bureau of Soil Survey and Land use Planning,	Online mode	07/08/2021

			Regional Centre, Jorhat, Assam.		
29	Dr. Sudip Mitra	Disaster management and Risk Reduction	Training workshop on disaster management for engineers, managers of Assam Power Generation Corporation Ltd., Indian Oil Corporation Ltd.	NPTI-NER, Guwahati, Assam.	23/03/2022 - 25/03/2022
30	Dr. Sudip Mitra	Agro-ecotechnology and Climate Smart Agriculture: Path towards sustainability	Faculty Induction Program	Online Mode, Gauhati University Academic Staff college	05/02/2022
31	Dr. Sudip Mitra	Disaster Risk Reduction and Climate Change: Linking Science with Society	MURP, SPA, Vijayawada	School of Planning Architecture, Vijayawada	09/11/2021
32	Dr. Sudip Mitra	Adaptation or mitigation? climate smart agriculture is the way forward	Climate Change Impact on Agriculture and Biodiversity in North-East India; Tezpur University, Assam	Tezpur University, Assam	03/03/2022
33	Dr. Sudip Mitra	Climate change: science & policy at local and global scale	Webinar organized by Royal School of Environmental and Earth Sciences (RSEES), Royal Global University, Assam, India	Online mode	05/06/2021

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Prof. Rajib Shaw	Keio University, Japan	Paradigm Shift in Disaster Risk Reduction: Role of Academics, Research, Innovation and Policies	12/07/2021	Invited Lecture
02	Major General Manoj K Bidal	NIDM, New Delhi	NIDM's role in capacity building for DRR	12/07/2021	Invited Lecture
03	Prof. Chandan Ghosh	NIDM, New Delhi	Disaster trends- global, national and regional	18/08/2021	Invited Lecture
04	Dr. M. Ariz Ahammed	Government of Assam	Incident Command System for Disaster Management	17/09/2021	Invited Lecture
05	Prof. Manish Kumar	University of Petroleum and Energy Studies (UPES), Dehradun	Has wastewater surveillance of covid-19 helped in disaster risk reduction?	10/02/2022	Invited Lecture

06	Dr. Sumit Vij	Wageningen University, The Netherlands	Nepal and DRR	27/09/2021	Invited Lecture
07	Dr. Joyita Roy Chowdhury	FLAME University	Does Inequality-Adjusted Human Development reduce the impact of Natural Disasters? A Gendered Perspective	06/08/2021	Invited Lecture
08	Prof. Rajib Shaw	Keio University, Japan	Role of academics and governance in disaster risk reduction	18/01/2022	Invited Lecture
09	Dr. MS Lakshmi Priya	IAS, Deputy Commissioner, Bongaigaon, Assam	Role of academics and governance in disaster risk reduction	18/01/2022	Invited Lecture
10	Dr. S. P. Aggarwal	NESAC, Shillong	Space Technology Applications in Disaster Risk Management	09/02/2022	Invited Lecture

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
01	Dr. Sudip Mitra	Paradigm shift in disaster risk reduction: Role of academics, research, innovation and policies	CDMR, IIT Guwahati and IJL, Keio University	12/07/2021	International Webinar	250
02	Dr. Sudip Mitra	Role of academics and governance in disaster risk reduction	CDMR, IIT Guwahati	18/01/2022	International Webinar	90
03	Dr. Sudip Mitra	Space technology applications in disaster risk management	CDMR IIT Guwahati	09/02/2022	National Lecture Series on Disaster Risk Reduction (DRR)	60
04	Dr. Sudip Mitra	Has wastewater surveillance of Covid-19 helped in Disaster Risk Reduction?	CDMR IIT Guwahati	10/02/2022	National Lecture Series on Disaster Risk Reduction (DRR)	60

PATENTS

No. of Patents Applied: 07

No. of Patents Granted: 05

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-held Pineapple Fruit Harvester.	12/05/2021	343374-001	Design [FER Reply Filed]
02	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-held Pineapple Harvester.	30/06/2021	345481-001	Design [Granted]
03	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Hand-operated Pineapple Harvester.	13/07/2021	346209-001	Design [Granted]
04	Hijam Jiten Singh, Gurdeep Singh, Sougata Karmakar	Ergonomic Pineapple Harvester.	13/07/2021	346195-001	Design [Granted]
05	Bighna Kalyan Nayak, Gurdeep Singh, Divya Zindani, Sougata Karmakar	Ergonomic Cymbal. Design Registration	25/04/2021	342724-001	Design [FER Reply Filed]
06	Jitesh Singh Chauhan, Sougata Karmakar, Gurdeep Singh	Floating Device for Aquatic Crop.	27/09/2021	350209-001	Design [Granted]
07	Jitesh Singh Chauhan, Sougata Karmakar, Gurdeep Singh	Floating Aid for Aquatic Agriculture.	27/09/2021	350248-001	Design [Granted]
08	Gurdeep Singh, Abhishek Singh, Sougata Karmakar	Cutting and Squeezing Apparatus for Defective Pouch/ Sachet Rework.	14/03/2022	360578-001	Design [Filed]

AWARDS AND HONOURS

- Dr. Sougata Karmakar: Received ICOH-2022 Paper presentation grant from ICOH - International Commission on Occupational Health
- Dr. Sudip Mitra: Has been invited to the Editorial Board of PLOS Climate international journal.
- Dr. Sudip Mitra: Has been invited as Member of South Asia Alliance of Disaster Research Institutes (SAADRI)- Since 2021

STUDENTS' ACHIEVEMENTS

- Shubham Maurya and Debdut Sengupta: Received 3rd position in INNOVATION CHALLENGE, GRAMOTTHAN_2022 at VNIT Nagpur, IJL Keio University Japan, CSP IISc Bangalore, IIT Guwahati, for project titled "Development of a Monitoring Application used for systematic Pre-Disaster Management to develop a Self-Sustaining Disaster Resilient Community"

SPECIAL MENTION

- Indian Institute of Technology Guwahati is going to collaborate with North Eastern Space Application Centre (NESAC) to carry out several initiatives jointly for development of the North East Region and create a mass of skilled professionals in the field
A MoU was signed between the two institutions on 28 June 2021. Some of the initiatives that would be taken up under this partnership include internship programs, joint degree programs, short-term training programs, student exchange programs and joint projects, among others. A multi-disciplinary approach would be adopted to study ways to tackle disasters
- Two students from MS(R) 2021 batch of CDMR, Mr. Debdu Sengupta and Mr. Shubham Maurya have secured the 3rd Place in the INNOVATION CHALLENGE under GRAMOTTHAN_2022 for transforming Rural India, in line with 'Aatmanirbhar Bharat Abhiyan'(Self -reliant India Campaign) for their project titled "Development of a Monitoring Application used for systematic Pre-Disaster Management to develop a Self-Sustaining Disaster Resilient Community' with a cash prize of 10,000/-. Their work emphasizes on the systematic Pre-Disaster Management focusing on the Paradigm Shift using a Monitoring Application
- Indian Institute of Technology Guwahati has signed a Memorandum of Understanding (MoU) with the India Japan Lab (IJL) of Keio University on 15th March 2022 to collaborate on research projects, Joint student Supervision, developing new certificate courses, students and faculty exchange visits, etc.

According to the MoU, IIT Guwahati and India Japan Lab of Keio University will encourage faculty and students to work jointly for various capacity building activities for mainstreaming disaster risk resilience as part of training courses; developing new certificate courses on specific topics related to disaster risk reduction; joint student supervision; students and faculty exchange visit for knowledge sharing; undertaking research projects; joint publication of articles/educational books

Under this MoU, the Centre for Disaster Management and Research (CDMR) of IIT Guwahati will act as the nodal Centre from IIT Guwahati

- The CDMR logo was launched on 15 of March 2022. The entire logo is in the shape of the alphabet C which stands for CDMR - Centre for Disaster Management and Research. Here, the blue Wave indicates flood as the symbolic representation of disaster. Moreover, flood is a common natural disaster in Assam where the Centre is located. The green hand depicts the protection, management and overall DRR as the motto of the Centre. The brown house represents all types of resources important for lives on the earth. The brown base of the logo indicates the mother earth.

Credits: The logo of CDMR has been conceptualized and designed by Mr. Harinandh V. R. and Ms. Sakshi S. Bhalchandra, students of the Department of Design under the guidance of Dr. Sougata Karmakar

- Indian Institute of Technology Guwahati has signed an MoU with the National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Govt. of India on 22 July 2022 and will collaborate in various fields of disaster risk reduction and management. Joint training, capacity building, courses development etc. are a few of those

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Sudip Mitra	Indian Agricultural Research Institute (IARI), New Delhi	Head of Centre and Associate Professor	<ul style="list-style-type: none"> • Climate Smart Agriculture • Climate Change-V&A at the community level • Disaster Risk Reduction and community-based coping strategies. • Soil Pollution studies and its management • Research on greenhouse gases emission from the Agriculture sector and its adaptation and mitigation options
02	T. G. Sitharam	University of Waterloo, Waterloo, Ontario, Canada	Director and Professor, IIT Guwahati	<ul style="list-style-type: none"> • Rock mechanics and Rock engineering • Geotechnical Earthquake Engineering • Microzonation and site response studies • Micromechanics of Granular materials • Numerical Methods in Geomechanics • Earth dams and Tailing ponds • Reinforced earth structures • Instrumentation in Geotechnical Engineering • Engineering Education: web based education
03	Anamika Barua	Sustainability Research Institute, University of Leeds, UK	Professor	<ul style="list-style-type: none"> • Climate Change and Water security • Ecological Footprint • Virtual Water flows through trade • Water governance including transboundary water governance
04	Rajshree Bedmatta	Indian Statistical Institute, through University of Calcutta	Professor	<ul style="list-style-type: none"> • Agrarian Studies • Rural labour markets • Food Security • Food Sovereignty movements • Nutrition and public health • Education
05	Rajib Kumar Bhattacharjya	IIT Kanpur	Professor	<ul style="list-style-type: none"> • Computational Hydraulics • Impact of Climate Change • Surface water Groundwater Interaction • Assessment and Management of Groundwater Resources • Flood Modeling

				<ul style="list-style-type: none"> • Assessment of Flood Hazard and Vulnerability • Optimization methods • Artificial neural network
06	Hemant B. Kaushik	IIT Kanpur	Professor	<ul style="list-style-type: none"> • Earthquake Resistant Design of structures • Nonlinear Behavior of Structures • Retrofitting of Structures • Seismic Vulnerability Assessment of Structures • Earthquake Damage Surveys
07	Chandan Mahanta	Jawaharlal Nehru University, New Delhi	Professor	<ul style="list-style-type: none"> • Environmental Impact and Risk Assessment • Environmental Hydrology • Earth and Environmental Systems • Water Quality • Contaminate Fate and Transport • Material Flux in large Alluvial Rivers
08	C. Mallikarjuna	IIT Delhi	Professor	<ul style="list-style-type: none"> • Traffic flow theory and Modeling • Traffic data collection and analysis • Travel demand modeling
09	Akhilesh Kumar Maurya	IIT Kanpur	Professor	<ul style="list-style-type: none"> • Traffic flow theory and modeling • Driver behavior modeling • Traffic Data Collection and Analysis • Road Safety and Accident Analysis • Vehicular Emission Modelling
10	Ganesh Narayanan	IIT Bombay	Professor	<ul style="list-style-type: none"> • Metal forming: Sheet metal forming, Formability evaluation and prediction, End forming of tubes, Cold forging • Joining and forming: Friction stir processing and welding, Friction stir additive manufacturing, Sandwich and adhesive bonded sheets, Formability evaluation, Riveting, Joining by forming • Computational applications in metal forming and joining: Finite element simulation and analysis, Cellular automata FE modelling, Soft computing, Computations for process and materials design
11	Bulu Pradhan	IIT Delhi	Professor	<ul style="list-style-type: none"> • Durability studies in concrete • Sustainable construction materials • Corrosion of steel Reinforcement and Protection Measures • High Performance Concrete • Self-compacting concrete • Geopolymer concrete

				<ul style="list-style-type: none"> • Non-destructive Testing of Concrete Structures • Construction Management • Construction Finance
12	Arup Kumar Sarma	Gauhati University, Guwahati	Professor	<ul style="list-style-type: none"> • Modeling and Simulation in Free Surface Flow • Heuristic Methods in Reservoir Optimization • GIS Based Watershed Modeling
13	T. V. Bharat	IISc Bangalore	Professor	<ul style="list-style-type: none"> • Mechanisms and Mitigation of Rainfall-induced Landslides • Geotechnical and Geoenvironmental engineering aspects of Waste containment facilities (Landfills, Nuclear waste repositories, etc.) • Mineralogical aspects of clays for predicting the engineering behavior (i.e., Subsidence and Heave) • Inverse analysis in Geotechnical & Geoenvironmental engineering problems • Geotechnical aspects of heritage structures
14	Arunasis Chakraborty	Trinity College, Dublin, Ireland	Professor	<ul style="list-style-type: none"> • Random Vibration & Wavelet Analysis • System Identification & Damage Detection • Uncertainty Quantification & Reliability Based Design • Inverse Problems & Health Monitoring • Vibration Control • Wind Energy
15	Manish Kumar	University of Maryland (UMD), College Park, USA	Professor	<ul style="list-style-type: none"> • Host-pathogen interaction of infectious diseases • Gene expression analysis of spirochetes: Leptospira interrogans and Borrelia burgdorferi • Development of diagnostics and vaccine against OMP's of Leptospira interrogans and Borrelia burgdorferi. • Vector-borne diseases of zoonotic importance
16	Sonali Chouhan	IIT Delhi	Associate Professor	<ul style="list-style-type: none"> • Wireless Sensor Networks • Coding Theory • Wireless Communications
17	Kaustubh Dasgupta	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> • Earthquake Engineering • Design of Reinforced Concrete Structures • Retrofitting of Structures

18	Arindam Dey	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> • Soft Soil Improvement using Preloading and Vertical Drains • Geosynthetic Engineering • Pavement and Railway Geotechnics • Seismic Pile Soil Interaction (SPSI) • Slope Stability Analysis • Ground Response and Liquefaction Analysis • Earthen Dams and Embankments • Seismic Soil-Foundation-Structure Interaction (SSFSI) • Shallow and Deep Foundations on Slopes • Landslide Hazard Assessment and Mitigation • Soil Dynamics and Earthquake Geotechnics • Geophysical Investigation using MASW survey • Shallow and Deep Foundations on Horizontal Ground • Piled-Raft Foundations • Experimental Geotechnics • Slope Stabilization • Rock Mechanics and Rock Engineering • Reinforced Soil Structures • Computational Geotechnics • Rigid and Flexible Earth Retention Systems • Probabilistic Geotechnical Engineering • Geophysical Investigation using MASW survey • Soil Nailing and Nailed Slopes • Rheological Modeling of Geomaterials • Instrumentation and Monitoring of Geotechnical Systems • Optimization, Soft Computing and Machine Learning in Geotechnical Engineering
19	Budhaditya Hazra	University of Waterloo, Canada	Associate Professor	<ul style="list-style-type: none"> • Stochastic Modelling • System Identification & Damage Detection • Statistical Signal Processing • Blind Source Separation • Fault Detection and Condition Based Maintenance of Rotating Machinery

20	Sougata Karmakar	Bharathiar University	Associate Professor	<ul style="list-style-type: none"> • Virtual Simulation (CAD and Digital Human Modeling) • Physical Ergonomics (Product and Workstation design) • Cognitive Ergonomics (Information processing) • Design and work environment • Design and Occupational Health
21	Abhishek Kumar	IISc Bangalore	Associate Professor	<ul style="list-style-type: none"> • Seismic Hazard of Urban centres • Seismic Hazard of Nuclear Power Plants • Ground Motion Simulation • Liquefaction Assessment • Site Response Analysis • Multichannel Analysis of Surface Waves (MASW) • Subsoil investigation and Geotechnical Testing • Soil Dynamics • Dynamics Testing on Pile • Ground Improvement • Deep Excavations
22	Sandip Das	IIT Kanpur	Associate Professor	<ul style="list-style-type: none"> • Earthquake Engineering • Structural Dynamics • Random Vibration • Structural Reliability
23	Rishikesh Bharti	IIT Bombay	Assistant Professor	<ul style="list-style-type: none"> • Advance remote sensing (hyperspectral and thermal) for the earth and planetary exploration • Hydrogeomorphology & Geospatial Modelling • Spectroscopy of natural and manmade materials • Snow and Glacier Studies
24	Ajay Dashora	IIT Kanpur	Assistant Professor	<ul style="list-style-type: none"> • Airborne and Terrestrial Data Acquisition <ul style="list-style-type: none"> ○ Physical modelling ○ Integration of multiple data acquisition technologies ○ Mission planning and flight planning for airborne data acquisition • Precision Remote Sensing Technologies <ul style="list-style-type: none"> ○ Photogrammetry, LiDAR, and GPS ○ Field work for geospatial data acquisition for historical images and data

				<ul style="list-style-type: none"> ○ Error analysis and estimation for precision technologies for their integration ○ Synthetic simulation for data acquisition with precision technologies ○ Planning for field work for data acquisition with precision technologies ● Low Cost Method Development <ul style="list-style-type: none"> ○ Utilization of small and low cost sensors to solve new problems of engineering significance ○ Sensor calibration ○ Application of low cost sensors for variety of problems ● Solving Social Issues <ul style="list-style-type: none"> ○ Analysis of impact of scientific problems on society like problems of land fragmentation, flash floods, urban traffic, climate change, bridge health etc. ○ Modelling of scientific problems with perspective of social impact ○ Identifying and utilizing appropriate remote sensing technologies for solving social issues ○ Soft computing for solving problems to study their impact on social order and setup
25	Ravi K.	IISc Bangalore	Assistant Professor	<ul style="list-style-type: none"> ● Geo-environmental engineering ● Geo-energy systems ● Engineering behaviour of unsaturated soils ● Research on hazardous waste management ● Experimental soil mechanics
26	Moumita Patra	IIT Madras	Assistant Professor	<ul style="list-style-type: none"> ● Wireless networks ● Internet of vehicles ● 5G based communication ● Network performance analysis
27	Siddhartha Singha	IIT Madras	Assistant Professor	<ul style="list-style-type: none"> ● Food Processing Technologies ● Process biotechnology ● Scale up and commercialization strategies in food- and bio-processing

28	Sharmistha Banerjee	IIT Guwahati	Assistant Professor	<ul style="list-style-type: none">• Design for sustainability• Agricultural Product Design• Lifecycle Assessment and Design• Sustainable Product-Service System Design• Product design• Medical Product Design• User Experience Design• Human Centered Design
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LABORATORY FACILITIES

- **Research Laboratory– I:** This Laboratory is used as workplace by research students to carry out routine Laboratory experiments
- **Research Laboratory– II:** This Laboratory is used as workplace by research students to carry out routine Laboratory experiments
- **Analytical laboratory:** This Laboratory is equipped with sophisticated equipment essential for environmental research
- **Computational laboratory:** This facility is accessible to the students for their computer related work
- **Institutional Biotech Hub Laboratory** including mammalian cell culture Laboratory and silk rearing and culture facility

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Ozonation system
- Magnetic stirrer with hot plate
- Colorimeter
- Digital muffle furnace
- Orbital shaking incubator
- Workstation Lenovo
- Display monitor and interactive pen display
- Micro Centrifuge

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Water and Wastewater Treatment
- Solid Waste Management and Recycling
- Environmental Bioremediation/ Environmental Biotechnology
 - Bio-sorption & Bioremediation of heavy metals
 - Bio-filtration for treating Waste Gases and Green Solvents
 - Removal of Toxic and Recalcitrant Compounds
 - Biodegradation/Bio-detoxification of Toxic Wastes
- Environmental Genomics and Proteomics
- Green Chemistry
- Greenhouse gas Capture and Storage
- Bio-fuels
- Air pollution- Dispersion, Control & Modeling
- Waste Immobilization
- Soil-water-contaminant Interaction
- Contaminant Transport and Retention in Porous Media
- Environmental History
- Environmental Economics
- Green Design
- Global Warming and Climate Modeling
- Seri-biotechnology and Seri-informatics and other related areas

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

Some of research works ongoing in the centre in the form of projects, patent and consultancies in the current period are listed below:

- Value addition of local fruits for sustainable livelihood
- Patent filed on: Smart nanophotocatalyst for azide-alkyne cycloaddition and hetero-selective glasser coupling reaction
- Antimicrobial two-dimensional covalent organic nanosheets (2D-CONs) for the fast and highly efficient capture and recovery of phosphate ions from water
- Utilisation of waste cellulosic material for the production of environment friendly bioethanol using recombinant clone of HtBg-L-CtCel8A from *Clostridium thermocellum* ATCC 27405
- Biosurfactant mediated enhanced oil recovery
- Sustainable and biodegradable substitutes for single use plastic
- Study of microbial phylogeny of petroleum hydrocarbon contaminated sites to identify potent biosurfactant producing microbial isolates and develop efficient microbial consortium as an end-to-pipe solution for bioremediation of hydrocarbon contaminated soil and water
- Petrographic analysis, silt load and silt content analysis in water

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Mr. Prithwi Chayan Chatterjee; Prof. Sanjukta Patra (Faculty)	Biotechnology for Sustainable Agriculture, Environment & Health (BSAEH) 2021	Jaipur (Hybrid)	04.04.2021 - 08.04.2021	International
02	Dr. Deepmoni Deka	Advances in Energy, Environment for Sustainable Development	Siksha O Anusandhan University, Bhubaneswar	07/01/2022 - 08/01/2022	International
03	Mr. Prithwi Chayan Chatterjee; Prof. Sanjukta Patra (Faculty)	Research & Industrial Conclave (RIC) 2022	IIT Guwahati (Online)	20/01/2022 - 23/01/2022	National
04	Udaratta Bhattacharjee and Prof. Ramagopal V. S. Uppaluri	Screening and Scoping of Precursors Associated to the Production of Jeevamrutha Bio-fertilizer (Oral)	Chandigarh University	11/03/2022 - 12/03/2022	
05	Krishna Das and Prof. Ranjan Tamuli	Cellular roles of Alternative Dehydrogenases in <i>Neurospora crassa</i> . (Oral)	IIT Guwahati	20/01/2022 - 23/01/2022	
06	Krishna Das and Prof. Ranjan Tamuli	Cellular level of reactive oxygen species plays a critical role for survival under various stress	Centre for DNA Fingerprinting and Diagnostics	17/02/2022 - 20/02/2022	

		conditions in <i>Neurospora crassa</i> . (Oral)	(CDFD), Hyderabad, India.		
07	Partha Protim Bakal and Gopal Das	Advances in Energy, Environment for Sustainable Development	Siksha O Anusandhan University, Bhubaneswar	07/01/2022 - 08/01/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Utpal Bora	Ecosystem Restoration	Gauhati University and GU NSS Cell	Gauhati University	05/06/2021
02	Prof. Utpal Bora	Oil Vs Biodiversity: Opportunities and Challenges”	Assam Botany Congress (ABC - 02) and Int. Conf. on Plant Science	Gauhati	05/12/2021
03	Prof. Utpal Bora	Climate Change: Challenges and Opportunities in Muga Culture	Resource Person in the Online ID refresher course on Environmental Disaster and Climate Change	UGC-Human Resource Development Centre, GU	11/12/2021
04	Prof. Utpal Bora	Responsible production and consumption” and “Issues in Science communication”	Resource Person for a Tutorial Program organized by Uttar Banga Krishi Viswavidyalaya		17/03/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Prof. Krishnamoorthy Kannan	Founder KK Biotech & Chair Professor Biotechnology at Manav Rachna International Univ, Ex-VC, Nagaland University	Chairing a session on World Environment Day celebration	05/06/2021	World Environment Day: Ecosystem Restoration: The way ahead
2	Prof. Subashisa Dutta	IIT Guwahati	Green Corridor based Ecological Restoration in Braided Brahmaputra River: Issues and Challenges		
3	Prof. Ranjan Tamuli	IIT Guwahati	Impact of Environment and Fungi in Evolution		
4	Prof. Partha Pratim Baruah	Gauhati University	Chairing a session on World Environment Day celebration		

5	Dr. Jayanta B. Sarma	Lead Consultant, The Mid Yorkshire Hospitals NHS Trust, Wakefield, England, UK, Visiting Honorary Faculty, Centre for the Environment	Burden of Disease Linked to Environment		
6	Prof. Utpal Bora	IIT Guwahati	A Primer on UN Decade on Ecosystem Restoration		
7	Dr. Bhuban Ch. Chutia	Assistant Professor Department of Zoology Nowgong College (Autonomous)	Plant based Natural Dye for dying eri silk yarn by ethnic people of Assam: A Sustainable Livelihood Generation		
8	Prof. Narayan C. Talukdar	Vice Chancellor, Assam Down Town University Former Director, IASST	Ecosystem Restoration: The Way Ahead		
9	Mr. Nareshwar Ek	ESD/Climate change facilitator at Environmental Communication, Eco-consultant, Ahmedabad Chennai	Ecosystem Restoration: The Way Ahead		
10	Ms. Sahana Ghosh,	Contributing Editor, Mongabay India Kolkata, India	Ecosystem Restoration: The Way Ahead		
11	Prof. Proboadh Bora	Head, Department of Animal Biotechnology, Assam Agricultural Univ, Guwahati	Ecosystem Restoration: The Way Ahead		
12	Prof. Shailesh Singh	Cancer Health Equity Institute, Morehouse School of Medicine, USA		23/08/2021-27/08/2021	Faculty Development Programme on "Genome Engineering for Environment"
13	Dr. Nirala Ramchiary	School of Life Sciences, JNU, India			
14	Prof. Manu K. Vora	Business Excellence, Inc., USA			
15	Dr. Rubul Mout	Institute for Protein Design Univ of Washington, USA			
16	Mr. Samrat Bora	Arya Vidyapeeth College, Gauhati University, India			
17	Dr. Utpal Das	Department of Neurosciences University of California San Diego, USA			
18	Tridiv Hazarika	Oil India Limited	Communication Fundamentals-The Art, Science & Commerce behind	24/01/2022-29/01/2022	

			Effective Communication		
19	Sahana Ghosh	Contributing Editor, Mongabay India Kolkata, India	The lens of Science in News		
20	Rituparna Kakoty	<i>Times of India</i>	Language Complicates Simple Science		
21	Dr. Sachin Datt	Sushant University	Visual Representations in Science Communication		
22	Dr. Abhishek Shrivastava	IIT Guwahati	Arts & Cartoon in Science Communication		
23	Dr. Palme Borthakur	University of Science and Technology, Meghalaya	Music in Science Communication		
24	Kaushik Bhuyan	Assam Don Bosco University	Documentary Script Writing		
25	Kartik Chandramouli	Mongabay India	Story Telling,		
26	Munmun Dhalaria	MoonPeakFilms	Documentary Production Management		
27	Kishore Kumar Sarma	Dr. Bhupen Hazarika Regional Government Film and Television Institute	Story Telling and Technological Developments in Motion Picture		
28	Faruk Iqbal	Dr. Bhupen Hazarika Regional Govt. Film & Television Institute	Sound		
29	Kalyanjit Hatibaruah	Flugelsoft Software	Social Media in Science Communication		
30	Jayanta Bordoloi	Independent Film Maker	Documentary Appreciation		
31	Hiranya kalita	Dr. Bhupen Hazarika Regional Govt. Film & Television Institute	Talk on editing		
32	Samudra Gupta Kashyap	SIC, Assam	Panel discussion		
33	Dr. Diganta Barman (Departmental speaker)	NESAC, Shillong	Disruptive technologies as a new paradigm in water resources and hydrology	20/01/2022-23/01/ 2022	Research and Industrial Conclave RIC 2022

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
01	Prof. Utpal Bora	World Environment Day	Online	05/06/2021	National	50
02	Prof. Utpal Bora	Workshop on "Science Communication 2022: The Art of Story Telling"		24/01/2022 - 29/01/2022	National	40
03	Prof. Utpal Bora	"Genome Engineering for Environment"	ATAL Academy Faculty Development Programme	23/08/2021 - 27/08/2021	National	

PATENTS

No. of Patents Applied: 01

No. of Patents Granted: 00

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
01	Subhendu Sekhar Bag, Sayantan Sinha	Smart Nanophotocatalyst for Azide-Alkyne Cycloaddition and Hetero-selective Glasser Coupling Reaction	Applied	Temp/E-1/10877/2022-KOL

AWARDS AND HONOURS

- Prof. Utpal Bora: Selected as External Member (Expert from Academia) at Kaziranga University, course/syllabus review meeting
- Prof. Utpal Bora: Appointed Member of Research Committee at Nowgong College
- Prof. Utpal Bora: Served as Jury member in "Brainstorming Conclave on Atmanirbhar North East through S&T Interventions" at Cotton University
- Prof. Arun Goyal: Received the BHU Centennial Award from Biotech research society, India, for outstanding contribution to microbial biotechnology

STUDENTS' ACHIEVEMENTS

- Prithwi Chayan Chatterjee: Awarded 2nd Prize for Oral presentation: Scientific at Research & Industrial Conclave 2022, IIT Guwahati
- Sayantan Sinha: Selected *Fellow of Bose Science Society* for Outstanding contribution in the field of Nanochemistry and Chemical Biology
- Prangan Duarah: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Debolina Ghosh: Received the Prime Minister's Research Fellowship (PMRF) 2021

- Sumona Koley: Received the Prime Minister's Research Fellowship (PMRF) 2021
- Arnab Ghosh: Received the Best Thesis Award ,2021 at IIT Guwahati for thesis titled "Environmentally benign synthesis of Sn(II) based metal-organic-framework and its derivative SnO₂ nanoparticles for the decontamination of water"
- Sayantan Sinha: Selected Fellow of the Linnean Society of London

Science Communication 2022: The Art of Story Telling

An online workshop on "Science Communication 2022: The Art of Story Telling" was successfully organized by the Centre for the Environment IIT Guwahati from 24-29th January, 2022. Prof. Utpal Bora, Head, Centre for the Environment, IIT Guwahati was the coordinator of the workshop. The workshop was designed to empower the participants with knowledge to make informed decisions about utilizing scientific and technological advancements and expose all to various facets of science communications. The workshop intended to skill the communicators in creating emotional connections between scientists and their research on the one hand and people and their problems on the other hand. Around forty-seven participants from various fields of science and communication participated in the workshop. Among the distinguished resource persons were Samudra Gupta Kashyap, SIC, Assam; Hiranya Kalita, Faruk Iqbal, Kishore Kumar Sarma (all from Dr. Bhupen Hazarika Regional Government Film and Television Institute (DBHRGFTI), Assam); Sahana Ghosh, Kartik Chandramouli (both from Mongabay-India), Rituparna Kakoty, Times of India; Kaushik Bhuyan, Assam Don Bosco University; Kalyanjit Hatibaruah, Flugelsoft group; Dr. Palme Borthakur, USTM Meghalaya; Tridiv Hazarika, Oil India Ltd; Munmun Dhalaria, Nat Geo explorer; Debasish Bhattacharjee, independent film maker; Dr. Sachin Datt, Sushant University, Haryana and Dr. Abhishek Shrivastava, IIT Guwahati shared their knowledge on various aspects of science communications. The technical sessions were chaired by Prof. Karuna Kalita, Prof. Tamal Banerjee (all from IIT Guwahati), Prof. Sunandan Baruah, Assam Downtown university and Dr. Dinesh Kumar, Central university of Haryana. The organizing team comprising Dr. Deepmoni Deka, Mr. Partha Protim Bakal, Mr. Kaustubh Rakshit and student volunteers coordinated the six day technical sessions and Mr. Rajiv Gogoi together with Mr. Mridul Das provided logistic support in the successful completion of the workshop.

Ecosystem Restoration: The way ahead

On behalf of IIT Guwahati, Centre for the Environment celebrated World Environment Day (WED 2021) in solidarity with the global community for the common good of humanity and this planet. On this occasion various activities were organised viz. keynote lectures, brain storming session cum panel discussion on "Ecosystem Restoration: The Way Ahead" by eminent scientists and ecologists. The main event of World Environment Day 2021 is the launching of the UN Decade on "Ecosystem Restoration" which was well chosen as the theme for our event. At the very onset Prof. Utpal Bora, Chairman & Head of the Centre welcomed all the speakers and participants to the one-day online event. Among the distinguished resource persons were Prof. Krishnamoorthy Kannan, Chair Professor Biotechnology at Manav Rachna university; Dr. Jayanta B. Sarma, Mid Yorkshire Hospitals NHS Trust; Prof. Narayan C. Talukdar, Assam Down Town University; Prof. Probodh Bora, Assam Agricultural Univ.; Mr. Nareshwar Ek, environmental consultant; Ms. Sahana Ghosh, Editor, Mongabay India; Prof. Partha P. Baruah, Gauhati University participated and shared their views on ecosystem restoration and stressed for creating awareness for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It also included "Ecotalks" on diverse topics and Group Discussion on "Environmental problems of Indo-Burma Biodiversity Hotspot and probable solutions" for young researchers and scholars.

As a part of the global team for restoring and building a sustainable ecosystem for our future generation another event “Plant a Tree” was also part of the programme where plant a sapling in your premises or any suitable place following COVID-19 safety protocols was encouraged. For young environment enthusiasts a photography competition was also held as a part of the environment day. The organizing team included Dr. Deepmoni Deka, Mr. Partha Protim Bakal, Mr. Kaustubh Rakshit, Mr. Rajiv Gogoi and centre students who have worked actively inspite of the covid-19 restrictions to make the online event successful.

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
1	Subhendu S. Bag	IIT Kharagpur	Professor	Chemical Biology, Environmental Nanotechnology. Bionanotechnology, Nanomedicine, Sensor development, Bioorganic Chemistry and Chemistry of Unnatural Nucleic Acid and Peptides
2	Anamika Barua	University of Leeds, UK	Professor	Socio-economic understanding of climate risk and resilience, urban living and sustainable cities
3	Pada Krishna Bhabak	IISc Bangalore	Associate Professor	Design and Synthesis of Potential Bio-active Organic Compounds, Anti-cancer and Antioxidative Properties of Synthetic Organic Compounds, Selective Fluorescent Delivery Agents for Anti-cancer Compounds, Understanding their Behavior at Cellular Environment
4	Utpal Bora	Institute of Genomics & Integrative Biology, Delhi (degree awarded by GGS Indraprastha University, Delhi).	Professor	Biodiversity, Ecology, Environmental Informatics, Environmental Policy
5	Saswati Chakraborty	IIT Mumbai	Professor	Water and Wastewater Treatment, Biodegradation of Industrial Wastewater and Removal of Heavy Metals from Wastewater
6	Chandan Das	IIT Kharagpur	Professor	Membrane based separation technology, Bioremediation using <i>Spirulina Platensis</i> , blue-green microalgae, Supercritical fluid extraction for the production of peonidin, peonidin 3-glucoside and cyanidin 3-glucoside from black rice and 6-gingerol, vitamin C content, essential oil content from ginger of North East India of North East India, Natural products, namely, aloe vera,

				polyphenol, stevia, lycopene extraction and purification
7	Gopal Das	IIT Kanpur	Professor	Supramolecular, Bioorganic chemistry and Biomineralization
8	Venkata V. Dasu	IIT Madras	Professor	Bioprocess development (upstream to downstream), Metabolic Engineering, Bioenergy
9	M. K. Dutta	Gauhati University	Professor	Microeconomics, Agricultural Economics, Environmental Economics, Econometrics
10	Subashisa Dutta		Professor	Satellite Remote Sensing and GIS for Water resources Management, Computational river hydraulics and its applications, Watershed and Irrigation Management
11	Pranab Kumar Ghosh	IIT Kharagpur	Professor	Water treatment for domestic and industrial use, Domestic and Industrial wastewater treatment and Sludge treatment by physicochemical and biological process
12	Sharad Gokhale	IIT Delhi	Professor	Urban Vehicular Pollution, Industrial Stack Pollution, Indoor Air Pollution, Environmental Impact Assessment, Air Quality Modeling
13	Animes K. Golder	IIT Kharagpur	Professor	Electro- and bio-remediation of heavy metals, Physiochemical water treatment techniques, Homogeneous and heterogeneous catalytic AOPs, Extraction and separation of value added chemicals from natural sources
14	Vaibhav V. Goud	IIT Kharagpur	Professor	Heterogeneous Reactions, Bio-energy and Green Engineering, Bio lubricant, Utilization of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
15	Arun Goyal	IIT Kanpur	Professor	Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes and other industrial microbial enzymes
16	Mohammad Jawed	IIT Kanpur	Professor	Biological Processes, Anaerobic Wastewater Treatment, Heavy Metal Removal and Recovery, Water Treatment and Supply, Domestic & Industrial Wastewater Treatment
17	Ajay Kalamdhad	IIT Roorkee	Professor	Solid waste management, mechanical composting and vermicomposting, analysis of solid wastes, water and waste water Treatment
18	Karuna Kalita	University of Nottingham, UK	Professor	Coupled Dynamics of Electro-Mechanical Systems Vibration Rotordynamics
19	Vimal Katiyar	IIT Bombay	Professor	Synthetic and Natural Polymers, Polymer Processing, Biothermoset, Nanobiocomposite, Organic Solar Cells
20	Meena Khwairakpam	IIT Roorkee	Assistant professor	Solid waste management • Mechanical composting and vermicomposting • Analysis of solid wastes • Biological Waste treatment

				• Integrated Waste Management • Water Supply and Sanitation
21	Lal Mohan Kundu	LMU Munich, Germany	Professor	Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials
22	A. B. Kunnumakkara	University of Calicut, Kerala	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
23	Chandan Mahanta	JNU, New Delhi	Professor	Water Quality, Sediment Dynamics in Fluvial Systems, Environmental Impact, Risk Assessment and Management, Environmental Geo-informatics, Engineering Geology
24	Subrata Kumar Majumder	IIT Kharagpur	Professor	Process Intensifications in Chemical Processes, Intensification in environmental process system, Micro-nano bubble science and technology and its applications, Microchannel-based and Jet driven gasaided extraction, Mineral Beneficiation, Enhanced Oil Recovery by Micro nanobubble , Multiphase Flow and Reactor Development
25	Bishnupada Mandal	IIT Kharagpur	Professor	Separations with chemical reaction, Molecular based membrane separation, Modeling and simulation of separation processes, Environmental pollution control
26	Tapas Kumar Mandal	IIT Kharagpur	Professor	Multiphase multiphase flow, Bio flow & Measurement i
27	Debasish Manna	University of Illinois, Chicago, USA at Chicago, USA	Professor	Ion transport, Liposomal drug delivery, Drug discovery and immunotherapy.
28	Kaustubha Mohanty	IIT Kharagpur	Professor	Bio separation, Biofuels, Biological wastewater treatment, Membrane technology, Ionic liquids
29	Vijay S. Moholkar	University of Twente, Netherlands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
30	Chandan Mukherjee	Max-Planck Institute for Bioinorganic Chemistry, Muelheim, Germany	Professor	Oxidation Catalysis , Molecular Magnetism, Synthesis of Single-Molecule Magnets (SMMs), MRI Contrast agents, Water Oxidation Chemistry
31	Kannan Pakshirajan	IIT Madras	Professor	Biological removal and recovery of inorganic compounds from wastewaters; Biological treatment of industrial wastewaters; Biodegradation of xenobiotic, Biofuels and other Biotechnological

				Products: Production; Process design, kinetics and optimization; Environmental applications
32	Lalit M. Pandey	IIT Delhi	Associate Professor	Surface and interfacial science particularly in the area of Bio-interfaces and
33	Bhisma K. Patel	IIT Kanpur	Professor	Bio-Organic Chemistry and Newer Methodologies, Green Chemistry, Heterocyclic Chemistry
34	Sanjukta Patra	Central Food Technological Research Institute, Mysore	Professor	Enzyme and microbial technology, Metagenomics, Biosensors, Environmental Biotechnology
35	G. Pugazhenth	IIT Kanpur	Professor	Membrane Separation Process, Polymer Nanocomposite, Nanomaterials, Adsorption, Wastewater Treatment
36	M. K. Purkait	IIT Kharagpur	Professor	Membrane Technology , preparation/fabrication of ceramic/ polymeric membranes and their application in RO, NF, UF and MF), Treatment of Industrial Effluent Surfactant mediated separation, Responsive materials for environmental, biological and chemical separation
37	A. Ramesh	CFTRI, Mysore	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors
38	Manabendra Ray	IIT Kanpur	Professor	Design and synthesis of coordination complexes or assemblies of complexes with chiral ligands to use as chiral host to facilitate binding and separation of chiral molecules
39	Gurvinder K. Saini	Andhra University, Vishakapatnam	Professor	Fungal Biotechnology
40	Arup Kumar Sarma	Gauhati University	Professor	Modeling & simulation in Free Surface Flow, Heuristic Method in Reservoir Optimization, GIS based Watershed Modeling
41	Chivukula V. Sastri	University of Hyderabad	Professor	Biomimetic Chemistry and Chemical Biology
42	S. Senthilmurugan	IIT Delhi	Professor	Modeling & Optimization of Novel Processes, Process Design & Operation of Membrane Separation Processes, waste water treatment for Process Industries, Novel Desalination Technologies, Smart Water Grid, Waste to Energy
43	Senthil K. Sivaprakasam	Central Leather Research Institute, Chennai	Professor	Biocalorimetry, Bio-Process Analytical Technology (BioPAT) (synthesis of recombinant proteins and value-added bioproducts), Real-time monitoring and control of bioprocess systems (BioPAT) (Biocalorimetry, Dielectric Spectroscopy

				and Exhaust Gas Analyzer), Mathematical modeling of bioprocess systems, Monitoring and control of environmental bioprocess systems leading to value-added products
44	Banerjee Tamal	IIT Kanpur	Professor	Phase equilibria of ionic liquids, Molecular simulations, Global optimization, Statistical thermodynamics
45	Ranjan Tamuli	Centre for Cellular and Molecular Biology, Hyderabad, Degree awarded by JNU, New Delhi.	Professor	Environment and Fungi
46	Pankaj Tiwari	University of Utah, Salt Lake City, USA, 2012	Associate Professor	Conventional and unconventional energies, Reservoir Engineering, Complex organic solids, Biomass conversion, Pyrolysis process, Kinetic analysis
47	Vishal Trivedi	Central drug research institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum
48	Ramagopal V. S. Uppaluri	University of Manchester, England	Professor	Electroless Plating, Evolutionary Engineering Optimization, Low Cost Ceramic Membranes, Microfiltration, Bio-systems Engineering, Polymer-natural fiber composites

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Ceramic traditions of Assam
- Traditional agriculture practices
- Ancient architecture, Food practices
- Preservation of Indian Knowledge: Museum
- History of Indian Science and Technology

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- Planning for museum has started. Area near reception of administrative building has been identified for museum on traditional knowledge

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Uday S. Dixit	Online talk on Indian Knowledge System	Department of Mathematics, IIT Guwhati	Guwahati	09/09/2021
02	Prof. Uday S. Dixit	Hindi Diwas lecture	Assam Science and Technology University	Guwahati	14/09/2021
03	Prof. Uday S. Dixit	Online Hindi Diwas lecture	NIT Manipur	Imphal	14/09/2021
04	Prof. Uday S. Dixit	Importance of Hindi	SAMEER, IIT Guwahati	Guwahati	21/09/2021
05	Prof. Uday S. Dixit	Research Publications: Facilitator and Indicator of Research	E&ICT Academy IIT Guwahati	Guwahati	19/12/2021
06	Prof. Uday S. Dixit	Online Science Day Lecture on "Technology and National Identity"	Think India, NIT Silchar	Silchar	28/02/2021

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Date	Purpose/ Name of Lecture
01	Mr. Mukul Kanitkar	Bharatiya Shikshan Mandal	27/09/2021	Education System in Ancient India
02	Mr. P. P. Dasgupta	Strategic H.R, Corporate Affairs, Education	24/10/2021	Value-based Indian Education System for emerging economy

03	Eager to Forge Ahaed	Eager to Forge Ahaed	27/10/2021	A two-hour session comprising divine music, meditation and speech by CH Nirakar Ji
04	Prof. G. S. Murthy	Sanskritik Saurav Sansthan	21/12/2021	Traditional Knowledge Systems: a personal projection
05	Prof. S. Pathi	IIT Guwahati	22/12/2021	Poular talk on Ramanujan-Rogers Identity
06	Dr. Sadanam Harikumaran	Gandhi Seva Sadanam Kathakali Academy	01/01/2022 - 03/01/2022	Two lectures on Carnatic Music and one on Kathakali
07	Dr. Sekhar Raghvan	Rain Centre, Chennai	01/08/2022	Rain water harvesting
08	Dr. Abhishek Majhi	INMAS , DRDO	01/10/2022	Is mathematics logical? -- A self-inquiry concerning quadratic equation, the principle of superposition and the classical harmonic oscillator
09	Prof. Amitabha Ghosh	IIT Khragpur	01/12/2022	Roads in ancient India
10	Dr. Kapil Kumar Bhattacharyya	The Bhawanipur Education Society College Bhawanipur, Kolkata, West Bengal, India	28/01/2022	Inquiring into the Enlightened Minds: Communication Discourse in Ancient India
11	Dr. Sushil Kumar	Defence Research and Development Organization, New Delhi	22/02/2022	Cognition and Meditation
12	Dr. Nithya Sivan	Sanjeevani Ayurveda and Yoga Centre, Chennai	26/02/2022	Fever: An Ayurvedic perspective
13	Prof. A. Srinivasan	IIT Guwahati	28/02/2022	Sir C V Raman, his discoveries and their impact
14	Prof. Amit Kumar Singh	Babasaheb Bhimrao Ambekar University	03/03/2022	Traditional Knowledge and rural management
15	Arvind Kaushik	University of Pardubice, Czech Republic	14/03/2022	Is Saiva Siddhanta a Tamil National Religion?
16	Dr. Kashyap	IIT Guwahati	15/03/2022 - 17/03/2022	Symposium on Indian Philosophy
17	Dr. Manjunath N. K.	S-VYASA University	28/03/2022	Science of Yoga
18	Shri Mukul Kanitkar	Bharatiya Shikshan Mandal	28/03/2022	International Yoga Day: First sept towards becoming Vishawguru
19	Dr. Rabindra Mohan Acharya	S-VYASA University	28/03/2022	Meditation in daily life

20	Mr. M. Hanumantharao	All India Vice-President Vivekananda Rock Memorial and Vivekananda Kendra Kanyakumari	30/03/2022	Spirituality: A Subjective Science
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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
01	Profs. Sukanya Sharma and Uday S. Dixit	10-day STC on Spoken Assamese	Self-financed	10/12/2021 - 19/12/2021	National	20
02	Profs. Sukanya Sharma and Uday S. Dixit	10-dy STC on Spoken Assamese	Self-financed	01/02/2022 - 12/02/2022	National	10
03	Profs. Sukanya Sharma and Uday S. Dixit	Yearlong course on "Gita for life in the light of Sri Aurobindo"	Self-financed	21/02/2022	International	85
04	Prof. Prabhu Venkataraman and Dr. Abhishek Kashyap	Symposium on Indian Philosophy	IIT Guwahati	15/03/2022 - 17/03/2022	National	30

STC's ON SPOKEN ASSAMESE

Center for Indian Knowledge Systems (CIKS) of Indian Institute of Technology Guwahati has launched a course-series for imparting the communication skills in Assamese language. An inaugural function was organized by CIKS on December 10, 2021 in the august presence of Professor T.G. Sitharam. Speaking on the occasion Professor Sitharam highlighted that it is important to learn the language of the region for assimilating with the society. "IIT Guwahati is putting a lot of emphasis on research and innovation by its faculty and students. We want that outcome of the research should reach the common person and help in the sustainable growth of the region. Center of Indian Knowledge System has been specifically set up to connect the modern technology with our rich cultural and technological heritage. Researchers at CIKS will document the available knowledge in the Northeast and understand their needs. Hence, it is very important to have a working knowledge of Assamese, as Assamese is spoken by the majority of people in Northeast. Assamese language is rich and has roots in Sanskrit," said Professor Sitharam. He expressed the intense need for conducting such type of course on a continuous basis, so that every student and employee of IIT Guwahati has a working knowledge of the language.

As a first course of the series, a 10-day course has already started on December 10, 2021 for honing the oral communication skills in Assamese language. Head of Center Professor U.S. Dixit informed the participants that this course will be taught in a scientific manner, so that in a period of 15-20 hours spread over 10 days, participants will be able to communicate in Assamese. Later on some advanced courses will also be organized. Each teaching session is like an interactive tutorial session with a limited number of participants. Participants include students, faculty, staff and other campus residents. They learn by speaking with each other in the guidance of Course Instructor Dr. Juri Sarma, who is a Ph.D.

from Gauhati University in Assamese language. Welcoming the participants Prof. Dixit informed that this project has been taken by the Center as a part of Azadi Ka Amrit Mahotsav to foster a feeling of national integration by teaching languages. Along with Assamese, other languages including Sanskrit will also be taught as a part of this project. The focus will be on providing the working knowledge of the languages, which will also enable them to get the deeper knowledge of the language by self-study or by joining conventional courses. Professor Sukanya Sharma, Coordinator of the Azadi Ka Amrit Mahotsav were also present on the occasion.

Considering the work schedule of students and employees, classes have been arranged in the evening. Center for Indian Knowledge Systems has also invited Dr. Kuladhar Saikia, President of Assam Sahitya Sabha for delivering a special talk in the course. Dr. Saikia is a member of Advisory board of this Center. In the recently held meeting of Advisory Board, he has encouraged CIKS to conduct such programs, so that people of one region can understand the culture and ethos of other region.

Center of Indian Knowledge Systems was inaugurated by Hon'ble Minister of Education, Government of India, Shri Dharmendra Pradhan on November 21, 2021. It has started a Ph.D. program and several short-term courses. "Center will explore the knowledge systems of Assam and learning of Assamese learning is the first step in that direction", said Professor T.G. Sitharam, Director of IIT Guwahati.

The second course in the series was conducted from February 1 to February 12, 2022. In this course also, Dr. Juri Sarma was the main instructor and the course was attended by about 10 participants. Center is continuing this effort of popularizing Indian languages.

INAUGURATION OF YEARLONG COURSE ON GITA FOR LIFE IN THE LIGHT OF SRI AUROBINDO

This year India is celebrating 75th Anniversary of Independence, which also coincides with the 150th Birth Anniversary of Sri Aurobindo, a great philosopher, Yoga Guru and Indian nationalist. In honor of Sri Aurobindo and other freedom fighters, a yearlong course on Gita is being organized by Center for Indian Knowledge Systems of IIT Guwahati. The main instructor of the course is Shri Diganta Biswa Sarma, who has been awarded with Sahitya Akademi Prize 2020 for translation of the book "Foundations of Indian Culture", a book authored by Sri Aurobindo. The course is being conducted in online mode with weekly lectures of one-hour duration on Friday, Saturday and Sunday. The course was inaugurated on February 21, 2022 online with Prof. TG Sitharam, Director IIT Guwahati as the Chief Guest and Prof. HK Sharma, Director NIT Agartala as the Guest of Honor. Course organizers Prof. Sukanya Sharma and Prof. U.S. Dixit briefed everyone about the course.

SYMPOSIUM ON INDIAN PHILOSOPHY

A symposium on Indian Philosophy was jointly organized with the Dept. of HSS from 15th to 17th March 2022. It was a 3-day online event. There were six eminent invited Speakers who deliberated on different schools and thoughts of Indian Philosophy. Prof. S. Panneerselvam spoke on "Tradition and Modernity in Indian Philosophy", Prof. Nirmalya Chakraborty deliberated on "Self-knowledge and Objectivity: Contemporary Indian Philosophical Insight", Prof. Raghunath Ghosh spoke on "Artha as Parama Purushartha", Prof. H.S. Prasad discussed "Dhamma-Centric Secularism, Social Contract, and Politics: Evolution Theory of the Buddha", Prof. Archana Barua deliberated on "Lokayata tradition – Indian materialism" and Prof. R.P. Singh talked on "Tradition of Questioning in the Upanishads".

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/ Org PhD degree received from	Designation	Areas of Interest
1	Sukanya Sharma	Deccan College PG & Research Institute, Pune	Professor	Ancient Indian History, Culture and Archaeology
2	T. V. Bharat	IISc Bangalore	Professor	Vasthu & Jyotisha
3	Arbind K. Singh	IISc Bangalore	Professor	History of Science and Technology.
4	Indu Siva Ranjani G.	IIT Madras	Assistant Professor	Sustainable building materials, energy efficient structures, lightweight concrete
5	Konjengbam Darunkumar Singh	PhD Southampton University	Professor	Steel, Concrete, and composite structures.
6	Mriganka Madhukaillya	IIT Guwahati	Assistant Professor	
7	Pankaj Kalita	IIT Guwahati	Assistant Professor	Indigenous resources for energy harvesting.
8	Prabhu Venkataraman	Pondicherry Univeristy	Professor	Indian Philosophy
9	Ramagopal Uppaluri	University of Manchester	Professor	Holistic Medicine, Vedanta and Science, Consciousness studies
10	S. Senthilvelan	IIT Madras	Professor	Traditional Medicine Manufacturing Technology at Rural
11	Shakuntala Mahanta	Utrecht University, The Netherlands	Professor	Phonology. language documentation, south asian languages and linguistic tradition, tibeto-burman languages, word and sentence level prosody
12	Siddhartha Singha	IIT Madras	Assistant Professor	
13	Srinivasan Krishnaswamy	IIT Bombay	Assistant Professor	Indian Languages and literature, Data Collection
14	Uday Shanker Dixit	IIT Kanpur	Professor	Modelling, History of Science & Technology

15	Vimal Katiyar	IIT Bombay	Professor	Sustainable Materials, Policies on Research and Development
16	Pahi Saikia	McGill University, Canada	Associate Professor	Ethnic identity politics, tribes and indigenous people in Northeast India; Governance & political development in developing areas
17	Arun Goyal	IIT Kanpur	Professor	Discovering the age of Megalithic era, Architecture of ancient temples from India and world
18	Amarendra Kumar Das	IIT Guwahati	Professor	
19	Rohini Mokashi-Punekar	Gujarat University	Professor	Translation, Postcolonial Studies, Culture Studies, Indian Writing in English and Modern British Literature.
20	Utpal Bora	Institute of Genomics and Integrative Biology, Delhi	Professor	
21	Alika Khare	IIT Kanpur	Professor	Laser , Laser based diagnostics for analytical assessment of any kind of system, Laser spectroscopy etc
22	Mithilesh Kumar Jha	University of Delhi	Assistant Professor	Indian intellectual traditions, theory, and thought as my area of interest

LABORATORY FACILITIES

- A Laboratory Equipped with (a) GPU cluster for spoken language processing, (b) EEG system for cognition and language studies. (c) Psychology Software Tools for Stimulus presentation and behavioral analysis

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Acoustic Phonetics; Cognitive and Cultural Aspects of Linguistic Structures, Automatic Speech/Language/Dialect Recognition; Text-To-Speech Systems; Spoken Language Resource
- Spoken language technology development, Text Processing and Analytics, Brain, Cognition and Language

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Abhishek Shrivastava	IndiaHCI 2021 Saurabh Nautiyal and Abhishek Shrivastava. 2021. A Scientometric Study on Ten Years (2011-2020) of IndiaHCI Conference Series. In India HCI 2021 (India HCI 2021). Association for Computing Machinery, New York, NY, USA, 19–29. DOI: https://doi.org/10.1145/3506469.3506472	Online	19/11/2021 - 21/11/2021	International
02	Abhishek Shrivastava	8th NAFOSTED Conference on Information and Computer Science (NICS), 2021 C. Deka, S. Sah, A. Shrivastava, M. Phukon and L. Routray, "Assessing a Voice-Based Conversational AI prototype for Banking Application," 2021 8th NAFOSTED Conference on Information and Computer Science (NICS), 2021, pp. 211-216, doi: 10.1109/NICS54270.2021.9701536	Online	21/12/2021 - 22/12/2021	International
03	Sukumar Nandi	Roshan Singh, Pranav Kumar Singh, Sukumar Nandi, "A Blockchain-based Approach for Optimal Energy Dispatch and Fault Reporting in P2P Microgrid", the 2021 IEEE GLOBECOM Workshops: Workshop on Intelligent Communications for Decentralized Energy Management (EnergyCom), 7-11 December		December 2021	International
04	Sukumar Nandi, Sanasam Ranbir Singh	Ritesh Ratti, Sukumar Nandi, Sanasam Ranbir Singh, "Online Network Attack Detection using Statistical Features", the 2021 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 13-16 December		December 2021	International

05	Sukumar Nandi	Kousik Rajesh, Manoj Das, Sukumar Nandi, "Tree-Based Group Diffie-Hellman for subgroup communication in M2M networks", the IEEE INDICON 2021, 19-21 December		December 2021	International
06	Sukumar Nandi	Thejaswini P, John Jose, Sukumar Nandi, "Energy Efficient Approximate MACs", the INDICON 2021, 19-21 December		December 2021	International
07	Sukumar Nandi	Thejaswini P, John Jose, Sukumar Nandi, "Energy Efficient Approximate MACs", the IEEE INDICON 2021, 19-21 December		December 2021	International
08	Sukumar Nandi	Bhabesh Mali, Santanu Saha, Daimalu Bhahma, Pranav Kumar Singh, Sukumar Nandi, "Alternate Crop Prediction Using Artificial Intelligence: A Case Study in Assam", the 2021 IEEE International Symposium on Smart Electronic Systems (iSES) (Formerly iNiS), 20-22 December		December 2021	International
09	Sukumar Nandi	Dipojjwal Ray, Pradeepkumar Bhale, Santosh Biswas, Sukumar Nandi, Pinaki Mitra, "DAISS: Design of an Attacker Identification Scheme in CoAP Request/Response Spoofing", 2021 IEEE Region 10 Conference (TENCON), 7-10 December		December 2021	International
10	Sanasam Ranbir Singh	Jennil Thiyam, Sanasam Ranbir Singh, Prabin K. Bora, "Chart classification: an empirical comparative study of different learning models", The Twelfth Indian Conference on Computer Vision, Graphics and Image Processing, Article No.: 32, 1 - 9 December		December 2021	National
11	Samit Bhattacharya	Nilotpal Biswas, Debangshu Banerjee, Samit Bhattacharya, "Natural Walking Speed Prediction in Virtual Reality While Using Target Selection-based Locomotion", Proc 27th ACM Symposium on Virtual Reality Software & Technology (VRST 2021), 1-3, 8 December		December 2021	International
12	Sukumar Nandi	Vedika Kulkarni, Manju R, Ruchika Gupta, John Jose, Sukumar Nandi, "Packet Header Attack by Hardware Trojan in NoC based TCMP and its Impact Analysis", 15th IEEE/ACM International Symposium on Networks-on-Chip (NOCS-2021), 14-15 October		October 2021	International
13	Samit Bhattacharya	Nilotpal Biswas, Samit Bhattacharya, "Finding a Range of Perceived Natural Visual Walking Speed for Stationary Travelling Techniques in VR", IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct 2021), 209-211, 4 October		October 2021	International
14	Sukumar Nandi	Sunit Kumar Nandi, Pranav Kumar Singh, Sukumar Nandi, "Evaluating DASH QoE with MPTCP Under Different MPTCP Buffer Sizes and Path Latencies", IEEE International		September 2021	International

		Mediterranean Conference on Communications and Networking, 7-10 September			
15	Sukumar Nandi	Madhurima Buragohain, Sukumar Nandi, "LPECN: Leveraging PIT placement and Explicit marking for Congestion control in NDN", 8th ACM Conference on Information-Centric Networking (ICN 2021), 22-24 September		September 2021	International
16	Sanasam Ranbir Singh	Anasua Mitra, Priyesh Vijayan, Sanasam Ranbir Singh, Diganta Goswami, Srinivasan Parthasarathy, Balaraman Ravindran, "Semi-Supervised Deep Learning for Multiplex Networks", ACM SIGKDD 2021, 1234 - 1244 August		August 2021	International
17	Sanasam Ranbir Singh	Jennil Thiyam, Sanasam Ranbir Singh, Prabin K. Bora, "Challenges in Chart Image Classification: A Comparative Study of Different Deep Learning Methods", The 21st ACM Symposium on Document Engineering, Article No.: 29, 1 - 4 August		August 2021	International
18	Sukumar Nandi	Sukanta Dey, Sukumar Nandi, Gaurav Trivedi, "Machine Learning for VLSI CAD: A Case Study in On-Chip Power Grid Design", 2021 IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 7-9 July		July 2021	International
19	Sukumar Nandi	Pradeep Kumar Bhale, Santosh Biswas, Sukumar Nandi, "ML for IEEE 802.15.4e/TSCH: Energy Efficient Approach to Detect DDoS Attack Using Machine Learning", International Wireless Communications and Mobile Computing Conference (IWCMC 2021), June 28 - July 2 July		July 2021	International
20	Sukumar Nandi	PradeepKumar Bhale, Santosh Biswas, Sukumar Nandi, "LIENE: Lifetime Enhancement for 6LoWPAN Network Using Clustering Approach Use case: Smart Agriculture", 21th International Conference on Innovations for Community Services (I4CS 2021), 26-28 May		May 2021	International
21	Sanasam Ranbir Singh	Semi-Supervised Deep Learning for Multiplex Networks, In the Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, August 2021		August 2021	International
22	Sanasam Ranbir Singh	Manipuri-English Machine Trans-lation using Comparable Corpus. In the Proceedings of 18th Biennial Machine Translation Summit (4th Workshop on Technologies for MT of Low Resource Languages)		August 2021	International
23	Sanasam Ranbir Singh	Manipuri-English Cross-lingual Word Embeddings using a Temporally Aligned Comparable Corpus. In Proceedings of the 2021 International Conference on Asian Language Processing, 2021		October 2021	International

24	Sanasam Ranbir Singh	English-Manipuri Machine Translation: An empirical study of different Supervised and Unsupervised Methods. In Proceedings of the 2021 International Conference on Asian Language Processing, 2021		October 2021	International
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INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Samit Bhattacharya	Invited talk on "HCI: what, why & how"	Kristu Jayanti College (Autonomous), Bengaluru	Virtual	June 2021
02	Samit Bhattacharya	Invited talk on "User Cntric Design and Virtual Reality" (FDP under ATAL (AICTE) on "Virtual and Augmented Reality for Robotics")	Vimal Jyothi Engineering College, Kannur, Kerala	Virtual	June 2021
03	Samit Bhattacharya	Invited talk on "HCI: What, Why and How"	Kalinga Institute of Industrial Technology (KIIT)	Virtual	July 2021
04	Samit Bhattacharya	Invited talk on "user-centric computing: what, why & how" (FDP under ATAL on "computational intelligence")	NIT Agartala	virtual	January 2022
05	Sanasam Ranbir Singh	Keynote: Opinion Mining on Social Media Data, InCITe 2022			
06	Sanasam Ranbir Singh	Keynote: Social Media Analysis, 7th International Conference on Mathematics and Computing (ICMC 2021)			
07	Sanasam Ranbir Singh	Opinion Mining on Social Media Data- Challenges and solution approaches, UGC-HRDC, MZU 18 March 2022			
08	Sanasam Ranbir Singh	Social media data mining, AI and ML for Pattern and Voice Recognition, 14th-18th Feb. 2022, NIT Manipur			
09	Sanasam Ranbir Singh	Natural Language Processing, ATAL PDP Course on Overview of Speech Processing 13-17, Dec, 2021 IIT Dharwad			
10	Sanasam Ranbir Singh	Sequential Neural models, ATAL FDP on Predictive Modelling Using Data-Science Techniques, September 6 – 10, 2021, IIT Guwahati			
11	Sanasam Ranbir Singh	Emotion detection on Social Media Data, STC on New			

		Avenues of Emotion Recognition, 23/8/2021-28/8/2021, MAKAU, WB			
12	Sanasam Ranbir Singh	Social Media Data Mining, Recent Advances in Machine learning, UGC-HRDC, MU, 5 January 2022			
13	Sanasam Ranbir Singh	Keynote: Deep Learning, Recent Advances of NLP using Deep Learning (NLP-DL-2021), 8th March to 12th March 2021, NIT Silchar			

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
01	Prof. Rohit Sinha & Dr. Prinkoo Sarmah	Workshop on Linguistic Issues in Speech Processing Research of Under-Resourced Languages	Online workshop in collaboration with IIT Dharwad, IIIT Dharwad	02/03/2022 - 03/03/2022	National	

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Sukumar Nandi	IIT Kharagpur	Professor	Networks (Specially: QoS, Wireless Networks), Computer and Network Security, VLSI, Computational Intelligence
02	Bidisha Som	JNU New Delhi	Associate Professor	Cognitive mechanisms of language structure and use
03	Manas Kamal Bhuyan	IIT Guwahati	Professor	Image & Video Processing, Computer Vision, Machine Learning & Human Computer Interactions (HCI), Virtual Reality & Augmented Reality, Biomedical Signal Processing
04	Prithwijit Guha	IIT Kharagpur	Assistant Professor	Computer Vision, Pattern Recognition, Signal Processing, Robotics

05	Sanasan Ranbir Singh	IIT Madras	Associate Professor	Open Source Intelligence (Social Media/Social Network Analysis), Information Retrieval, NLP
06	Samit Bhattacharya	IIT Kharagpur	Associate Professor	Human Computer Interaction, User Modeling, Model Based Evaluation of Interactive Systems, Rehabilitation Engineering
07	Shakuntala Mahanta	Utrecht University, Netherlands	Professor	Theoretical phonology, acoustic phonetics, tone and intonation, perception
08	D. Udaya Kumar	IIT Bombay	Associate Professor	Visual Communication, Graphic Design, Typography, Information Graphics, Architecture, Design Education and Research
09	Priyankoo Sarmah	University of Florida	Associate Professor	Phonetics, Tones, Computational Linguistics
10	Rohit Sinha	IIT Kanpur	Professor	Speech and Audio Processing, Speech Recognition, Signal Processing
11	Samarendra Dandapat	IIT Kanpur	Professor	Signal Processing, Machine Learning, Cardiovascular Signal Processing, Speech Processing (Stressed Speech), Biomedical Data Science, AI in Healthcare, Retinal Image Processing (Fundus Image)
12	Suresh Sundaram	IISc Bangalore	Associate Professor	Pattern recognition, Image/ Video Processing and Computer Vision.
13	Abhishek Shrivastava	IIT Bombay	Assistant Professor	Interaction Design, Speech User Interfaces and Multimodal Interface Design, Design for Development, New Media, Graphic Design and Cartooning
14	Charu Monga (On Lien)		Assistant Professor	Visual communication, Design research, Visual Ethnography, Indigenous communities, Craft clusters, Film-making, Animation, Illustration, Game design, Edutainment
15	S. M. Hazarika		Professor	Cognitive Systems Knowledge Representation and Reasoning Artificial Intelligence Biomimetic Robotics Machine Learning Robotic Neurorehabilitation
16	Navin Gupta		Assistant Professor	Imaging Genetics, Biomedical Signal

LABORATORY FACILITIES

The Centre for Nanotechnology has five new laboratories in new CFN building and a total of 16 numbers of laboratories in the existing facilities, out of which two have been set up in the CIF. The basic instruments/equipment facilities available in each Laboratory are listed below:

Sl. No.	Name of the lab	Name of the instruments/equipment	No. of instruments
1	ISO-5 Cleanroom	FESEM-Electron Beam Lithography	01
		Mask writer	01
		Double Sided Mask Aligner	01
		Upright Optical microscope	01
		Plasma cleaner	01
2	ISO-6 Cleanroom	Thermal and E-Beam Evaporator	01
		RF Sputtering	01
		Electro Spinning Device	01
		PECVD	01
		RIE	01
3	Electrical Characterization Laboratory	PLD	01
		Controlled Environment Chamber	01
		RF Probe Station	01
		<ul style="list-style-type: none"> ● RF Probe Station ● Vector Network Analyzer ● RF signal generator ● RF frequency counter 	01
		AC/DC Probe Station <ul style="list-style-type: none"> ● DC Probe Station ● IV CV Pulse parametric Analyser ● Impedance Analyser ● Chemical Impedance Analyzer ● Digital Storage Oscilloscope ● Function Generator ● Digital multimeter ● DC Power supplies 	01 01 01 01 02 01 01 01 01
4		AFM-TERS	01

	Materials Characterization Laboratory	Raman spectroscopy	01
		Material Printing System	01
		• UV IOzone Tip cleaner	01
		Fume Hood	01
		Glove Box	01
		• Hot plate	01
		• Analytical balance	01
• Spin coater	01		
• Mini sputter coater	01		
• AAA Solar Simulator	01		
		UV-Visible Spectrophotometer	01
		Wire Bonder	01
5	Optical Characterization Laboratory	High End Confocal Microscope	01
		Electrochemical Potentiostat	01
6	Material Res. Laboratory	Laminar air flow	01
		Ultra-low temperature freezer (-80 °C)	01
		UV spectrophotometer	02
		Microwave oven	01
		Agarose gel documentation system, Gel logic	01
		Regulated DC Power Supply	01
		Electromagnet	01
		Digital Gauss meter	01
		Digital Weighing balance	01
		Inverted Microscope	01
		Nanovoltmeter	01
		Source Meter	01
		Refrigerated Centrifuge	01
Magnetic stirrer	01		
7	Cleanroom (Chemical Storage Room)	Ultrasonic Processor	01
		Ultrasonic Bath	02

		Bench Top Incubator cum orbital Shaker	01
		Magnetic stirrer with hot plate digital	04
		Digital pH Meter	01
		Analytical Balance	02
		Rotavapor	01
		Lyophilizer	01
		Refrigerated High Speed Centrifuge	01
8	XRD Laboratory	Bruker D8 Advance X-Ray Diffractometer	01
		Electrochemical Potentiostat	01
9	TEM Laboratory	Transmission Electron Microscope (Make: JEOL)	01
10	Optoelectronic Device Fabrication Laboratory	This lab has been set up in the CIF and it deals with the fabrication of π -conjugated organic molecules (monomers, oligomers and polymers) for various applications like organic light emitting diodes, photovoltaic devices, thin film transistors, memory devices, biomedical devices and sensors	
11	Nanobiotech Laboratory	BD FACS Calibur	01
		UV-Vis Spectrophotometer	01
		Fluorescence spectrophotometer	01
		FluoroLog-3	01
		Water purification system Milli Q / Elix	01
		Dynamic Light Scattering (DLS), Malvern Zetasizer Nano	01
		Micro plate reader	01
		Real Time PCR (Applied Bio system)	01
		Vortex	01
		Deep Freeze (-20 °C)	01
		Shaking Incubator	01
		Rocker	01
		Refrigerator	01

12	Cell Culture Laboratory	CO ₂ incubator	01
		Epi fluorescence microscope (Nikon eclipse)	01
		Water bath	01
		Digital Weighing Balance	01
		Horizontal Laminar hood	01
13	Synthesis Laboratory	Horizontal Laminar Air Flow Work Station	01
		Hot air oven	01
		Refrigerated Bath Circulator	01
		Portable autoclave	02
		Digital Weighing Balance	03
		pH meter	03
		Microwave oven	01
		Cooling centrifuge (Sigma)	02
		Agarose gel electrophoresis set up	01
		Rotary Vacuum	01
		UV Transilluminator	01
		Magnetic stirrer	05
		Mini water bath	01
		Dessicator	03
		Spin coater	02
Bacteriostatic incubator	01		
14	Nano Fabrication Laboratory	Laboratory developed (assembled) Chemical Vapour Deposition (CVD)	02
		Thermal Evaporation coating system	01
		Electron Beam deposition system	01
		RF Sputtering deposition system	01
		Rapid Thermal Annealing system	01
		Spin coating system	01
		Bath and Tip Sonication	02

		Laboratory developed (assembled) Probe station for I-V and Photo conductivity measurements	01
		Heating woven	01
		KBR pallet maker for FTIR measurement.	01
		Gas Sensor System	01
		PVD Chamber	01
		Autoclave	01
		Dessicator	03
		Depth Coater	01
		Ball Milling System	01
15	MEMS & NEMS Laboratory	Analog Digital Scope (ADS) HM507, HAMEG Instruments, 50 MHz 100MS/s.	01
		Digital Oscilloscope (Yokogawa) DL9040 5GS/s 500 MHz.	01
		Function Generator (Agilent) 33120A 15MHz	01
		Universal Counter (Agilent) 53131A 225 MHz	01
		Multifunction Generator (Caddo) 4080 20 MHz	01
		Triple Power Supply (Scientech) ST4071 5V/30V	01
		Multiple Power Supply (Scientech) ST4077	01
		Dessicator	02
		Refrigerator	01
		Signal generator (Agilent), 3GHz N9310A	01
		Hot plate	01
16	SPM Laboratory	Scanning Probe Microscope: Veeco (Model)	01
		Gas Chromatograph (Centurian Scientific)	01
		Ultimaker 3FDM 3D printer	01
17		High end upright microscope	01

	Thin Film and Micro Fluidics Laboratory	Thermal stage	01
		High speed camera	01
		UV-Ozone cleaning unit	01
		Spin coater	02
		Fume chamber	01
		Clean bench	01
		Ultrasonic cleaning bath	01
		Millipore water supply unit	01
		AC/DC power supply units	03
		Electromagnet with Gaussmeter	01
		Microbalance	01
		High speed centrifuge	01
		Air furnace	01
		High resolution camera	01
		Vacuum furnace	01
High Speed computational servers loaded with software, which includes Ansys Fluent, Mathematica and Material Studio	01		
18	Lithography Fabrication Laboratory	Laser Micro Machining	01
		DC probe Station	01
		Carbon Coater	01
19	Micro-Nanoelectronic Characterization Laboratory	Oxidation Diffusion Furnace	01
		Wet Bench	01
		DI water system	01
		Analytical Balance	01
		Ultra-filtration unit	01
		UV Ozone	01
		Hot plate	01
		Sonicator	01

		Refrigerator	01
20.	Analytical Laboratory for Characterization and Testing	These laboratories are ready and shifting of instrument into these labs is in progress	-
21.	Data Science Laboratory		-
22.	Nanocatalysis Laboratory		-
23.	Nanobiotech Laboratory		

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

Equipment

- Keithley Make 6 and half Digit Digital Multimeter, Model: DMM6500
- LG LCD Panel 65UH5F
- Cylinder O2 and N2
- Oxygen Gas
- Nitrogen Gas
- PP+FRP ducting Inc Hardware and Accessories
- Duct supports including of brackets, clamps and other hardware
- Centrifugal Blower of 2500 CFM, Static Pressure 50mm WC, 1440 RPM,
- 3 Phase 3HP for air suction from the Fume hoods,
- Wiring of 4 core 2.5 sqmm Armour copper cable
- Wiring hardware / Accessories
- Toshiba E-Studio 2329A
- Toshiba Plater Cover KA-2507 PC

Facilities:

- ISO 5 and 6 Clean Rooms
- Analytical Laboratory for Characterization and Teasing
- Data Science Laboratory
- Nanocatalysis Laboratory
- Nanobiotech Laboratory
- Optical Characterization Laboratory
- Materials Characterization Laboratory
- Electrical Characterization Laboratory

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

The Centre is pursuing research in the multi-disciplinary area of Nanotechnology required to meet the future challenges and to augment academic partnerships with industry.

The major projects sanctioned at the centre during this financial year 2021-2022 are:

1. SWASTHA – Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs, 5(1)/2022–NANO, MeitY (4200 L)

2. Centre for Excellence in Disruptive Innovations & Product Development for Affordable Rural Healthcare, 5/3/8/20/2019-ITR, ICMR (1506 L)
3. Indian Nanoelectronics Users' Programme - Idea to Innovation (INUP-i2i), 5(1)/2021-NANO, MeitY, 2021-2024) (923 L)
4. Healthcare Bio-Entrepreneurship Ecosystem Encompassing Biomaterials, Industrial Biotechnology and Diagnostics, BT/BIRAC/BI-IITG/2020, BIRAC, 2021 (498 L)
5. DNA Aptasensor-Nanomaterial based product development and commercialization for application in Diagnostics and Environment Monitoring, DBT, BT/PR41254/ATGC/127/86/2020, (29.88 L)

Another major research project of Rs. 57.75 Crore sanctioned from DeitY is being implemented at the Centre with experts from multi-disciplinary areas of science and engineering for establishing a 'Centre for Excellence in Research and Development of Nanoelectronic Theranostic Devices'.

Nano-Electronics group focuses on Micro-Nano fabrication, Optical and Electronic Characterization of Micro-Nano Devices, development of SAW sensors, ECG amplifier and blind assisted walker.

Nanoscale science and technology group is working in the broad areas of nanoscale science and technology involving synthesis, reaction and organization of nanoscale materials and their application in problems related to Chemistry and Biology.

Nanobiotechnology group is pursuing interdisciplinary collaborative research at the Centre for Nanotechnology on "nanoparticles and nanocomposites". They are developing new nanoclusters for the potential applications as sensors, antimicrobial and anticancer agents and has demonstrated the signaling events in co-targeting triple negative breast cancer cells, movement of hydrogel in constricted microchannel and drug resistant behavior of EMT cells during deformation. In addition, quercetin loaded luminescent hydroxyapatite nanoparticles have been developed in cancer therapeutics. In device front, our collaborative work on development of FET-based POC devices are being persuaded.

Nanophysics group is working on the various aspects on the defects of carbon nanotube and their possible application as sensor, Condensed Matter Physics; High-k and low loss materials, Ferroelectrics Ceramics, Oxide thin films Nanomaterials. They have developed a device for 'Low temperate microwave sintered phase pure AlN ceramics comprising rare earth oxide additives'.

Micro and Nano Fluidics group have recently developed device for 'POC detection of oleophilic biomarkers in hydrophilic analytes'; 'POCT Device to Detect Cervical Cancer Specific Biomarker'; 'A Point-of-Care system to Detect Rest Tremors of Human Limb'; 'Portable Modular Colorimetric Device'.

Organometallics and Catalysis group focuses on Organometallics, Catalysis and Organofluorine Chemistry, Heterogeneous Catalysis and reaction engineering, Biomass conversion to value added chemicals, Bio-oil up-gradation to transportation fuels, Carbon dioxide activation to valuable chemicals, Metal encapsulated zeolites. They have developed a process for 'Upgradation of ethanol or alkylation of alcohols'.

Tissue Engineering, Biomaterials, Stem Cells and Regenerative Medicine group have developed devices for 'Antimicrobial coatings and preparation process thereof'; 'Hemostatic silk fibroin composite powder'; 'Silk-Liver ECM composite for bioartificial liver'.

Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor group have developed methods for 'A coating composition and a process of preparation thereof and 'A Method of Preparing Disposable Water Repellent Mask and a Product Thereof'.

A group of faculty members are working on **Organic light emitting diode (OLEDs), Conjugated oligomer and polymer synthesis, Organic Field Effect Transistors (OFETs), Organic Solar Cells (OSCs)**. Besides manpower training and basic research, the centre aim to develop sensors and Transfer of Technology (ToT) to the Start-Up companies. In addition, Centre is also involved in fostering growth of science and education in the north east in the field of nanotechnology by conference, workshops, symposium and seminars.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- **Projects:**

The major projects sanctioned at the centre during this financial year 2021-2022 are:

- SWASTHA – Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs, 5(1)/2022– NANO, MeitY (4200 L)
- Centre for Excellence in Disruptive Innovations & Product Development for Affordable Rural Healthcare, 5/3/8/20/2019-ITR, ICMR (1506 L)
- Indian Nanoelectronics Users’ Programme - Idea to Innovation (INUP-i2i), 5(1)/2021-NANO, MeitY, 2021-2024) (923 L)
- Healthcare Bio-Entrepreneurship Ecosystem Encompassing Biomaterials, Industrial Biotechnology and Diagnostics, BT/BIRAC/BI-IITG/2020, BIRAC, 2021 (498 L)
- DNA Aptasensor-Nanomaterial based product development and commercialization for application in Diagnostics and Environment Monitoring, DBT, BT/PR41254/ATGC/127/86/2020, (29.88 L)

- **Patent Granted:**

- A device for visual detection of bilirubin
- A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses
- Integrated MEMS-Microfluidic CO₂-sequestration Device to Produce Essential Organic Products Emulating Photosynthesis
- A Microfluidic Electrolyzer for the Continuous Production and Separation of Hydrogen/Oxygen
- A Transmittance Based OptoElectroChemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools
- A Point-of-Care Hand Tremor Detection System
- Flexible Paper Touchpads for Low-cost Electronic Appliances
- POCT Device to Detect Cervical Cancer Specific Biomarker
- Edge reflection type surface acoustic wave devices on silicon substrate
- Dual drive surface acoustic wave motor and the package

- **Transfer of Technology:**

- Point-of-Care-Testing Device for Fingerprint Bilirubin Detection
- Point-of-Care-Testing Device for Pancreatic Amylase Detection
- Point-of-Care-Testing Device to determine Albumin to Creatinine Ratio in Human Urine
- Point-of-Care-Testing Device for Lung Condition Monitoring
- Point-of-Care-Testing Device for Parkinson’s Patients
- Portable Bacteria Detection kit
- Flexible Paper Touchpads for Low-cost Electronic Appliances

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
1	Dr. Akshai Kumar	ACS National Meeting & Exposition, ACS Spring 2022	Virtual	20/03/2022 - 24/03/2022	International
2	Dr. Akshai Kumar	ACS National Meeting & Exposition, ACS Spring 2021	Virtual	05/04/2021 - 30/04/2021	International
3	Dr. Akshai Kumar	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri	Virtual	14/03/2022	National
4	Dr. Akshai Kumar	1st Offline Familiarization Workshop, INUP-i2i	IIT Guwahati	04/04/2022 - 06/04/2022	National
5	Dr. Akshai Kumar	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021]. December 12-14, 2021	Virtual	12/12/2021 - 14/12/2021	National
6	Dr. Partho S. G. Pattader	1st Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization	Guwahati	04/04/2021 - 06/04/2021	National
7	Dr. Partho S. G. Pattader	Inter/Multidisciplinary Refresher Course: Research Methodology in Science and Technology and Sustainable Development in Science and Technology	Calcutta	07/02/2022 - 22/02/2022	National
8	Dr. Partho S. G. Pattader	Emerging Trends in Nanomaterials for Different Device Architectures (ETNDDA-2021)	Calcutta	15/09/2021 - 28/11/2021	International
9	Dr. Partho S. G. Pattader	Process Safety and Environment (Air, Water and Solid) – Fundamentals and Management	Calcutta	10/04/2021 - 30/05/2021	International
10	Dr. Uttam Manna	28th CRSI National Symposium in Chemistry	IIT Guwahati	25/03/2022 - 27/03/2022	National
11	Dr. Uttam Manna	15th CRSI RSC Joint Symposium	IIT Guwahati	24/03/2022	National
12	Dr. Uttam Manna	INUP-i2i 2021 Workshop	IIT Guwahati	14/12/2021	National
13	Dr. Uttam Manna	IIT and NIMS Materials Science Workshop	Virtual mode	07/12/2021	International
14	Dr. Uttam Manna	20th National Conference on Surfactants, Emulsions and Biocolloids	Virtual mode	10/12/2021	National

15	Dr. Uttam Manna	7th International Conference on Advanced Nanomaterials and Nanotechnology (ICANN2021)	Virtual mode	14/12/2021 - 17/12/2021	International
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INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Dr. Akshai Kumar A. S.	Pincer-Nickel Catalyzed Alkylation Reactions	ACS National Meeting & Exposition, ACS Spring 2022, March 20-24, 2022	Virtual	20/03/2022 - 24/03/2022
2	Dr. Akshai Kumar A. S.	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals https://doi.org/10.1021/scimeetings.1c00578	ACS National Meeting & Exposition, ACS Spring 2021, April 5-30, 2021	Virtual	05/04/2021 - 30/04/2021
3	Dr. Akshai Kumar A. S.	Pincer-Nickel Catalyzed Alkylation Reactions	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri, March 14, 2022	Virtual	14/03/2022
4	Dr. Akshai Kumar A. S.	Cyclic Voltammogram	1st Offline Familiarization Workshop, INUP-I2I, April 4-6, 2022	IIT Guwahati	04/04/2022 - 06/04/2022
5	Dr. Akshai Kumar A. S.	Spectroscopy as Powerful Tool for Structural Elucidation	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021].	Virtual	12/12/2021 - 14/12/2021
6	Dr. Akshai Kumar A. S.	A Chemists Perspective on Shift towards Electrification and Hydrogen Economy	Invited Talk in the 17th India Innovation Summit "Crafting our Future – Innovation for the Next World" organized by Confederation of Indian Industry, Bangalore, Karnataka, India	Virtual	15/09/2021
7	Dr. Akshai Kumar A. S.	Career Opportunities in Science Changing Scenarios	Delivered a talk as a Resource person in the "Interactive Mentoring Session for School and College Students" Organized by Indian National Young Academy of Sciences (INIAS), North-East Local	Virtual	05/09/2021

			Chapter in association with Children's Science Academy, Assam and Nowgong College, Assam		
8	Dr. Akshai Kumar A. S.	Poly-Fluorinated Poly-Aromatic Hydrocarbons and Their Versatile Applications	Invited talk in the Recent Advances in Organic Synthetic Methods (RAOSM - 2021) organized by Mangalore University, Mangaluru, Karnataka, India, as part of formal retirement of Prof. B. K. Kalluraya	Virtual	28/08/2021
9	Dr. Akshai Kumar A. S.	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the 5th National Symposium Shaping the Energy Future: Challenges & Opportunities (SEFCO) organized by CSIR-Indian Institute of Petroleum, Dehradun, Uttarakhand, India	Virtual	27/08/2021
10	Dr. Akshai Kumar A. S.	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the Recent Trends in Chemistry, In-House Symposium at IPC Department, IISc Bangalore as part of formal retirement of Prof. A. G. Samuelson,	Virtual	17/07/2021
11	Dr. Akshai Kumar A. S.	Fundamentals and Applications of Electron Paramagnetic Resonance (EPR) and Mössbauer Spectroscopy	Invited Talk, GST-AAT 2021, School of Applied Sciences, Department of Chemistry, REVA University, Bangalore.	Virtual	22/06/2021
12	Dr. Akshai Kumar A. S.	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals	Delivered a talk at the Virtual Meeting on Technology Day "Technologies for Sustainable Development Goals (SDG): IIT Guwahati" organized by Research and Development and Industrial Interactions & Special Initiatives Sections, Indian Institute of Technology Guwahati	Virtual	11/05/2021
13	Prof. Roy Paily Palathinkal	Double Sided Mask Aligner	1st Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	IIT Guwahati	04/04/2022

14	Prof. Roy Paily Palathinkal	Fabrication of FET for Detection of Glutathione	INUP-i2i 2022 Workshop at IIT Guwahati	Centre for Nanotechnology, IIT Guwahati	03/03/2022
15	Prof. Roy Paily Palathinkal	Introduction to Circuits for Neural Interface	Online Faculty Development Program on Emerging Trends & Materials for Wearable Electronics (EMWEEMWE-2022)	VIT Chennai	28/01/2022
16	Prof. Roy Paily Palathinkal	Nanofabrication of semiconductor devices	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i)	Centre for Nanotechnology, IIT Guwahati	12/12/2021
17	Prof. Roy Paily Palathinkal	New Ecosystems of the Electronic Industry	Short term Training Program (STTP) on "Emerging Issues of VLSI Design"	ITM University Gwalior	25/11/2021
18	Prof. Roy Paily Palathinkal	Emerging Trends in Nano-Electronics Devices	Keynote Talk in the International Conference on Emerging Trends in Engineering – Yukthi 2021	Govt. Engineering College Kozhikode, Kerala	24/09/2021
19	Prof. Roy Paily Palathinkal	Essential Tips for Analog Integrated Circuits Design	Custom IC design for PG students in VLSI and Embedded Systems, TEQIP Phase II programme	Govt. Engineering College Idukki, Kerala	23/09/2021
20	Prof. Roy Paily Palathinkal	Amplifier Design with Impedance Perspective	STC on Analog and Digital VLSI Design	ECE Dept. of NITTTTR Chandigarh	16/09/2021
21	Prof. Roy Paily Palathinkal	Detection of Hepatitis B using a MEMS device	ATAL Academy (Online FDP) on "Micro Electro Mechanical Systems (MEMS '21)	Electronics and Instrumentation Engineering, Annamalai University	30/07/2021
22	Prof. Dipankar Bandyopadhyay	Atomic Force Microscopy (AFM)	1st Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	Centre for Nanotechnology, IIT Guwahati	05/04/2022
23	Prof. Dipankar Bandyopadhyay	Engineering of Orientational Orders in Liquid Crystal Nanodroplets as Phototunable Softmasks, Nanotechnology: Present	Amity University, India	Amity University, India	January 2022

		Advancements and future prospects			
24	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care for a Billion	Chemical Engineering Seminar	IIT Bombay	March 2022
25	Prof. Dipankar Bandyopadhyay	'Still Life' of Flexible Surfaces	SCDT-FlexE Centre Webinar	IIT Kanpur	February 2022
26	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	CHEMCON 2021		December 2022
27	Prof. Dipankar Bandyopadhyay	Engineering of Orientational Orders in Liquid Crystal Nanodroplets as Phototunable Softmasks	ICANN 2021 - 7th International Conference on Advanced Nanomaterials and Nanotechnology	IIT Guwahati	December 2021
28	Prof. Dipankar Bandyopadhyay	Point-of-Care Nanosensors for Various Healthcare applications	Webinar Internship Course on Emerging Trends in Nanomaterials for Different Device Architectures		November 2021
29	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	International Online Conference on Materials Science and Technology (ICMT-2021)		November 2021
30	Prof. Dipankar Bandyopadhyay	Electrorheology of Micro or Nanoscale Soft-Assemblies	TEQIP Sponsored Symposium on Biomicrofluidics	IIT Guwahati	October 2021
31	Prof. Dipankar Bandyopadhyay	Microdroplets & Microchannels for Unit Operations	Faculty Development Programme on Microfluidics, Soft matter & their Applications	NIT Calicut,	September 2021
32	Prof. Dipankar Bandyopadhyay	Introduction to micro & nanofluidic devices	INUP - I2I	IIT Guwahati	December 2021
33	Prof. Dipankar Bandyopadhyay	Life Skills: A Pragmatic Approach to tackle Personal and Professional Challenges	-	IIT Hyderabad	June 2021
34	Prof. Dipankar Bandyopadhyay	Microdroplets & Microchannels for Unit Operations	ICN 2021 Mahatma Gandhi University, Wroclaw University of Technology, Gdansk University of Technology, and Wuhan University		April 2021
35	Dr. Partho S. G. Pattader	"Photolithography"	IIT Guwahati	Guwahati	04/04/2022
36	Dr. Partho S. G. Pattader	"Introduction to Smart Materials"	University of Calcutta	Calcutta	18/02/2022
37	Dr. Partho S. G. Pattader	"Soft Lithography: A Powerful Tool to	University of Calcutta	Calcutta	17/10/2021

		Fabricate Micro-Nano Structures”			
38	Dr. Partho S. G. Pattader	“Nanotechnology and its application in Environmental Remediation”	University of Calcutta	Calcutta	09/05/2021
39	Dr. Partho S. G. Pattader	“Smart Materials for Safety Devices”	University of Calcutta	Calcutta	01/05/2021
40	Dr. Uttam Manna	A facile Chemical Approach to Design Functional & Durable Nature-Inspired Wettability	Indian Academy of Sciences, Bangalore	Virtual Mode	18/06/2021
41	Dr. Uttam Manna	Positive Ethics and Commitment to Mother Nature and Environment	TATA Chemicals, Pune	Virtual Mode	05/07/2021
42	Dr. Uttam Manna	Use of Michael Addition Reaction in Developing Functional Bio-inspired Interfaces	RSC & IISER Bhopal	Virtual Mode	06/08/2021
43	Dr. Uttam Manna	Michael Addition Reaction Assisted Derivation of Various & Robust Bio-inspired Interfaces	Ramakrishna Mission Vidyamandira, Belur	Virtual Mode	30/12/2021
44	Dr. Uttam Manna	1,4-Conjugate Addition Reaction Assisted Synthesis of Functional and Durable Bio-inspired Interfaces	Institute of Nano Science and Technology, Mohali	Virtual Mode	11/09/2021
45	Dr. Uttam Manna	Michael Addition Reaction for Achieving Durable Bio-inspired Liquid Wettability	Indian Society for Surface Science and Technology & IIT Guwahati	Virtual Mode	10/12/2021
46	Dr. Uttam Manna	Use of Michael Addition Reaction in Developing Conductive and Durable Bio-inspired Interfaces	Japan Science and Technology Agency	Virtual Mode	07/12/2021
47	Dr. Uttam Manna	Different Bio-inspired Liquid Wettabilities and Prospective Applications	IIT Guwahati	Virtual Mode	14/12/2021
48	Dr. Uttam Manna	Strategic Use to Facile and Robust Chemistry	University of Calcutta, Kolkata	Virtual Mode	20/03/2021

		to Achieve Tolerant and Tailored Wettability			
49	Dr. Pranjoli Das and Mr. Rajan Singh	IITG CNT Equipment and How to avail them	2nd Familiarization Workshop on Nano & Bio Materials and Devices, Centre for Nanotechnology, IIT Guwahati	Virtual Mode	03/03/2022

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
01	Prof. D. Pamu and Dr. Arun Tej M.	1st Familiarization workshop on Fundamentals of Nano electronic Devices, Circuits and Characterization Techniques, Centre for Nanotechnology, IIT Guwahati	MeitY	12/12/2021 - 14/12/2021	National	120
01	Prof. D. Pamu and Dr. Arun Tej M.	2nd Familiarization Workshop On Nano & Bio Materials and Devices, Centre for Nanotechnology, IIT Guwahati	MeitY	01/03/2022 - 03/03/2022	National	110
02	Prof. D. Pamu and Dr. Arun Tej M.	1st Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	Meity	04/04/2022 - 06/04/2022	National	106
01	Prof. D. Pamu and Dr. Arun Tej M.	1st Hands-on Training on Fabrication & Characterization of Nanoelectronic Devices	Meity	06/05/2022 - 16/05/2022	National	43

PATENTS

No. of Patents Applied: 13

No. of Patents Granted: 08

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Arun Chattopadhyay, Anumita Paul, Srestha Basu, Amaresh Kumar Sahoo	A device for visual detection of bilirubin	Granted on 01/04/2020	International Patent (European) filed with Application No: PCT/IN2016/000140, date	Granted

				of filing 2016-06-02 European Patent Application No.16802704.3 based on PCT/IN2016/000140 (Our Ref: 3228/ASAF/0159/IITG)	
2	Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses	Granted on 04/01/2022	International Patent filed with Application number: National phase entry initiated for USA, date of filing 11/05/2018	Granted No. US 11,213,827 B
3	Mitradip Bhattacharjee, Dipankar Bandyopadhyay, Sunny Kumar	A Point-of-Care Hand Tremor Detection System	Granted on 2021	PCT/IN2017/050366, date of filing 29-08-2017	Grant U.S. Application No. 16/324,558, 2021)
4	Mitradip Bhattacharjee, Seim Timung Dipankar Bandyopadhyay, Tapas Kumar Mandal	A Microfluidic Electrical Energy Harvester	Granted on 2021	PCT/IN2017/050364, date of filing 29-08-2017	Grant U.S. Application No. 16/085,578, 2021
5	Basudeba Behera and Harshal B. Nemade	Dual drive surface acoustic wave motor and the package	Granted on 15/06/2021	Filed Indian patent No. 878/KOL/2014 on 26/07/2014	Granted Indian patent No. 369369
6	Dipankar Bandyopadhyay and Mitradip Bhattacharjee	Flexible Paper Touchpads for Low-cost Electronic Appliances	Granted on 27/07/2021	Patent Appl. No. 201631017054). Date of Filing, 17th May 2016, Publication Date, 12th August 2016	Grant no. 378636
7	Dipankar Bandyopadhyay, Nilanjan Mandal, and Satarupa Dutta	A Transmittance Based OptoElectroChemical Device for Detecting Biomarkers on Paper Surface Targeting Low-cost Point-of-Care Diagnostic Tools	Granted on 27/07/2021	Patent Application No.201631018620). Date of Filing, 31st May 2016, Publication Date, 5th August 2016	Grant no. 372924
8	Mitali Basak, Shirsendu Mitra, Ankita Jain, Saurabh Kumar Agnihotri, Akanksha Vyas, Madan Lal Brahma Bhatt, Rekha Sachan, Surjendu Maity, Nayanjyoti	POCT Device to Detect Cervical Cancer Specific Biomarker	Ranted on 18/08/2021	TEMP/E-1/38296/2020-KOL, Patent Appl. No. 202031034400, Date of Filing 11th August 2020; Publication Date: 4th September 2020.	Grant no. 374832

	Kakati, Monika Sachdev, Dipankar Bandyopadhyay				
9	Uttam Manna, Roy P. Paily, Supriya Das, Rajan Singh, Avijit Das, Sudipta Bag	Low-strain based, water repellent and highly sensitive human motion sensor	Filed on 22/06/ 2021	Indian Patent Application No. 202131028045	Filed
10	Uttam Manna, Avijit Das, Manideepa Dhar	A Sorbent Material for Distillation-Free Separation and Recovery of Floating Oil Contaminants	Filed on 30/04/202 1	Indian Patent Application 202131020005	Applied
11	Uttam Manna, Roy P. Paily, Supriya Das, Rajan Singh, Avijit Das, Sudipta Bag	Low-Strain Based, Water Repellent and Highly Sensitive Human Motion Sensor	Filed on 22/06/202 1	Indian Patent Application 202131028045	Applied
12	Uttam Manna and Manideepa Dhar	Preparation of substrate independent, healable and amphiphobic slippery coating	Filed on 07/12/202 1	Indian Patent Application 202131056900	Applied
13	Dr. Akshai Kumar, Prof. Roy P. Paily, Mr. Khadimul Islam, Dr. Thomas Daniel	Symmetric tetraalkynylated anthracenes and the process for preparing the same for sensing and optoelectronic applications	Filed on 03/08/202 1	IN Patent Application; 202131035020	Filed

AWARDS AND HONOURS

- Dr. Uttam Manna: Prof. Dilip Kumar Mukherjee Memorial Lecture; Ramakrishna Mission Vidyamandira
- Dr. Akshai Kumar: A S has been selected as Fellow of Indian Chemical Society (FICS - Life Fellow)

STUDENTS' ACHIEVEMENTS

- Manideepa Paul: Secured Second place in Poster Presentation: Scientifique under the Department of Chemistry, IIT Guwahati
- Manideepa Dhar: Received Best Poster Award at International Conference on Advanced Materials and Mechanical Characterization (ICAMMC-2021) held at SRM Institute of Science and Technology

- Manideepa Dhar: Received Best Poster Award at 28th CRSI National Symposium in Chemistry, IIT Guwahati
- Eileen Yasmin: Selected for Oral Presentation during the 15th RSC-CRSI symposium at the Royal Society of Chemistry

SPECIAL MENTION

Dr. Akshai Kumar A. S.

- Dr. Akshai Kumar A. S., September 2021-Present, Member, Bureau of Indian Standards
- Dr. Akshai Kumar A. S., Editor, Book titled "PINCER-METAL COMPLEXES: APPLICATIONS IN CATALYTIC DEHYDROGENATION CHEMISTRY" Elsevier Publications, 2021

Dr. Uttam Manna

The research work of Dr. U. Manna related to slippery coating has been highlighted at various national platforms—including Nature India (<https://www.nature.com/articles/d44151-022-00027-3>) on March 14, 2022 and The Assam Tribune, Eastern Chronicle, The Telegraph, India Today, NE India Broadcast on February 26, 2022. Another research work on monitoring human motion of his research team has been highlighted at Nature India (<https://www.nature.com/articles/d44151-021-00056-4>) on October 25, 2021.

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	Akshai Kumar A. S.	IISc Bangalore	Head, Centre for Nanotechnology, Associate Professor Dept. of Chemistry & Centre for Nanotechnology	Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation
2	Dipankar Bandyopadhyay	IIT Kanpur	Head, Centre for Nanotechnology Professor Department of Chemical Engineering	Colloid and Interfacial Phenomena, Computational Fluid Dynamics, Micro and Nano fluidics, Complex Flow and Fluids
3	Biplab Bose	AIIMS	Associate Professor Department of Biosciences and Bioengineering	Molecular Networks, Recombinant Proteins
4	Arun Chattopadhyay	Columbia University	Professor Department of Chemistry	Nanoscale Science & Technology
5	Ashok Kumar Dasmahapatra	IIT Bombay	Associate Professor	Complex Fluids, Phase transition in polymeric system, Self assembly in

			Dept. of Chemical Engg. & Centre for Nanotechnology	block copolymer, Structure Property relation, Biophysics, Graphene based nano materials, Solar cells.
6	Siddhartha Sankar Ghosh	IICB, Kolkata	Professor Department of Biosciences and Bioengineering	Gene Therapy, Nanobiotechnology
7	Pravat Kumar Giri	IIT Kanpur	Professor Department of Physics	Condensed Matter Physics; Semiconductor nanostructures, Ion-solid interactions, Optoelectronic materials & devices, Nanotechnology
8	Parameswar Krishnan Iyer	CSMCRI, Bhavnagar	Professor Department of Chemistry	Organic and Polymer synthesis, Bio & Chemosensors, Optoelectronic devices.
9	Tapas K. Mandal	IIT Kharagpur	Professor Department of Chemical Engineering	Multiphase flow & Measurement in multiphase flow, Bio-diesel.
10	Biman B. Mandal	IIT Kharagpur	Professor	Regenerative Medicine, Biomaterials, Tissue Engineering, Stem Cells.
11	Uttam Manna	IISc Bangalore	Associate Professor	Bio-inspired polymeric materials
12	Harshal B. Nemade	IIT Bombay	Professor Department of Electronics and Communication Engineering	Electronic and Ultrasonic instrumentation, Electronic product design, EMI/EMC issues, Acoustic sensors, SAW devices, MEMS, NEMS
13	Roy Paily Palathinkal	IIT Madras	Professor Department of Electronics and Communication Engineering	VLSI and MEMS
14	Partho Sarathi Gooh Pattader	Lehigh University, USA	Assistant Professor Dept. of Chemical Engg. & Centre for Nanotechnology	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter
15	D. Pamu	Univ. of Hyderabad	Associate Professor Dept. of Physics & Centre for Nanotechnology	Condensed Matter Physics; High-k and low loss materials, FerroelectricsCeramics, Oxide thin films Nanomaterials
16	Anumita Paul	Columbia University	Professor Department of Chemistry	Surface Science, Catalysis, Thin Films.
17	Nageswara Rao Peela	IIT Kanpur	Associate Professor Dept. of Chemical & Centre for	Heterogeneous Catalysis and reaction engineering, Biomass conversion to value added chemicals, Bio-oil up-gradation to transportation fuels, Carbon dioxide activation to valuable

			Nanotechnology	chemicals, Metal encapsulated zeolites
18	Lingaraj Sahoo	MDU, Rohtak	Professor Department of Biosciences and Bioengineering	Genetic engineering and functional genomics of plants
19	Arun Tej Mallajosyula	IIT Kanpur	Assistant Professor Dept. of Electronics and Electrical Engineering	Photovoltaics, Organic Electronics, Flexible Electronics

LABORATORY FACILITIES

- **Polymer Characterization Laboratory/Analytical Laboratory:** This Laboratory houses several equipment that can be used to characterize the properties of polymeric materials such as thermal properties, mechanical properties, molar mass distribution, gas barrier properties etc. Some of the prominent facilities in this Laboratory are inductively coupled plasma-mass spectrometer (ICP-MS), differential scanning calorimeter (DSC), gel permeation chromatography (GPC), thermogravimetric analyzer (TGA), fourier-transform infrared spectrometer, polarizing optical microscope, universal testing machine etc
- **Polymer Synthesis Laboratory:** This Laboratory is used for the synthesis of polymers, nanofillers and polymer nanocomposites. The Laboratory houses facilities for carrying out different types of polymerization reactions
- **Polymer Processing Laboratory:** This Laboratory houses polymer processing equipment which can be used to process the polymeric materials into films, cups, trays etc. Prominent facilities in this Laboratory are extruder, microcompounder, thermoforming machine, blown film extrusion setup etc
- **Polymer Composting Laboratory:** The biodegradation and composting behavior of polymers can be tested in this laboratory
- **Fermentation Laboratory:** This Laboratory has facility for producing monomers and biopolymers by fermentation of biomass

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Monomer and Polymer Synthesis
- Bio-based and Biodegradable Polymers
- Polymer Composites and Nanomaterials
- Polymer Degradation and Recycling
- Polymer Processing and Rheology
- Polymer Toxicology and Risk Assessment
- Soil-Plastic Interaction
- Computational Polymer Science and Structure-Property Relationship

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Prof. Sambit Mallick	46 th Annual Conference of the Society for Social Studies of Science (4S)	Toronto, Canada	06/10/2021 - 09/10/2021	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Vimal Katiyar	Biotechnological Interventions for Development & Utilization of Sustainable Polymers	Harcourt Butler Technical University	Kanpur, UP	20/09/2021
02	Prof. Vimal Katiyar	Novel Technological Approaches for utilization of Food Industry Waste	Department of Food Science and Technology, NIFTEM	Kundli, Haryana	13/09/2021

03	Prof. Sambit Mallick	Science and Society Intersections	University of Science and Technology, Meghalaya	Meghalaya	16/10/2021
04	Prof. Sambit Mallick	Science, Technology, Innovation and Development through NEP 2020	IIT Vadodara	Vadodara	12/11/2021
05	Prof. Sambit Mallick	Technology–Society Interface: Historical Explorations	International Committee for the History of Technology	USA	17/01/2022

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
01	Debabrata Chakraborty	IIT Kharagpur	Professor	Fibre-reinforced plastic composites
02	Amarendra Kumar Das	IIT Guwahati	Professor	Industrial Design, Rapid Prototyping, Polymer Composite Design
03	G. Pugazhenthii	IIT Kanpur	Professor	Polymer nanocomposites, membrane separation
04	Sreedeeep S.	IIT Bombay	Professor	Plastic-soil interaction
05	Vimal Katiyar	IIT Bombay	Professor	Polymer synthesis and processing, bio-based and biodegradable polymeric materials
06	S. Kanagaraj	IIT Kharagpur	Professor	Biomaterials, carbon nanotubes based nanocomposites
07	A. S. Achalkumar	Centre for Soft Matter Research, Bangalore	Professor	Supramolecular chemistry, liquid crystals
08	Ajay Kalamdhad	IIT Roorkee	Professor	Solid waste management, polymer composting
09	Ashok Kumar Dasmahapatra	IIT Bombay & NCL Pune	Professor	Polymer physics, molecular simulations
10	Sambit Mallick	University of Hyderabad	Professor	Social impact of polymers, sociology of Science and Technology
11	Sachin Kumar	University of Maryland, USA	Professor	Polymer cytotoxicity
12	S. Senthilkumar	Central Leather Research Institute, Chennai	Professor	Biopolymers, bioprocess development
13	Amit Kumar	University of Delaware, USA	Associate Professor	Polymer nanocomposites, molecular simulations
14.	Raghvendra Gupta	The University of Sydney, Australia	Associate Professor	Computational fluid dynamics, polymer rheology
15	Pavan Kancharla	IIT Kanpur	Associate Professor	Organocatalysis, carbohydrate chemistry
16	Animesh Das	University of Goettingen, Germany	Associate Professor	Green and sustainable chemistry

LABORATORIES AND STUDIOS

- **State-of-the-art E-class room:**
Provides all facilities to conduct online lectures and connects across the Nation. Provides facilities for IIT Guwahati Faculty to conduct Lectures in other IITs & institutions from IIT Guwahati campus.
- **Video Studios (1,2 & 3):**
Recording of various educational content is done in these studios. These studios are equipped with devices of latest technology such as, HD cameras, interactive display, Graphics tablet, Switcher, Recorder etc
- **Editing Laboratory (1 & 2):**
Edits all kind of educational content created at IIT Guwahati, using Apple Mac Pro system
- **MOOCs Laboratory (1 & 2):**
Uploads & maintains MOOCs Content on Servers for National & International web cast via NPTEL HQ at IITM
- **State-of-the-art Video Conferencing Room:**
The newly constructed Video Conferencing room contains 9+1 node VC system, 5.1 Digital Dolby system & NKN backbone. It enables us to have conference with all IITs and IISc simultaneously
- **Science Laboratory** under Centre of Excellence in Science and Mathematics Education, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)
- **Seminar Room:** This seminar room is equipped with latest audio video equipments. Seminars in this room can be recorded and broadcasted if required.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Vision Mixer and Audio Delay Box
- Scanner
- VC System
- 27-IMAC Retina 5k Display 3.8GHz 8 core 10th Gen i7 512GB; Applecare++ for IMAC (2 Nos.)
- Graphics Tablet Display
- Aspen ONE for Universities r19, Media Version 12.1- ESD Kit

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Course Content Creation with a foreign expert under GIAN, MOOCs content creation
- Generation of design education courseware, Indian Craft resources, Case studies and video lectures for e-learning. Development of basic science experiments and pedagogy modules, Development, Integration and Hosting of the virtual labs on cloud

MAJOR INITIATIVES

- Total 116 nos. of video courses were completed under CSS- MOOCs
- 3 nos. of GIAN course conducted under GIAN scheme in ONLINE Mode
- 6 nos. of Post Graduate Course will be offered under coursera platform
- Principal Coordinating Institute for Admission to PhD/Master's degree programme under QIP scheme till September 2021

POST GRADUATE COURSES TO BE OFFERED ON COURSERA PLATFORM

Sl. No.	Name of Certificate program	Name of Faculty (Coordinator/Co-ordinator, etc.)	Duration	Description Page Launch Date	Tentative Course Launch Dates	National/ International
01	Deep Learning for Computer Vision & XR	Prof. Samit Bhattacharya & Prof. S Ranbir Singh	24 Weeks	20/02/2022	Session 1: 07/09/2022 Session 2: 04/12/2022 Session 3: 08/03/2023 Session 4: 12/06/2023	International
02	Cloud Computing Applications	Prof. Samit Bhattacharya & Prof. T Venkatesh	24 Weeks	20/02/2022	Session 1: 07/09/2022 Session 2: 04/12/2022 Session 3: 08/03/2023 Session 4: 12/06/2023	International
03	Natural Language Processing	Dr. Ashish Anand & Dr. Amit Awekar	20 Weeks	03/08/2022	Session 1: 30/01/2023 Session 2: 01/05/2023 Session 3: 20/08/2023 Session 4: 18/11/2023	International
04	Robotics & Mechatronics	Prof. B. Sandeep Reddy, Prof. Sajan Kapil & Prof. S. K. Dwivedy	28 Weeks	27/05/2022	Session 1: 23/11/2022 Session 2: 22/02/2023 Session 3: 22/05/2023 Session 4: 20/08/2023	International
05	Human Computer Interaction & User Experience Design	Prof. Keyur Sorathia, Prof. Pratul C. Kalita & Prof. Debayan Dhar	24 Weeks	16/04/2022	Session 1: 25/09/2022 Session 2: 15/01/2023 Session 3: 1/05/2023	International

					Session 4: 19/08/2023	
06	Digital Manufacturing	Prof. Sajan Kapil, Prof. Samit Bhattacharya, Prof. B. Sandeep Reddy & Prof. Deepak Sharma	25 Weeks	27/05/2022	Session 1: 23/11/2022 Session 2: 22/02/2022 Session 3: 22/05/2023 Session 4: 20/08/2023	International

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANIZED UNDER GIAN

Sl. No.	Name of Sem./Wor./Con.	Name of Foreign Expert	Name of Host Faculty	Funded by	Date	National/International	No. of participants
01	Modeling and Simulation in Energy Storage	Prof. Partha P. Mukherjee, Purdue University, USA	Prof. Amaresh Dallal	MHRD	03/01/2022	International	92
02	Spatial Data Science for Disaster Management	Prof. Sudhanshu Panda, University of North Georgia, USA	Prof. Subashisa Dutta	MHRD	03/01/2022	International	91
03	Blast and Shock Resistant Bio-Inspired Functional Materials Design Methodologies	Prof. A. M. Rajendran, University of Mississippi, Oxford, MS, USA	Prof. Niranjan Sahoo & Prof. Prasenjit Khanikar	MHRD	10/01/2022	International	57

Sl. No.	Name of Faculty (Convener/Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded by	Date	National/International	No. of participants
Online Video courses developed Under CSS-MOOCs						
01	Prof. Manas Das	Advanced Machining Processes	MHRD	23/08/2021	National	6133
02	Prof Saurabh Basu	Advanced Quantum Mechanics with Applications	MHRD	26/07/2021	National	2850
03	Prof. Swarup Bag	Advances in welding and joining technologies	MHRD	26/07/2021	National	2644
04	Prof. Vinayak N. Kulkarni	Aircraft Propulsion	MHRD	26/07/2021	National	2508

05	Prof. Niranjan Sahoo Prof. Pranab K. Mondal	Applied Thermodynamics	MHRD	26/07/2021	National	2706
06	Prof. Dipankar N. Basu	Applied Thermodynamics For Engineers	MHRD	26/07/2021	National	1571
07	Prof. Prabirkumar Saha	Aspen Plus® simulation software - a basic course for beginners	MHRD	26/07/2021	National	4378
08	Prof. Shrikrishna N. Joshi	Automation in Manufacturing	MHRD	26/07/2021	National	5672
09	Prof. Chandan Karfa	C-Based VLSI Design	MHRD	26/07/2021	National	4668
010	Prof. Subrata Kumar Majumder	Chemical Process Intensification	MHRD	26/07/2021	National	428
011	Prof. Bishnupada Mandal	Chemical Reaction Engineering-I	MHRD	26/07/2021	National	956
012	Prof. Sachin Singh Gautam	Computational Continuum Mechanics	MHRD	26/07/2021	National	430
013	Prof. Samit Bhattacharya	Computer Graphics	MHRD	26/07/2021	National	6409
014	Prof. Naveen Kashyap	Consumer Psychology	MHRD	26/07/2021	National	5246
015	Prof. Rajshree Bedamatta	Development Research Methods	MHRD	23-Aug-21	National	2119
016	Prof. Prasenjit Khanikar	Dynamic Behaviour Of Materials	MHRD	26/07/2021	National	353
017	Prof. Ngamjahao Kipgen	Ecology and Society	MHRD	26/07/2021	National	1322
018	Prof. Ngamjahao Kipgen	Environment and Development	MHRD	26/07/2021	National	2823
019	Prof. Urmi R. Salve	Ergonomics Workplace Analysis	MHRD	23/08/2021	National	737
020	Prof. Vishal Trivedi	Experimental Biotechnology	MHRD	26/07/2021	National	3005
021	Prof. Atanu Banerjee Prof. Arup Nandy	Finite Element Method: Variational Methods to Computer Programming	MHRD	26/07/2021	National	1033
022	Prof. Subashisa Dutta	Fluid Mechanics	MHRD	26/07/2021	National	3983
023	Prof. Subrata Kumar Majumder	Fluidization Engineering	MHRD	26/07/2021	National	345
024	Prof. Sajan Kapil	Fundamentals of Additive Manufacturing Technologies	MHRD	26/07/2021	National	2251
025	Prof. Shyamanta M. Hazarika	Fundamentals Of Artificial Intelligence	MHRD	26/07/2021	National	12112
026	Prof. Niranjan Sahoo	Fundamentals of Compressible Flow	MHRD	26/07/2021	National	339
027	Prof. Amaresh Dalal Prof. Dipankar N. Basu	Fundamentals of Conduction and Radiation	MHRD	26/07/2021	National	590
028	Prof. Amaresh Dalal	Fundamentals of Convective Heat Transfer	MHRD	26/07/2021	National	660
029	Prof. Vishal Trivedi	Genetic Engineering: Theory and Application	MHRD	26/07/2021	National	2625

030	Prof. Biplab Bose	Introduction to Dynamical Models in Biology	MHRD	23/08/2021	National	754
031	Prof. Amarjyoti Mahanta	Introduction to Market Structures	MHRD	26/07/2021	National	703
032	Prof. Amit Kumar	Introduction to Polymer Physics- IIT Guwahati	MHRD	26/07/2021	National	226
033	Prof. Mithilesh Kumar Jha	Introduction to Western Political Thought	MHRD	26/07/2021	National	1034
034	Prof. Chandan Das	Mass Transfer Operations II	MHRD	26/07/2021	National	523
035	Prof. Swarup Bag	Mathematical Modeling of Manufacturing Processes	MHRD	26/07/2021	National	555
036	Prof. Debarshi Das	Mathematics for Economics - I	MHRD	26/07/2021	National	1333
037	Prof. Nanda Kishore	Mechanical Unit Operations	MHRD	26/07/2021	National	635
038	Prof. Ratnajit Bhattacharjee	Microwave Engineering	MHRD	26/07/2021	National	1588
039	Prof. John Jose	Multi-Core Computer Architecture - Storage and Interconnects	MHRD	23/08/2021	National	1923
040	Prof. Ajay Kalamdhad	Municipal Solid Waste Management	MHRD	26/07/2021	National	3989
041	Prof. Pankaj Tiwari	Natural Gas Engineering	MHRD	26/07/2021	National	1001
042	Prof. Poulose Poulose	Nuclear and Particle Physics	MHRD	26/07/2021	National	2142
043	Prof. Saurabh Basu	Numerical Methods And Simulation Techniques For Scientists And Engineers	MHRD	23/08/2021	National	1549
044	Prof. Rajib Kumar Bhattacharjya	Optimization methods for Civil engineering	MHRD	26/07/2021	National	2054
045	Prof. Sudip Talukdar	Plates and Shells	MHRD	26/07/2021	National	593
046	Prof. M. Ravi Sankar	Polymer Assisted Abrasive Finishing Processes	MHRD	26/07/2021	National	375
047	Prof. Pranab K. Mondal	Principle of Hydraulic Machines and System Design	MHRD	26/07/2021	National	684
048	Prof. T. Punniyamurthy	Principles Of Organic Synthesis	MHRD	26/07/2021	National	827
049	Prof. Subhas Chandra Pan	Reagents In Organic Synthesis	MHRD	26/07/2021	National	1176
050	Prof. Rishikesh Bharti	Remote Sensing and GIS	MHRD	26/07/2021	National	4242
051	Prof. Subashisa Dutta	River Engineering	MHRD	26/07/2021	National	942
052	Prof. Sambit Mallick	Science, Technology and Society	MHRD	26/07/2021	National	1060
053	Prof. Sambit Mallick	Sociology of Development	MHRD	26/07/2021	National	682
054	Prof. Pankaj Kalita	Solar Energy Engineering and Technology	MHRD	26/07/2021	National	4033
055	Prof. Vinayak N. Kulkarni	Steam Power Engineering	MHRD	26/07/2021	National	677
056	Prof. Sharmistha Banerjee	System Design for Sustainability	MHRD	26/07/2021	National	591
057	Prof. Shaik Rafi Ahamed	System Design Through VERILOG	MHRD	26/07/2021	National	4433

058	Prof. Naveen Kashyap	The Psychology Of Language	MHRD	23/08/2021	National	3221
059	Prof. Charudatt Kadolkar	Theoretical Mechanics	MHRD	26/07/2021	National	729
060	Prof. R. Anandalakshmi	Thermal Processing of Foods	MHRD	26/07/2021	National	1184
061	Prof. Nanda Kishore	Transport Phenomena of Non-Newtonian Fluids	MHRD	26/07/2021	National	303
062	Prof. Pankaj Biswas	Welding Application Technology	MHRD	23/08/2021	National	2597
063	Prof. Vishal Trivedi	Basics of Biology	MHRD	24/01/2022	National	5590
064	Prof. Biplab Bose	Data Analysis for Biologists	MHRD	21/02/2022	National	4145
065	Prof. Lalit M. Pandey	Biointerface Engineering	MHRD	24/01/2022	National	416
066	Prof. Sreeja Pekkat	Engineering Hydrology	MHRD	24/01/2022	National	2068
067	Prof. Anil Kumar Mishra	Expansive Soil	MHRD	24/01/2022	National	1127
068	Prof. Sreedeeep S.	Advanced Soil Mechanics	MHRD	24/01/2022	National	1757
069	Prof. Subrata Kumar Majumdar	Basic Principles and Calculations in Chemical Engineering	MHRD	24/01/2022	National	1098
070	Prof. Subrata Kumar Majumdar	Fluid Flow Operations	MHRD	24/01/2022	National	688
071	Prof. Prakash Kotecha	Computer Aided Applied Single Objective Optimization	MHRD	24/01/2022	National	410
072	Prof. Nanda Kishore	Advanced Thermodynamics	MHRD	24/01/2022	National	764
073	Prof. Kaustubha Mohanty	Membrane Technology	MHRD	24/01/2022	National	545
074	Prof. Tamal Banerjee	Physical and Electrochemical Characterizations in Chemical Engineering	MHRD	24/01/2022	National	334
075	Prof. Vaibhav Vasant Goud Prof. R. Anandalakshmi	Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems	MHRD	24/01/2022	National	3746
076	Prof. Kaustubha Mohanty	Biomass Conversion and Biorefinery	MHRD	24/01/2022	National	1379
077	Prof. Prabirkumar Saha	Aspen Plus® simulation software - a basic course for beginners	MHRD	24/01/2022	National	3566
078	Prof. John Jose	Advanced Computer Architecture	MHRD	21/02/2022	National	7706
079	Prof. Samit Bhattacharya	User-centric Computing for Human-Computer Interaction	MHRD	24/01/2022	National	1479
080	Prof. Lal Mohan Kundu	Essentials of Biomolecules : Nucleic Acids and Peptides	MHRD	24/01/2022	National	729
081	Prof. Debayan Dhar	Usability Engineering	MHRD	24/01/2022	National	577
082	Prof. Shaik Rafi Ahamed	Microprocessors and Interfacing	MHRD	24/01/2022	National	2672
083	Prof. Shabari Nath	Design of Power Electronic Converters	MHRD	21-Feb-22	National	3427
084	Prof. Sanjib Ganguly	Operation and Planning of Power Distribution Systems	MHRD	24/01/2022	National	1322

085	Prof. M. K. Bhuyan	Computer Vision and Image Processing – Fundamentals and Applications	MHRD	24/01/2022	National	7220
086	Prof. Prabin Kumar Bora	Statistical Signal Processing	MHRD	24/01/2022	National	479
087	Prof. Raghvendra Gupta	Fundamental of Fluid Mechanics for Chemical and Biomedical Engineers	MHRD	24/01/2022	National	213
088	Prof. Kiran Keshavamurthy	Introduction to Modern Indian Drama	MHRD	21/02/2022	National	904
089	Prof. Mithilesh Kumar Jha	Introduction to Political Theory	MHRD	24/01/2022	National	1263
090	Prof. Mithilesh Kumar Jha	Introduction to Modern Indian Political Thought	MHRD	24/01/2022	National	1220
091	Prof. Rajshree Bedamatta	Economic Growth and Development	MHRD	24/01/2022	National	2528
092	Prof. Naveen Kashyap	Human Behaviour	MHRD	21/02/2022	National	9173
093	Prof. Naveen Kashyap	Introduction to Cognitive Psychology	MHRD	24/01/2022	National	4863
094	Prof. Sambit Mallick	Sociological Perspectives on Modernity	MHRD	24/01/2022	National	282
095	Prof. Bidisha Som	Language, Culture and Cognition: An Introduction	MHRD	21/02/2022	National	773
096	Prof. Shakuntala Mahanta	Phonetics and Phonology: A broad overview	MHRD	24/01/2022	National	731
097	Prof. Sambit Mallick	Philosophical Foundations of Social Research	MHRD	24/01/2022	National	553
098	Prof. Dilwar Hussain	Psychology of Stress, Health and Well-being	MHRD	24/01/2022	National	6950
099	Prof. Ayon Ganguly Prof. Subhamay Saha	Discrete-time Markov Chains and Poisson Processes	MHRD	24/01/2022	National	490
0100	Prof. N. Selvaraju	Introduction to Queueing Theory	MHRD	24/01/2022	National	547
0101	Prof. Amaresh Dalal	Computational Fluid Dynamics for Incompressible Flows	MHRD	24/01/2022	National	1719
0102	Prof. Uday S. Dixit	Mechanics of Machining	MHRD	24/01/2022	National	1157
0103	Prof. Dipankar N. Basu	Fundamentals of Nuclear Power Generation	MHRD	24/01/2022	National	1435
0104	Prof. Pankaj Biswas	Fundamental of Welding Science and Technology	MHRD	24/01/2022	National	2734
0105	Prof. Pranab K. Mondal	Experimental Methods in Fluid Mechanics	MHRD	24/01/2022	National	559
0106	Prof. Debabrata Chakraborty	Mechanics of Fiber Reinforced Polymer Composite Structures	MHRD	24/01/2022	National	809
0107	Prof. Poonam Kumari	Theory of Composite Shells	MHRD	24/01/2022	National	124
0108	Prof. Swarup Bag	Finite element modeling of welding processes	MHRD	24/01/2022	National	717
0109	Prof. Deepak Sharma	Evolutionary Computation for Single and Multi-Objective Optimization	MHRD	24/01/2022	National	402

0110	Prof. S. K. Dwivedy	Nonlinear Vibration	MHRD	24/01/2022	National	317
0111	Prof. Amaresh Dalal	Viscous Fluid Flow	MHRD	24/01/2022	National	480
0112	Prof. Pranab K. Mondal Prof. Vinayak N. Kulkarni	IC Engines and Gas Turbines	MHRD	24/01/2022	National	4759
0113	Prof. Swarup Bag	Introduction To Crystal Elasticity And Crystal Plasticity	MHRD	21/02/2022	National	153
0114	Prof. Saurabh Basu	A brief course on Superconductivity	MHRD	24/01/2022	National	4575
0115	Prof. Saurabh Basu	Advanced Condensed Matter Physics	MHRD	24/01/2022	National	1331
0116	Prof. Amarendra Kumar Sarma	Quantum Technology and Quantum Phenomena in Macroscopic Systems	MHRD	24/01/2022	National	664

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Prof. Hemant B. Kaushik	IIT Kanpur	HoC, CET	Structural Engineering, Earthquake Engineering; Earthquake Resistant Design; Nonlinear Behaviour of Structures; Retrofitting of Structures; Finite Element Modeling
02	Prof. Sunil Khijwania	IIT Delhi	PI- PMMMMNMTT Project	Fiber & Integrated Optics, Optical Fiber Sensor, Photonic Crystal Fiber and Applications, Surface Plasmon Resonance based Sensors, Fiber Bragg Gratings/Long Period Gratings and based Devices, Nano/Bio-Photonics, Propagation Characteristics of Specialty Optical Fiber
03	Dr. Gaurav Trivedi	IIT Bombay	PI, E&ICT Academy Project	VLSI CAD, High Performance Computing, High Power Devices, IOT & Embedded Systems, Renewable Energy, Quantum Computing

LABORATORY FACILITIES

CIF houses 29 Laboratories which hosts various sophisticated instruments which cater the need of teaching and research of Institute Departments/ Centres/ Schools in many areas of modern science and technology. Some of the Major Equipments at CIF are listed below

- Electron Spin Resonance (ESR) Spectrometer, Make: JEOL, Model: JES-FA200
- Field Emission Scanning Electron Microscope (FESEM) with OXFORD EDS, Make: Zeiss, Model: Sigma
- Laser Micro Raman System, Make: Horiba Jobin Yvon, Model: LabRam HR
- High Temperature Differential Scanning Calorimetry (DSC) / Thermo Gravimetric (TG) System, Make: Netzsch Model: STA449F3A00
- Transmission Electron Microscope (TEM), Make: JEOL, Model: JEM 2100
- Vibrating Sample Magnetometer (VSM), Make: Lakeshore, Model: 7400 series
- Liquid Chromatography Mass Spectrometer (LCMS/MS), Make: Waters, Model: Q-Tof Premier
- Picosecond Time-resolved and Steady State Luminescence Spectrometer, Make: Edinburg Instruments, Model: Lifespec II & FSP 920.
- Desktop Helium Liquefier, Make: Cryomech, Model: LHEP18
- Physical Property Measurement System (PPMS), Make: Quantum Design, Model: PPMS-9
- Nanoindentor, Make: CETR, Model: UNMT-1
- Spectroscopic Ellipsometer, Make: SEMILAB, Model: GES5E
- Single Crystal X-ray Diffractometer, Make: Agilent, Model: Single source supernova E (Mo source).
- Surface Area and Pore Size Analyzer and High Pressure Surface Analyzer, Make: Quantachrome Instruments, Model: Autosorb, IQ MP
- Impedance and Material Analyzer (IMA), Make: Novocontrol, Model: BDS 2300
- 600 MHz Nuclear Magnetic Resonance (NMR) Spectrometer, Make: Bruker, Model: AVANCE III HD
- 250 kN Servo Hydraulic Universal Testing Machine, Make: BISS, Model: MEDIAN 250
- Matrix Assisted Laser Desorption/Ionization – Time of Flight, Make: BRUKER Model: AUTOFLEX SPEED
- Field Emission Transmission Electron Microscope (FETEM), Make: JEOL, Model: 2100F(HR)
- Isothermal Titration Calorimeter, Make: GE Health Care, Model: iTC 200 Micro-calorimeter
- Field Emission Scanning Electron Microscope (FESEM) with OXFORD windowless EDS, Make: Zeiss, Model: Gemini 300
- Micro Particle Image Velocimetry System, Make: Dantec Model : 9080M0571
- Field Emission Scanning Electron Microscope (FESEM) with Element EDS Detector, Make: Zeiss, Model: Sigma 300
- Large Molecule Single Crystal X-ray Diffractometer, Make: Rigaku Model: Micromax 007 HF R-axis IV** Oxford
- High Temperature Gel Permeation Chromatography (HT-GPC), Make: Agilent, Model: G7820A
- Atomic Force Microscope, Make: Oxford Instruments, Model: Cypher S
- 9 kW Powder X-Ray Diffractometer, Make: Rigaku Technologies, JAPAN, Model: Smartlab
- 5 kN Electromechanical Universal Testing Machine, Make: ZwickRoell, Model: Z005TN Proline.

- Photovoltaic/ Solar Cell/ Photo-Electrochemical Analyzer/Workstation, Make: CH Instruments Inc., USA, Model: CHI 604E + Amp i-t
- Automated ultra-high vacuum (UHV) X-ray photoelectron spectroscopy, Make: M/s Physical Electronics, USA, Model: PHI 5000 versa probe III

MAJOR EQUIPMENT AND FACILITIES PROPOSED

Procurement of major equipment's (1) Liquid Chromatography Inductively Coupled Plasma Mass Spectrometer (LC-ICPMS) costing Rs. 1.6 Cr approximately and (2) Ultra-High Performance Liquid Chromatograph - Quadrupole Time of Flight - High Resolution Mass Spectrometer (UHPLC-QTOF-HRMS) costing Rs. 3.0 Cr approximately has been initiated and the purchase order will be issued soon.

Liquid Chromatography Inductively Coupled Plasma Mass Spectrometer (LC-ICPMS): ICP-MS has become an important tool for elemental analysis because of its high sensitivity, its high degree of selectivity, and its good precision for determining many elements in the periodic table. The proposed ICP-MS system is capable of analyzing major, minor, trace and ultra-trace levels of multi-elemental/isotopic concentrations in a single run in a variety of matrices; for example: environmental (soil, rock, sediment, sludge, ash, aerosol, water, wastewater, etc.), chemical (catalysts, metal nanoparticles, polymers, oils, etc.), biological and engineered material samples, among others. By using a coupled liquid chromatography (LC) unit with the ICPMS, the system will also be capable of time-resolved analysis for single nanoparticle applications and possess the ability for speciation analysis (As, Cr, Cu, Hg, Se, etc.). This equipment will be a valuable tool for cutting-edge study in a variety of fields of science and technology.

Ultra-High Performance Liquid Chromatograph - Quadrupole Time of Flight - High Resolution Mass Spectrometer (UHPLC-QTOF-HRMS): Liquid Chromatography Mass Spectrometry (LCMS/MS) is a sensitive and specific analytical technique that can precisely determine the identities and concentration of compounds within a sample. Surpassing many traditional technologies, mass spectrometry coupled with liquid chromatography (LC-MS) delivers analytical speed, sensitivity, and selectivity for a variety of applications in pharmaceutical, food & beverage, environmental, forensic, life science and clinical laboratories.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- CIF is used by 12 of the 17 Departments, Centres and Schools of the Institute
- The facilities of CIF are also used by external institutes and research organizations from all over India

SPECIAL MENTION

- Following are some unique features of the upgraded online booking system for CIF
 - Reporting of sample analysis details
 - Digital slot recommendation system over email
 - Dynamic booking status over user email
 - Complete carbon neutral booking system with access even from outside of campus
- An amount equal to Rs. 8,80,695/- has been collected as sample charges from the analysis of external samples during the reporting year

TRAINING/WORKSHOP CONDUCTED

Photovoltaic/ Solar Cell/ Photo-Electrochemical Analyser/Workstation:

Training of operators and users was conducted on 10/08/2021 with hands on the instrument and 01/11/2021 (via online mode) by a specialist from M/s Sinsil International Pvt. Ltd.

The CIF has been regularly conducting training for students aspiring to be operators as a part of their teaching assistantship (TA). They are provided a certificate of experience at the end of their teaching assistantship, which will help them in their future career. At present we have approximately 151 trained operators.

Students trained for CIF instrument operation:

Sl. No.	Department	Existing CIF trained Operators	New operators trained in the reporting period
01	Department of Chemical Engineering	14	03
02	School of Agro and Rural Technology	02	00
03	Centre for Environment	04	03
04	Centre for Nanotechnology	02	01
05	School of Energy Science and engineering	05	02
06	Department of Civil Engineering	05	01
07	Department of Bioscience and Bioengineering	15	03
08	Department of Mechanical Engineering	15	03
09	Department of Physics	18	11
10	Department of Chemistry	49	05
Total number of students trained		129	32

FACULTY MEMBER

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Pugazhenth G.	IIT Kanpur (Chemical Engineering, 2005)	Professor	Membrane Separation, Polymer Nanocomposites, Nanomaterials

Lakshminath Bezbaroa Central Library

Lakshminath Bezbaroa Central Library created a state-of-the-art facility to offer innovative services for teaching, learning and research activities. The library has a fast-growing collection of books, journals, magazines both in print and digital format. To enable Library users to issue/renew/return books, without human intervention, world class self-check-in/check-out kiosks have been installed. This has enhanced the capacity of Library by manifold. As such unique drive-in Kiosk, has now extended immense flexibilities to the users.

The Central Library has a collection of about:

- 1.83 lakhs of printed books and bound volumes of journals
- more than 2.10+ lakhs of e-books
- about 26,300 online and print journals (of which access of 8,834 journals have been provided by 'e-ShodhSindhu Consortium' and the 'DeLCON: DBT- Electronic Library Consortium')
- more than 71,000 online standards

During the reporting year, the library has subscribed to some of the world's most renowned abstract/full-text/utility database like:

- ACS Web Edition
- EBSCO Business Source Complete
- eHRAF Database
- IEC Standards
- IOP Science Collection
- ISO Standards
- Royal Society of Chemistry Gold Collection and perpetual access all RSC journals since inception
- SciFinder Scholar
- Scopus
- Turnitin and many other world renown national and international databases

For better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Library has also developed a reasonably good collection of Assamese language books and the literary works of Sahityarathi Lakshminath Bezbaroa.

During the FY 2021-22, total about 21.43 lakhs articles, published by major publishers were downloaded and more than 9.21 lakh total terms investigations have been performed on subscribed abstract databases. Further, remote access of the subscribed contents have been provided to all the bona fide users, for them to access the contents beyond the Institute Campus and total 2,976 users logged in the system more than 29 thousand times for availing the contents of 47 world renowned publishers.

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2021-22 has been impressive so far. A total of 180 companies/organizations from various categories [Private, MNC (Indian origin and Foreign origin), Govt., PSU, NGO, etc.] and sectors (Sector wise- IT, R&D, Core Engineering, Consulting, Analytics, Finance, Oil & Gas, Educational, etc.) participated in the virtual recruitment process.

The total no. of registered students for virtual campus placement in the year 2021-22 is 1253 students. The overall placement of B.Tech and B.Des students is 89.14%. For B.Tech and B.Des, number of total job offers is 583 out of 654 students. An average package offered for B.Tech. and B.Des students is Rs.25.89 Lakhs per annum (treated as CTC).

The overall placement of M.Tech. and M.Des students is 70.57%. For M.Tech. and M.Des, number of total job offers is 307 out of 435 students. An average package offered for M.Tech and M.Des students is Rs. 17.18 Lakhs per annum (treated as CTC).

For M.Sc. programs, 33 students have been placed out of 53 registered candidates.

For M.S.R. program, 14 students have been placed out of 20 registered candidates.

For M.A. programs, 13 students are placed out of 24 registered candidates.

Overall placement of all programs (B.Tech & B.Des, M.Tech & M.Des, MSc, MSR, MA, PhD) is **75.90%**. The program and branch-wise placement details are:

UG (B.Tech & B.Des)

Department	No of Students Registered	No of Students Placed	% of Students Placed
CSE	97	93	95.88
ECE	83	79	95.18
EEE	47	44	93.61
ME	89	76	85.39
CE	73	58	79.45
BSBE	33	28	84.85
CL	60	53	88.33
EP	34	31	91.18
CST	38	33	86.84
MNC	62	58	93.55
DOD	38	30	78.94
Overall	654	583	89.14

PG (M.Tech & M.Des)

Department	No. of students Registered	No. of students placed	% of students placed
BSBE	22	6	27.27

CE	83	34	40.96
CL	56	27	48.21
CSE	59	59	100.00
DD	31	26	83.87
EEE	67	61	91.04
ME	95	76	80.00
Interdisciplinary (Data Science)	14	14	100
Rural Technology(CRT)	8	4	50.00
Total	435	307	70.57

PG [M.S.(R)]

Department	No of Students Registered	No of Students Placed	% of Students Placed
School of Energy Sciences and Engineering	11	7	63.64
E-Mobility	9	7	77.78
Overall	20	14	70.00

PG (M.Sc.)

Department	No of Students Registered	No of Students Placed	% of Students Placed
Chemistry	22	9	40.90
Mathematics	25	19	76.00
Physics	6	5	83.83
Overall	53	33	62.26

NO. OF LABORATORIES: 03

MAJOR EQUIPMENT AND FACILITIES

- Fibre Analyzer
- Freeze dryer and dehumidifier dryer

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

- Mechanical system design for the rural sector
- Design and Development of Technology for Rural sector
- Rural Sanitation
- Food Processing
- Waste management
- Agro Biotechnology
- Natural Resources Management
- Rural energy
- Applied Biodiversity
- Plant Tissue Culture & Secondary Metabolites Production
- Sanitation and Waste Management
- Food and bioprocessing
- Agro-ecotechnology and climate smart agriculture

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- Efficient dehydration technology for medicinally important plants
- Dietary antioxidants
- AKAR project

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Dr. Siddhartha Singha	15th National Frontiers of Engineering (NatFoE) Symposium	Virtual Platform	09/07/2021	National
02	Dr. Siddhartha Singha	International Seminar on Rural Technology, Innovation & IPR: The Way Ahead	University of science and technology, Meghalaya	14/03/2022	International
03	Prof. Rakhi Chaturvedi	42 nd Annual Meeting of Plant Tissue Culture Association – India (PTCA-I) & International Symposium on “Advances in Plant Biotechnology and Genome Editing” (APBGE-2021)	ICAR-Indian Institute of Agricultural Biotechnology, Ranchi, India,	April 8-10, 2021	International

			(live, virtual event)		
04	Prof. Rakhi Chaturvedi	International Conference on Plant Physiology and Biotechnology (ICPPB-2021)	Lovely Professional University, Punjab, India, (live, virtual event)	10/09/2021 - 12/09/2021	International
05	Prof. Rakhi Chaturvedi	International Symposium on Plant Biotechnology Towards Improving Agri-Food Industry and Healthcare Products (ISPB-2021)	Birla Institute of Technology, Mesra, Jharkhand, India, (live, virtual event)	27/10/2021 - 30/10/2021	International
06	Prof. Rakhi Chaturvedi	International training program on plant tissue culture for entrepreneurship and sustainable development	SAGE School of Agriculture Sciences, SAGE University, Bhopal, India, (live, virtual event)	10/11/2021 - 23/11/2021	International
07	Prof. Rakhi Chaturvedi	International Conference on Advances and Innovations in Biotechnology and Allied Sciences (IC-AIBAS-2022)	Chandigarh University, Punjab, India, (live, virtual event)	24/03/2022 - 25/03/2022	International
08	Risha Hazarika; Prof. Sanjukta Patra (Faculty)	ACS SCIENCE TALK ON “Decoding Chemosensory Systems for Flavor Innovations”	American Chemical Society (ACS) Online mode	30/07/2021	National
09	Risha Hazarika; Prof. Sanjukta Patra (Faculty)	Workshop on “Anti-microbial compound designing by Disc Diffusion method and Molecular Docking	Indian Science and Technology Foundation (ISTF) Online mode	21/11/2021	National
10	Risha Hazarika; Prof. Sanjukta Patra (Faculty)	International Conference on Emerging Trends in Biotechnology	Motilal Nehru National Institute of Technology (MNNIT) Online Mode	10/03/2022- 12/03/2022	International
11	Ms. Rubeka; Prof. Latha Rangan	Research and Industrial Conclave 2022 (RIC2022), IIT Guwahati, Assam India	Assam India	20-23/01/2022	International
12	Ms. Rubeka; Prof. Latha Rangan	3 rd International Conference on Environmental, Agricultural, Chemical and Biological Sciences (ICEACBS2022)	Virtual	22-26/ 01/2022	International

13	Dr. Sudip Mitra	2 Day Seminar on Advancing Frontiers of Knowledge on Climate Action Cross-sectional Approaches for Mitigation and Resilience	Virtual, Centre for Ecological Economics and Natural Resources (CEENR), Institute for Social and Economic Change (ISEC), Bengaluru	22-23 / 10/2021	National
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INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Meena Khwairakpam	New research ideas on solid waste management	NIT Arunachal Pradesh	Arunachal Pradesh, (virtual event)	24/03/2022
02	Dr. Meena Khwairakpam	Composting-a sustainable route for processing of Biodegradable Waste	Babasaheb Bhimrao Ambedkar University, Lucknow	Lucknow, UP (virtual event)	28/02/2022
03	Dr.Meena Khwairakpam	Smart Waste Management	NIT Manipur	Imphal, Manipur (virtual event)	17/01/2022
04	Dr.Meena Khwairakpam	Integration of digital technologies for an effective waste management system	Government Women Engineering College, Ajmer.	Ajmer, Rajasthan (virtual event)	13/01/2022
05	Dr.Meena Khwairakpam	Composting-A green technology of solid waste management	Government Women Engineering College, Ajmer.	Ajmer, Rajasthan (virtual event)	22/09/2021
06	Dr. Siddhartha Singha	Predictive Microbiology for Dairy Products	Bidhan Chandra Krishi Viswavidyalaya	Mohanpur, Nadia, West Bengal	12/03/2022
07	Dr. Siddhartha Singha	Predictive modelling in food technology	Centre of Innovative and Applied Bioprocessing (CIAB)	Mohali, Punjab	22/03/2022
08	Dr. Siddhartha Singha	Chemometrics in Food Safety and Quality Assurance	National Institute of Food Technology Entrepreneurship and Management	Sonepat, Haryana	28/03/2022
09	Prof. Rakhi Chaturvedi	Plant Tissue Culture and Bioresource Conservation	GSFC University, Gujarat, India	Live, (virtual event)	18/06/2021 - 19/06/2021
10	Prof. Rakhi Chaturvedi	Plant Biotechnology Intervention in Biodiversity Conservation	Mariano Marcos State University, Philippines	Live, (virtual event)	22/06/2021
12	Prof. Rakhi Chaturvedi	Sustainability of Bioresources using Plant Tissue Culture Techniques	UGC-Human Resource Development Centre,	Live, (virtual event)	03/08/2021

			Guru Ghasidas Vishwavidyalaya, Bilaspur, India		
13	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Banda university of Agriculture and Technology, Uttar Pradesh, India	Live, (virtual event)	05/08/2021
14	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the Application of Cellular Totipotency	UGC-Human Resource Development Centre, Guru Ghasidas Vishwavidyalaya, Bilaspur, India	Live, (virtual event)	09/08/2021
15	Prof. Rakhi Chaturvedi	Plant Tissue Culture: A promising approach to biodiversity conservation, afforestation and plant secondary metabolite production	Amity University, Lucknow, India	Live, (virtual event)	30/09/2021
16	Prof. Sanjukta Patra	A Key-note in collaboration with IITG & USTM on sustainable agro-waste application	University of Science and Technology (USTM)	USTM Online Mode	05/10/2021
17	Prof. Sanjukta Patra	A key note on Production to Commercialization: a journey of Farm Produce	IIT Guwahati - Research Conclave 2022	IIT Guwahati	18/01/2022
18	Prof. Sanjukta Patra	National Research and Development Corporation (NRDC) Industry Academia Interaction Meet Bio-Pharma and Allied Technologies New Technologies and Success Stories	Guwahati Biotech Park and School of Agro & Rural Technology IIT Guwahati	NRDC Virtual Mode	27/08/2021
19	Dr. Sudip Mitra	Climate change: science & policy at local and global scale	Webinar organized by Royal School of Environmental and Earth Sciences (RSEES), Royal Global University, Assam, India	Virtual mode	05/06/2021
20	Dr. Sudip Mitra	Reimagining India beyond mitigation-conservation strategies for ecorestoration	World Environmental Day Webinar, IIT Delhi Alumni Association & Maharashtra Pollution Control Board	Virtual mode	04/06/2021
21	Dr. Sudip Mitra	Agro-ecotechnology and Climate Smart Agriculture: Path towards sustainability	National KVK meet on Technologies in agriculture and allied	Virtual mode	21/06/2021

			sectors: the current scenario		
22	Dr. Sudip Mitra	Exploring alternate usage of crop residue: avoid burning, enhance soil quality and reduce global warming	Azadi ki Amrit Mahaotsav guest lecture ICAR-National Bureau of Soil Survey and Land use Planning, Regional Centre, Jorhat, Assam.	Virtual mode	07/08/2021
23	Dr. Sudip Mitra	Disaster management and Risk Reduction	Training workshop on disaster management for engineers, managers of Assam Power Generation Corporation Ltd., Indian Oil Corporation Ltd.	NPTI-NER, Guwahati, Assam.	23/03/2022 - 25/03/2022
24	Dr. Sudip Mitra	Agro-ecotechnology and Climate Smart Agriculture: Path towards sustainability	Faculty Induction Program	Virtual, Gauhati University Academic Staff college	05/02/2022
25	Dr. Sudip Mitra	Disaster Risk Reduction and Climate Change: Linking Science with Society	MURP, SPA, Vijayawada	School of Planning Architecture, Vijayawada	09/11/2021
26	Dr. Sudip Mitra	Adaptation or mitigation? climate smart agriculture is the way forward	Climate Change Impact on Agriculture and Biodiversity in North-East India; Tezpur University, Assam	Tezpur University, Assam	03/03/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Shri Anuj Sharma	Earth Analytics India	Discussion about possible collaboration	22/12/2021	Joint Internship Program
02	Shri Shailesh Kotru, Smt. Tripti Khanna	Gramin Vikas Trust	Joint projects	25/01/2022	Facilitation FPO incubation Centre
03	Prof. Lalit Sharma	Indian Institute of Entrepreneurship (MoSDE), Guwahati, Assam	Joint project discussion	22/02/2022	Joint proposal has been submitted to MSDE

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
01	Dr. Siddhartha Singha	NRDC Industry Interaction Meet Bio-Pharma and Allied Technologies	NRDC	24/08/2021	National	200
02	Dr. Siddhartha Singha	Food & Sustainable Development	NetProFan-north east chapter and FSSAI	16/10/2021	National	200
03	Dr. Siddhartha Singha	Importance of Dietary Diversification in the Present Time	NetProFan-north east chapter and FSSAI	25/02/2022	National	200

NORTHEAST GREEN SUMMIT

The sixth Northeast Green Summit was held at NIT Silchar (16th -18th Nov 2021) in collaboration with Vibgyor NE Foundation and SART, IITG which ended with experts from different fields making a number of recommendations for harnessing the economic potential of eco-services, biodiversity and wildlife conservation in the northeast region and using sustainable technologies in a post-Covid world. The recommendations also stressed the need for a proper policy to increase green space in urban areas and to check wildlife trade. Dr. Sudip Mitra and Dr. Siddhartha Singha chaired two sessions in the event.

AWARDS AND HONOURS

- Prof. Rakhi Chaturvedi: Received the Prof. F.C. Steward Memorial Lecture Award from Plant Tissue Culture Association (India) for Outstanding achievements in the field of plant tissue culture and in vitro biology
- Prof. Rakhi Chaturvedi: To commemorate India's 75th year of Independence, the Office of the Principal Scientific Advisor, Government of India and British High Commission, New Delhi, has recognised and honoured Prof. Rakhi Chaturvedi among top 75 women in STEAM. She will be featured in the Second edition of the book "She Is" series - 'She Is – 75 Indian Women in STEAM', 2022

STUDENTS' ACHIEVEMENTS

- Rubeka: Received the Best Oral Presenter at the Research and Industrial Conclave 2022 (RIC2022), IIT Guwahati
- Rubeka: Received the Prime Minister Research Fellowship from the Ministry of Education for Excellence in Research
- Heena Kauser: Received Second prize for Oral presentation at Research and Industrial Conclave 2022 (RIC2022), IIT Guwahati

- Rajendra Adak: Received the Best Oral Presentation (1st), Theme: Plant Sciences at International Conference on Advances and Innovations in Biotechnology and Allied Sciences (IC-AIBAS-2022), Chandigarh University
- Dr. Imdadul H. Mondal: Publication; Journal of Thermal Analysis and Calorimetry; Tray drying characteristics of Musa splendida and Musa balbisiana Colla pseudo-stem
- Dr. Imdadul H. Mondal: Publication; Recent trends in Smart and Sustainable Agriculture for Food Security” (SSAFS-2022) conducted by Lovely Professional University, Jalandhar; Tray Drying Characteristics of Water and Indian Spinach Leaves
- Kamal Narayan Baruah: Symposium; Joint Degree Satellite Symposium, 2022; Oral Presentation

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Dr. Latha Rangan	University of Madras	Professor	Applied Biodiversity
02	Dr. Rakhi Chaturvedi	University of Delhi, India	Professor	Plant Tissue Culture & Secondary Metabolites Production
03	Dr. Sanjukta Patra	Central Food Technological Research Institute, Mysore	Professor	Enzyme and Microbial Technology; Biosensors; Metagenomics; Environmental Biotechnology, Rural health and agrowaste utilisation
04	Dr. Ramgopal V. S. Uppaluri	University of Manchester	Professor (equivalent to Higher Academic Grade)	Solar Pumps, Horticultural extract production and product development, value added product development from rural waste resources, Ayurvedic kwath and milk extract based dry product formulations, ready to eat dried vegetable flour based cookies and chips, bio-char for pesticide mitigation, ready to cook soup product formulations, machine learning algorithms applications for rural technology and management
05	Dr. Sudip Mitra	Indian Agricultural Research Institute (IARI), New Delhi	Associate Professor	Climate Smart Agriculture, Soil Quality and Natural Resources Management
06	Dr. Siddhartha Singha	Indian Institute of Technology Madras	Assistant Professor	Food Processing Technologies, Process biotechnology, Scale up and commercialization strategies in food- and bio-processing
07	Dr. Meena Khwairakpam	Indian Institute of Technology Roorkee	Assistant Professor	Rural Sanitation, Waste Management, Constructed Wetland, Biological transformation of organic waste, waste to wealth

Mehta Family School of Data Science and Artificial Intelligence

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Machine learning and deep learning, Computer vision and image processing, Reinforcement learning, Wireless communication and IoT, Statistical Signal Processing, NLP, AI&ML applications in biology, chemical engineering, physics and agriculture, Augmented and virtual reality.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

Eight numbers of research project proposals have been submitted by faculty members of the school to SERB and ICMR for possible funding.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Dr. Debanga Raj Neog	IEEE International Conference on Automatic Face and Gesture Recognition 2021 Jodhpur, India (Virtual Event) December 15 - 18, 2021.	Online	15/12/2021-18/12/2021	International Conference
02	Dr. Debanga Raj Neog	International Conference on Wireless Communications Signal Processing and Networking Virtual Conference 24 - 26 March 2022.	Online	24/03/2022-26/03/2022	International Conference
03	Dr. Arghyadip Roy	Workshop on Stochastic Models	Department of Electrical Engineering, IIT Bombay (Virtual)	25/02/2022-05/03/2022	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Debanga Raj Neog	Wearables and IoT	IIT Guwahati (Winter FDP on IoT & Applications (Smart Systems))	Online	21/02/2022
02	Dr. Debanga Raj Neog	Augmented Reality and AI: Hype vs. Reality	GDSC, NMIMS, Mukesh Patel School of Technology Management and Engineering, Mumbai, India (AI Summit)	Online	19/02/2022

03	Dr. Debanga Raj Neog	Feature Selection and Dimensionality Reduction	IIT Guwahati (Winter FDP on Machine Learning Application in Signal Processing and Communication Engineering)	Online	05/01/2022
04	Dr. Debanga Raj Neog	Machine Learning in Image Processing	IIT Guwahati (Winter FDP on Machine Learning Application in Signal Processing and Communication Engineering)	Online	05/01/2022
05	Dr. Debanga Raj Neog	Cyber Crime and Artificial Intelligence	Air Force Station Digaru, Assam, India (IW Awareness Week)	Digaru, Assam, India	29/11/2021
06	Dr. Debanga Raj Neog	Technical Talk on Applications of AI in Defense Technology and Object Tracking	ITR Chandipur, DRDO	Online	08/10/2021
07	Dr. Arghyadip Roy	Reinforcement Learning	Electronics & ICT Academy, IIT Guwahati	IIT Guwahati	05/01/2022
08	Dr. Arghyadip Roy	Machine Learning in Resource Allocation in Wireless Networks	Electronics & ICT Academy, IIT Guwahati	IIT Guwahati	07/01/2022
09	Dr. Arghyadip Roy	Communication technologies for IoT	Electronics & ICT Academy, IIT Guwahati	IIT Guwahati	15/02/2022
10	Dr. Arghyadip Roy	IoT applications for Smart Home	Electronics & ICT Academy, IIT Guwahati	IIT Guwahati	21/02/2022
11	Dr. Arghyadip Roy	IoT in Smart Farming	Electronics & ICT Academy, IIT Guwahati	IIT Guwahati	23/02/2022
12	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	Cotton University	Guwahati (Delivered in Online Mode)	18/08/2021
13	Prof. Siddhartha Pratim Chakrabarty	Portfolio Optimization and Capital Asset Pricing	Dr. Shyama Prasad Mukherjee International Institute of Information Technology	Naya Raipur (Delivered in Online Mode)	21/08/2021 - 22/09/2021

14	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	Name of Inst./Org: ICAI University Tripura	Agartala (Delivered in Online Mode)	25/08/2021
15	Prof. Siddhartha Pratim Chakrabarty	Financial Risk Management: A Commentary in the Paradigm of Basel Regulations	Dr. Shyama Prasad Mukherjee International Institute of Information Technology	Naya Raipur (Delivered in Online Mode)	08/10/2021
16	Prof. Siddhartha Pratim Chakrabarty	(1) Financial Risk Management: A Commentary in the Paradigm of Basel Regulations (2) Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Indian Institute of Science Education and Research Thiruvananthapuram	Thiruvananthapuram (Delivered in Online Mode)	25/10/2021 - 27/10/2021
17	Prof. Siddhartha Pratim Chakrabarty	Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Vellore Institute of Technology	Vellore (Delivered in Online Mode)	08/01/2022
18	Prof. Siddhartha Pratim Chakrabarty	Transitioning to a Decarbonized Economy: Quantifying the Carbon Transition Risk	Chennai Mathematical Institute and Indian Statistical Institute - Chennai Centre	Chennai (Delivered in Online Mode)	04/03/2022
19	Prof. Ratnajit Bhattacharjee	Prospects of AI/ML in Green Communication: An overview	ATAL FDP on Green Communication organized by BMS Institute of Technology and Management	Online Mode	26/08/2021
20	Prof. Ratnajit Bhattacharjee	Introduction to IoT and its Industrial Application	AICTE Sponsored STTP organized by Sikkim Manipal Institute of Technology	Online Mode	19/07/2021
21	Prof. Ratnajit Bhattacharjee	IoT and its application in Smart City	ATAL FDP on Smart City and IoT organized by Tripura University	Online Mode	23/11/2021

22	Prof. Ratnajit Bhattacharjee	Online and Digital Education to support NEP 2020”	STTP organized by NITTTR Kolkata	Online Mode	13/01/2022.
23	Prof. Ratnajit Bhattacharjee	Road to 5G- India's perspective	Webinar on 5G Deployment in NE States organized by TRAI Regional Office, Kolkata	Online Mode	01/02/2022
24	Prof. Ratnajit Bhattacharjee	Introduction to IoT	Workshop on Innovations in IoT for Emerging Applications organized by ABV-IIIITM Gwalior	Online Mode	12/02/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Prof. Devavrat Shah	Massachusetts Institute of Technology, USA	Role of Data Science and Artificial Intelligence for a developed India	29/03/2022 (Online Mode)	As part of the celebrations of “Azadi Ka Amrit Mahotsav”

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
01	Dr. Arghyadip Roy (Joint Principle Coordinator)	Faculty Development Programme(FDP) on "Machine Learning Application in Signal Processing and Communication Engineering"	Electronics & ICT Academies at IIT Guwahati	03/01/2022 - 08/01/2022	National	350

SPECIAL MENTION

- Siddhartha Pratim Chakrabarty: Joined the Editorial Board of Journal of Innovation Sciences and Sustainable Technologies (A Make in India Creation)

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
01	Ratnajit Bhattacharjee	Jadavpur University	Professor, EEE and Head of School	Microwave Engineering, Microstrip Antennas, Electromagnetics, Wireless Communication.

02	Girish Sampath Setlur	University of Illinois at Urbana Champaign, USA	Professor, Physics and Associate Faculty	Theoretical Physics; Nonchiral Bosonization in 1D, Higher dimensional bosonization, Strongly Correlated Systems, Topological materials.
03	Manas Kamal Bhuyan	IIT Guwahati	Professor EEE and Associate Faculty	Machine & Deep learning and Artificial Intelligence, Image & Video Processing, Computer Vision, Biometrics & Human Computer Interactions (HCI), Virtual Reality & Augmented Reality, Biomedical Signal Processing.
04	Prabirkumar Saha	IIT Madras	Professor Chemical and Associate Faculty	Process Modelling, Optimization and control, Membrane Based separation Process.
05	Siddhartha Pratim Chakrabarty	University of Illinois at Chicago, USA	Professor Mathematics and Associate Faculty	Mathematical Biology, Mathematical Finance
06	Ashok Singh Sairam	IIT Guwahati	Professor Mathematics and Associate Faculty	Computer Networks and Network Security
07	Arabin Kumar Dey	IIT Kanpur	Associate Professor Mathematics and Associate Faculty	Distributions Models and Its Applications, Statistics and Finance, Speech Signal Processing, Machine Learning Algorithms, Deep neural network
08	Ashish Anand	Nanyang Technological University, Singapore	Associate Professor CSE and Associate Faculty	Natural Language Processing, Biomedical Text Mining, Computational Biology, Deep Learning
09	Biplab Bose	All India Institute of Medical Sciences, New Delhi	Associate Professor BSBE and Associate Faculty	Dynamical Systems in biology; Emergent Phenomena in Biology; Statistical Physics in Biology
10	Gaurav Trivedi	IIT Bombay	Associate Professor EEE and Associate Faculty	Circuit Simulation (Analog, RF & Digital) and VLSI CAD, Electronics System Design, Computer Architecture, Semiconductor Devices, Hardware Security, Embedded Systems and IoT, High Performance Computing, Large Scale Optimization and Machine Learning
11	Sanasam Ranbir Singh	IIT Madras	Associate Professor CSE and Associate Faculty	Information Retrieval, Web Mining, Complex network analysis, Social Computing, Machine Learning and Data Mining on Social Media Data, (Multi-Lingual) Natural Language Processing
12	Suresh Sundaram	Indian Institute of Science, Bengaluru	Associate Professor EEE and Associate Faculty	Pattern recognition, Image/ Video Processing and Computer Vision
13	Prithwijit Guha	IIT Kanpur	Associate Professor EEE	Computer Vision, Pattern Recognition, Signal Processing, Robotics

			and Associate Faculty	
14	Hanumant Singh Shekhawat	University of Twente, The Netherlands	Assistant Professor EEE and Associate Faculty	Machine learning, System Theory, Applied Mathematics, Healthcare, & Signal Processing
15	Souptick Chanda	IIT Kharagpur	Assistant Professor BSBE and Associate Faculty	Biomechanics, implant design and optimization, surgical simulations and soft computing
16	Rhythm Grover	IIT Kanpur	Assistant Professor	Efficient Algorithms for parameter estimation of signal processing models, Statistical properties of classical parameter estimation methods, Robust methods of parameter estimation in presence of outliers in the data
17	Debanga Raj Neog	The University of British Columbia, Canada	Assistant Professor	Machine learning and Deep Learning (Object tracking and localization, stereo reconstruction), Image Processing (Semantic segmentation, biomedical image processing), Computer Vision (Eye tracking, face tracking), Computer Graphics and AR/VR (Facial animation, anatomical augmented reality), Computational Imaging (High dynamic range imaging)
18	Arghyadip Roy	IIT Bombay	Assistant Professor	Optimization and Control of Stochastic Systems, Reinforcement Learning, Markov Decision Process, Multi-armed Bandit, Stochastic Approximation, Resource Allocation in Communication Networks, Application of Reinforcement learning in Wireless Communication
19	Konda Reddy Mopuri	Indian Institute of Science, Bengaluru	Assistant Professor	Machine Learning (especially Deep Learning), Artificial Intelligence, Computer Vision, Image/Signal Processing, Data Science, and Optimization
20	Santosh Kumar Vipparthi	IIT (BHU) Varanasi	Assistant Professor	Deep Learning, Computer Vision, Image/Signal Processing, Facial Expression Recognition, Aerial Image Analysis

LABORATORY FACILITIES

Analytical Laboratory: Centre for Energy houses a proper state of the art analytical set-up for quantitative as well as qualitative analysis of samples like biomass and biofuels. Some of the tests that can be performed here are -Characterization of fuels (calorific value, viscosity, flash point, fire point, cloud & pour point, cetane index), Proximate as well as ultimate analysis, Gas chromatograph analysis etc. The Laboratory is equipped with Gas Chromatograph (GC), Thermo-Gravimetric Analyzer (TGA), High Performance Liquid Chromatograph (HPLC), Oxygen bomb calorimeter, Vacuum rotary evaporator, Lyophilizer etc. to name a few.

Biofuel Laboratory: The Biofuel Laboratory is primarily focused in developing a sustainable process design for various biofuel productions and its bioconversion to various value added byproducts. The various types of facilities available in this Laboratory are: Development of thermo-chemical and biochemical conversion routes to efficiently generate renewable biofuels (Bio-butanol, Bio-ethanol) from various feedstock types – rice straw, glycerol, lignocelluloses, Microalgae and *Jatropha* (Bio-diesel production); Ultra Sound enhanced conversion of sugars to fuels and chemicals; Glycerol bioconversion to various value added product (1, 3-Propanediol, DHA); Biohydrogen production. Development of facilities for studying the conversion of methane to methanol and other value added products are underway.

Fuel Cells Laboratory: Study of fuel cells has assumed immense importance because fuel cells have many advantages - clean, high efficiency, silent / vibration-free, reliable, responsive, high quality power, unlimited runtime, independence from traditional infrastructure, use a variety of fuels, high power density, variable operating temperatures, complementary technologies, design flexibility etc. The Laboratory is emphasizing on microbial and enzymatic fuel cell as an alternative source of energy and power generation. In this endeavor, researchers in the lab have actively worked in enzymatic fuel cell with alcohol oxidase in bionanode and laccase in biocathode. We are also carrying out work in PMFC i.e. photosynthetic microbial fuel cell using cyanobacteria and other photosynthetic bacteria in anode as a means of self-sustainable power generating profile for a clean, green energy initiative and technology for the future. Some significant achievements of this lab are identification of novel signal forms in biofuel cell for detection of alcohol and Cyanobacteria based microbial fuel cells for dye degradation and power production. Facilities available in this Laboratory are: Fabrication and characterization of bioelectrodes for biofuelcell and biosensors applications, Facility for development and characterization of composite proton exchange membranes for fuel cell applications, Table top spin coating unit, Potentiostat for cyclic voltametric study, amperometric study and other electrochemical measurements.

X-ray Crystallography Laboratory: This houses the facility for sample preparation for studies on structure of enzymes and their interaction with nanostructured materials for bio-electronic devices such as biofuel cell & other applications.

Energy Efficiency Laboratory: Some of the facilities available in this Laboratory are Fuel testing equipment (calorific value and viscosity), equipment for proximate analysis, anemometer, pump testing setup, biomass gasification unit, flue gas analyzer, GC for biogas analysis, natural convection grain drier, fibre analysis system, Kjeldahl apparatus for nitrogen estimation, fume hood etc. A portion of the energy efficiency Laboratory is located in the technology complex

(TC) to house the noisy, rugged and robust facilities like biomass gasifier units, pump testing set-up etc.

Bio-energy Laboratory: The Bioenergy Laboratory is developing the necessary knowledge and range of technologies to improve biofuel crops with more efficient biofuel and bioenergy. The lab is also involved in development of micropropagation technology for commercial scale production of clonal (genetically identical) plant materials of high yielding biofuel plants. The Laboratory is also planning to employ automation (using bioreactor) in micro-propagation to further reduce the cost of clonal plants. The main research activities in the area of bioenergy involves the following -Micropropagation and Genetic Engineering of Bio Fuel plants, Tissue culture of energy and bio-fuel crops, Bioprocess Engineering for yielding value added products, Genetic Engineering, Extraction of oil and other value added products, and Microalgae based biodiesel production.

Solar Energy Laboratory: Centre for Energy also houses a solar energy lab for dedicated research towards development and testing of thin films for solar cells. Demonstration unit for efficient use of solar energy; characterization and study of the photovoltaic module; energy spectrum measuring facility; solar simulator; spectral response/ photoconductivity/ quantum; efficiency and other transport measurements in the presence of light of photovoltaic modules, materials and devices. The transport measurements are also possible as a function of temperature in the temperature range 250-450K. A facility for preparation of thin films by physical vapor deposition method is also available. The facility for the fabrication of thin film and hetero junction solar cells based amorphous and microcrystalline silicon is also available in collaboration with Physics department.

Process Development Laboratory: This Laboratory has been developed at the Technology Complex (TC) to house the noisy, rugged and robust equipment. The major facilities in Process Development Lab are Gasification units (both Downdraft & Fluidized Bed), IC Engines setup, Battery testing facility, 1KW Solar wind hybrid system, Pump testing setup, and Gas to Liquid conversion setup. Some of the equipment available are Gas analyzer, Pelletizer, Gas Chromatograph, Fibre analysis system, etc.

Internal Combustion Engine Laboratory: This Laboratory is located at Technology Complex and houses facility for testing of various alternative fuels for modifying and developing petrol and diesel engines.

Energy Conversion Laboratory: This Laboratory is housed in Technology Complex wherein research facilities for fuel cell testing, energy storage setup (both battery and compressed air energy storage) and indoor solar testing setups are available.

Printed Electronics and Emerging Technology Laboratory: The lab focuses on developing functional nanomaterials for energy storage and fabrication of printed electronic devices and IoT enabled sensors. Development of AI and machine learning tools for energy generation and distribution.

Sustainable Biofuel Laboratory, SESE, Technological Complex: Research work focus on biofuel production from lignocellulosic agriculture wastes.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Differential Scanning Calorimeter, Make: NETZSCH, Model: DSC 3500 Sirius
- Multi Scan Sky-high Spectrophotometer Make: Thermo scientific, Model: A51119700

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Clean Energy Technology (Fluidized bed technology, thermochemical and biochemical conversion of biomass), Energy Storage (Thermal, Compressed Air, and Li-ion battery), Integration of Renewable Energy Devices, Thermal management of PVT, Energy Management, Solar Photovoltaics, Biosensor, Biofuel cells, Photovoltaics, Thin films, Semiconductor materials and devices, Biomass(microorganism/ waste/ plant materials) to biofuel/ bio-oil/ biodiesel /biogas/ power through physical/ chemical/ biological means, Clean coal technology, Methane to methanol by Bio-GTL route, Combustion and energy efficiency of systems, Sustainable biofuel, Bio-energy and Green Engineering, Bio-mass gasification, Energy Conservation and Renewable Energy, Solar energy conversion, Microgrid Power Management system, Energy storage and Printed Electronic devices, Wind energy for localized power generation, Biofuel performance in internal combustion engines, Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes, other industrially important microbial enzymes and biofuel production from lignocellulosic agriculture wastes, AI/ML based predictive modeling for Energy generation and distribution.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof. Pratima Agarwal	Recent Advances and Innovations in Solar Energy (RAiSE-2021)	IIT Madras (ONLINE)	02/12/2021 - 04/12/2021	International
02	Prof. V. S. Moholkar	International Conference on advances in chemistry and biology of carbohydrates (CARBO XXXV)	Forest Research Institute, Dehradun, India	04/12/2021 - 05/12/2021	International
03	Prof. Arun Goyal	International Conference on advances in chemistry and biology of carbohydrates (CARBO XXXV)	Forest Research Institute, Dehradun, India.	04/12/2021 - 05/12/2021	International
04	Prof. Pratima Agarwal	XXI International Workshop on Physics of Semiconductor Devices (IWPSD)	IIT Delhi (ONLINE)	14/12/2021 - 17/12/2021	International
05	Prof. Arun Goyal	International Conference on Sustainable Energy and Environmental Challenges (VI-SEEC, 2021)	Lucknow, India	27/12/2021 - 29/12/2021	International
06	Prof. Pratima Agarwal	International Conference on Current Trends in Advanced Materials and their Applications for Societal Development (ICTAMASD- 2022)	Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P	08/03/2022 - 10/03/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Harsh Chaturvedi	21 st Century Culture of Innovation for Defense Excellence	Indian Military Academy	Dehradun, Uttarakhand	16/07/2021
02	Prof Pratima Agarwal	Carrier selective layers in c-Si based heterojunction solar cells	IIT Madras	Chennai (Online)	01/12/ 2021
03	Prof. Pratima Agarwal	Role of intrinsic and doped a-Si:H layers on performance of c-Si/a-Si:H heterojunction solar cells	IIT Delhi	Delhi (Online)	16/12/2021
04	Dr. Harsh Chaturvedi	Printed Electronics and its Applications	Indian Military Academy	Dehradun, Uttarakhand	08/03/2022
05	Dr. Pankaj Kalita	Hydrogen production and conversion technologies	South Asia Energy Masterclass on Green Hydrogen	Online	08/03/2022
06	Prof. Pratima Agarwal	Graphene: Synthesis, Characterization and applications in Opto-electronic devices	Dr. Harisingh Gour Vishwavidyalaya, Sagar, M.P	Sagar (Online)	08/03/2022

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
01	Dr. Harsh Chaturvedi	Productivity Enhancement Through Effective Stress Management	AICTE	15/10/2021-19/10/2021	National	200
02	Dr. Harsh Chaturvedi	Workshop for IMA Cadets on Advance Technology Projects for new generation Military Applications	UNISED	30/11/2021 - 04/12/2021	National	20

PATENTS

No. of Patents Applied: 04

No. of Patents Granted: 01

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Rohith Sangineni, Shashank Satish Kulkarni and Sisir Kumar Nayak	Design and development of an electromagnetic interference free non-	11/03/2021 Applied	202231013474	Indian

		intrusive test setup for condition assessment of insulating oils using antenna			
02	Amit Kumar Baghel, Shashank Satish Kulkarni, Sisir Kumar Nayak, D. Senthil Kumar	Parabolic Pyramidal Horn Antenna	28/12/2021 Granted	385322 (19/01/2018)	Indian
03	P. Muthukumar and Alok Kumar	System and Process for Hydrogen Separation Through Metal Hydride Reactors	Applied	202131059468	Indian
04	P. Muthukumar, and P. Maurya	Self-aspirated pressurized methanol cook stove with porous radiant burner	Applied	202131051305	Indian
05	Lepakshi Barbora, Arup Dutta, Deep Bora, Devard Stom, Pranab Goswami	A Solidified Organic Waste Based Bio Battery	24/03/2022 (Applied)	202231016769	Indian

AWARDS AND HONOURS

- Prof. Kaustubha Mohanty: Selected as Fellow of Biotech Research Society of India for Outstanding contributions to Environmental Biotechnology, Bioenergy and Bioprocess Technology
- Prof. Arun Goyal: Received the BHU Centennial Award 2020 from Biotech Research Society, India for Outstanding contributions to Microbial Biotechnology
- Dr. Harsh Chaturvedi: Received the Research Concept Grand Challenge Award (RCGCA) from Research and Development Section, Indian Institute of Technology Guwahati

STUDENTS' ACHIEVEMENTS

- Karan Kumar: Received First Prize (Consolation) from CSIR- Central Leather Research Institute, Chennai for Scientific essay writing on research topic
- Karan Kumar: Received the Best Young Scientist Award at Conference Mind for Oral talk as invited speaker
- Karan Kumar: Received the Best Oral Presentation Award at Annual Convention of Biotech Research Society, India (BRSI) and Centre for Energy and Environmental Sustainability (CEES), India
- Premeshwarii Devi Maibam: Received the Best Oral Presentation Award at Research and Industrial Conclave, An amalgamation of Academia, Industry & Strat-ups, IIT Guwahati
- Premeshwarii Devi Maibam: Received the Best Oral Presentation Award at Association of Carbohydrate Chemists and Technologists, India (ACCTI)
- Angana Chaudhuri: Received the Award of Excellence – Young Researcher Award at International Conference on Environmental, Agricultural, Human and Animal Health (Voice of Indian Concern for the Environment (VOICE)) for One of the best SOPs and one of the best young researcher of India
- Dr. Dudul Das: Received the Best PhD Thesis Award at IIT Guwahati
- Vijaya: Received the MTP Best Thesis Award at IIT Guwahati
- Vijaya: Received the Samsung Fellowship from Samsung Electronics

SPECIAL MENTION

- **Prof. Arun Goyal**
 - Invited as Expert member of Initial Screening Committee (ISC) for Project Evaluation by Technology Development Board (TDB), Department of Science and Technology (DST) March 9, 2022
 - Invited as Distinguished Technical Expert Member, for Project Evaluation Committee (PEC) by Technology Development Board (TDB), Department of Science and Technology (DST), Jan 27, 2022
 - Invited as Member, Technical Expert Committee for DBT-NER by DBT in the area of Energy, Environment and Biodiversity to review new proposals and project progress, July 6, 2021

- **Dr. Harsh Chaturvedi**
 - Establishment and Development of UNISED- CREATE Centre, at Research Park, IIT GUWAHATI Coordinator: Dr. Harsh Chaturvedi
 - MEMBER, Reserve Bank of India (RBI), Technical committee on Procurement of Security Features for Currency Notes
 - Establishment and Development of JIGYASA lab, INDIAN MILITARY ACADEMY, Dehradun. Co-Ordinator & Mentor: Dr. Harsh Chaturvedi (Inaugurated by Hon. President of India, December 2021)

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
CORE FACULTY MEMBERS				
01	E. S. N. Raju P.	Indian Institute of Technology Indore	Assistant Professor	Smart grid; Microgrid; Grid integration of renewable energy sources (solar power, wind power, etc) energy storage, and flexible loads; Different topologies and control algorithms of power electronic converters; Power electronics applications to power systems; Application of optimization/artificial intelligence techniques to power systems/micro-grids; PMUs/ μ PMUs applications to power systems/micro-grids ; EV Charging infrastructure
02	Harsh Chaturvedi	University of North Carolina (UNCC) at Charlotte, USA	Assistant Professor	Directed assembly of hybrid functional nanomaterials, lithography fabrication, prototype development of electro optic

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
				wearable devices, biosensors, Flexible electronics, solar cells
03	Pankaj Kalita	IIT Guwahati	Associate Professor	Clean Energy Technologies, Solar Thermal, Energy Storage
04	Ranjith Thangavel	Chonnam National University, South Korea	Assistant Professor	Energy Storage and Conversion, Lithium/Sodium-ion Batteries, Supercapacitors, Electrocatalysis, Electric Vehicles, Battery Management System, Solar Cells, Fuel-cells, Hydrogen Production and Storage
ADJUNCT FACULTY MEMBERS				
05	Arun Goyal	IIT Kanpur	Professor, Department of Biosciences and Bioengineering	Molecular Biology, Protein Engineering, Bioethanol
06	Kaustubha Mohanty	IIT Kharagpur	Head, School of Energy Science and Engineering & Professor, Department of Chemical Engineering	Biofuels (bio-diesel, bio-ethanol and bio-Hydrogen), Utilisation of Lignocellulosic Biomass for Fuel Production.
07	Mahuya De		Professor, Department of Chemical Engineering	Catalysis and reaction engineering, adsorption, hydrocarbon processing
08	P. Muthukumar	IIT Madras	Professor, Department of Mechanical Engineering	Hydrogen Energy (Storage and Applications), Metal hydride based thermal machines, Porous medium combustion, Heat and mass transfer in porous medium, Sorption heating and cooling systems, Waste heat recovery, Thermal energy storage systems, etc.
09	S. Senthilmurugan	IIT Delhi	Professor, Department of Chemical Engineering	Modeling and Optimization of Novel Processes, Process Design and Operation of Membrane Separation Processes, Waste and waste water treatment (WWWT) for Process Industries, Novel Desalination Technologies, Smart Water Grid, Waste to Energy

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
10	Vijay S Moholkar	University of Twente, Netherlands	Professor, Department of Chemical Engineering	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
11	V. V. Goud	IIT Kharagpur	Professor, Department of Chemical Engineering	Bio-energy; Biolubricant, Heterogeneous Reactions, Utilisation of Lignocellulosic Biomass for Production of Fuel/Chemicals, Application of Supercritical Fluids, Wastewater Treatment
ASSOCIATED FACULTY MEMBERS				
12	D. Das	IIT Bombay	Professor, Department of Biosciences and Bioengineering	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel
13	H.B. Nemade	IIT Bombay	Professor, Department of Electronics and Electrical Engineering	Electronic instrumentation, Systems design, Ultrasonic instrumentation, Non-destructive testing, Electronic product design, EMI/EMC issues, Acoustic sensors, Underwater acoustics, Surface acoustic wave devices, MEMS
14	K. Kalita	University of Nottingham, U.K	Professor, Department of Mechanical Engineering	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
15	L. Sahoo	MDU, Rohtak	Professor, Department of Biotechnology	Genetic engineering and functional genomics of plants
16	N. Sahoo	IISc Bangalore	Professor, Department of Mechanical Engineering	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
17	P. Agarwal	IIT Kanpur	Professor, Department of Physics	Amorphous and nano-crystalline semiconductor thin films solar cells, perovskite solar cells, heterojunction solar cells and other devices
18	P. Goswami	Gauhati University	Professor (HAG), Department of Biosciences and Bioengineering	Biosensors and Biofuel cells
19	S. K. Nayak	IISc Bangalore	Associate Professor, Department of Electronics and	Power flow analysis in AC and DC traction power system, Electromagnetics,

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
			Electrical Engineering	Lightning interaction with an electrical and mechanical system, High Voltage Engineering
20	U. K. Saha	IIT Bombay	Professor, Department of Mechanical Engineering	Turbomachinery, Jet Propulsion, Internal Combustion Engines and Wind Energy
21	V. Kulkarni		Professor, Department of Mechanical Engineering	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
HONORARAY FACULTY MEMBERS (INDIA)				
22	S. C. Sharma	Mysore University	Director, NAAC, Bangalore	Photoluminescence of Nanophosphors, Photoluminescence, Thermoluminescence, Photocatalytic Studies of Radioactive Nanomaterials, Sensors for Phenolic Compounds, Hydroquinone, Melamine, Dopamine, Paracetamol, Folic Acid etc., Display, Dosimetry and Advanced Forensic Applications of Nanomaterials
HONORARAY FACULTY MEMBERS (FOREIGN)				
23	Irini Angelidaki	Technical University of Denmark	Professor	Biofuels (biogas, biohydrogen, bioethanol) production, Microbial Electrochemistry, Algae as Bioresource and Biorefineries, Optimization of the Anaerobic Processes and Development of Sustainable Solutions for Organic Waste and Wastewater Treatment
24	Soteris Kalogirou	Cyprus University of Technology	Professor	Solar Thermal Collectors, Hybrid Photovoltaic/Thermal Systems, Artificial Intelligence Techniques for the Performance Prediction of Energy and Renewable Energy Systems

LABORATORY FACILITIES

The Centre has a proposal to develop the following laboratories under the Biomedical Science and Engineering M.Tech. program:

- Biotechniques & Bioinstrumentation Laboratory
- Diagnostics & Devices Laboratory
- Product Design & Prototyping Laboratory
- Bioinformatics and Omics Analytics Laboratories

MAJOR EQUIPMENT AND FACILITIES ACQUIRED

- Lenevo Laptop Model No- Gaming 3i 81Y4Q19EIN
- Lenevo Think centre Desktop M70; Lenevo Commercial Monitor 21.5 (7 + 7 Nos.)
- Toshiba E-Studio 3518A; Toshiba RADF MR-3031-B; Toshiba Print Scan Enabler GM-2290 (1 each)

MAJOR AREAS OF RESEARCH AND DEVELOPMENT

Devices, Diagnostics, Bioinformatics, Mathematical Modelling and Simulations, Biomaterials & Tissue Engineering, Cancer Biology, Nanotheranostics, Fungi in Disease and Health, Cancer Immunotherapy, Stem Cell Biology, and Neurobiology.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT

- SWASTHA – Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs, 5(1)/2022 – NANO, MeitY (4200 L)
- DNA Aptasensor-Nanomaterial based product development and commercialization for application in Diagnostics and Environment Monitoring, DBT, BT/PR41254/ATGC/127/86/2020, (29.88 L)
- Centre for Excellence in Disruptive Innovations & Product Development for Affordable Rural Healthcare, 5/3/8/20/2019-ITR, ICMR (1506 L)
- Healthcare Bio-Entrepreneurship Ecosystem Encompassing Biomaterials, Industrial Biotechnology and Diagnostics, BT/BIRAC/BI-IITG/2020, BIRAC, 2021 (498 L)
- Indian Nanoelectronics Users' Programme - Idea to Innovation (INUP-i2i), 5(1)/2021-NANO, MeitY, (2021-2024) (923 L)

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Dr. Akshai Kumar	ACS National Meeting & Exposition, ACS Spring 2021	Virtual	05/04/2021 - 30/04/2021	International
02	Dr. Akshai Kumar	Indian Nanoelectronics Users' Program-Idea to Innovation	Virtual	12/12/2021 - 14/12/2021	National

		(INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021]. December 12-14, 2021			
03	Dr. Akshai Kumar	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri	Virtual	14/03/2022	International
04	Dr. Akshai Kumar	ACS National Meeting & Exposition, ACS Spring 2022	Virtual	20/03/2022 - 24/03/2022	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Dipankar Bandyopadhyay	Engineering of Orientational Orders in Liquid Crystal Nanodroplets as Phototunable Softmasks, Nanotechnology: Present Advancements and future prospects	Amity University	Noida	January 2022
02	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care for a Billion, Chemical Engineering Seminar	IIT Bombay	IIT Bombay	March 2022
03	Prof. Dipankar Bandyopadhyay	'Still Life' of Flexible Surfaces, SCDT-FlexE Centre Webinar	IIT Kanpur	IIT Kanpur	February 2022
04	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	CSIR-Institute of Minerals & Materials Technology Bhubaneswar, ODISHA	Bhubaneswar, ODISHA	December 2021
05	Prof. Dipankar Bandyopadhyay	Engineering of Orientational Orders in Liquid Crystal Nanodroplets as Phototunable Softmasks	ICANN 2021 - 7th International Conference on Advanced Nanomaterials and Nanotechnology	ICANN2021 - IIT Guwahati	December 2021
06	Prof. Dipankar Bandyopadhyay	Point-of-Care Nanosensors for Various Healthcare applications	Webinar Internship Course on Emerging Trends in Nanomaterials for Different Device Architectures	Webinar	November 2021
07	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	International Online Conference on Materials Science and Technology (ICMT-2021)	Online Conference	November 2021

08	Prof. Dipankar Bandyopadhyay	Electrorheology of Micro or Nanoscale Soft-Assemblies	TEQIP Sponsored Symposium on Biomicrofluidics	IIT Guwahati	October 2021
09	Prof. Dipankar Bandyopadhyay	Microdroplets & Microchannels for Unit Operations, Faculty Development Programme on Microfluidics, Soft matter & their Applications	NIT Calicut	NIT Calicut	September 2021
10	Prof. Dipankar Bandyopadhyay	Introduction to micro & nanofluidic devices	INUP - I2I, IIT Guwahati	IIT Guwahati	December 2021
11	Prof. Dipankar Bandyopadhyay	Life Skills: A Pragmatic Approach to tackle Personal and Professional Challenges	IIT Hyderabad	IIT Hyderabad	June 2021
12	Prof. Dipankar Bandyopadhyay	Microdroplets & Microchannels for Unit Operations	ICN 2021 Mahatma Gandhi University, Wroclaw University of Technology, Gdansk University of Technology, and Wuhan University	Kottayam, Kerala, India	April 2021.
13	Dr. Akshai Kumar	Pincer-Nickel Catalyzed Alkylation Reactions	ACS National Meeting & Exposition, ACS Spring 2022, March 20-24, 2022.	Virtual	20/03/2022 - 24/03/2022
14	Dr. Akshai Kumar	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals https://doi.org/10.1021/scimeetings.1c00578	ACS National Meeting & Exposition, ACS Spring 2021, April 5-30, 2021	Virtual	05/04/2021 - 30/04/2021
15	Dr. Akshai Kumar	Pincer-Nickel Catalyzed Alkylation Reactions	Recent Advances in Chemical Science and Medicinal Chemistry Organized by University of Mysore, Manasagangothri, March 14, 2022	Virtual	14/03/2022
16	Dr. Akshai Kumar	Spectroscopy as Powerful Tool for Structural Elucidation	Indian Nanoelectronics Users' Program-Idea to Innovation (INUP-i2i), Online Familiarization Workshop [INUP-i2i @IITG 2021]	Virtual	12/12/2021 - 14/12/2021
17	Dr. Akshai Kumar	A Chemists Perspective on Shift towards Electrification and Hydrogen Economy	Invited Talk in the 17th India Innovation Summit "Crafting our Future – Innovation for the Next World" organized by	Virtual	15/09/2021

			Confederation of Indian Industry, Bangalore, Karnataka, India		
18	Dr. Akshai Kumar	Career Opportunities in Science Changing Scenarios	Delivered a talk as a Resource person in the "Interactive Mentoring Session for School and College Students" Organized by Indian National Young Academy of Sciences (INYAS), North-East Local Chapter in association with Children's Science Academy, Assam and Nowgong College, Assam	Virtual	05/09/2021
19	Dr. Akshai Kumar	Poly-Fluorinated Poly-Aromatic Hydrocarbons and Their Versatile Applications	Invited talk in the Recent Advances in Organic Synthetic Methods (RAOSM - 2021) organized by Mangalore University, Mangaluru, Karnataka, India, as part of formal retirement of Prof. B. K. Kalluraya	Virtual	28/08/2021
20	Dr. Akshai Kumar	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the 5th National Symposium Shaping the Energy Future: Challenges & Opportunities (SEFCO) organized by CSIR-Indian Institute of Petroleum, Dehradun, Uttarakhand, India	Virtual	27/08/2021
21	Dr. Akshai Kumar	Synthesis of Specialty Chemicals Via Catalytic Transformations by Pincer-Metal Complexes	Invited talk in the Recent Trends in Chemistry, In-House Symposium at IPC Department, IISc Bangalore as part of formal retirement of Prof. A. G. Samuelson	Virtual	17/07/2021
22	Dr. Akshai Kumar	Fundamentals and Applications of Electron Paramagnetic Resonance (EPR) and Mössbauer Spectroscopy	Invited Talk, GST-AAT 2021, School of Applied Sciences, Department of	Virtual	22/06/2021

			Chemistry, REVA University, Bangalore		
23	Dr. Akshai Kumar	Pincer-Metal Complexes in Catalytic Conversions: Synthesis of High-Value Fuels and Specialty Chemicals	Delivered a talk at the Virtual Meeting on Technology Day “Technologies for Sustainable Development Goals (SDG): IIT Guwahati” organized by Research and Development and Industrial Interactions & Special Initiatives Sections, Indian Institute of Technology Guwahati	Virtual	11/05/2021

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Dr. Jayanta Biswa Sarma	The Mid Yorkshire Hospitals, NHS Trust, UK	A Perspective on COVID-19	10/03/2022	Invited Lecture

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
01	Prof. Dipankar Bandyopadhyay	BIG Awareness talk	IIT Guwahati	25/08/2021	National	50
02	Prof. Dipankar Bandyopadhyay	Facilitating Translation of Innovative Healthcare Technologies “Azadi ka Amrit Mahotsav”	IIT Guwahati	17/09/2021	National	100
03	Prof. Dipankar Bandyopadhyay	Industrial conclave – Kickstart 1.0	IIT Guwahati	13/12/2021 - 14/12/2021	National	>400
04	Prof. Dipankar Bandyopadhyay	ICANN 2021 – International Conference	IIT Guwahati	14/12/2021 - 17/12/2021	International	
05	Dr. Akshai Kumar A. S. (Organising Committee)	INUP-I2I Workshop – 1 st online familiarization Workshop	MeitY	12/12/2021	National	90

06	Dr. Akshai Kumar A. S. (Organising Committee)	INUP-I2I Workshop – 2 nd online familiarization Workshop	MeitY	01/03/2022	National	100
07	Dr. Akshai Kumar A. S. (Co-convener)	RSC-CRSI-15 and CRSI-NSC-28	CRSI-RSC	24/03/2022	International	500

PATENTS

No. of Patents Applied: 1

No. of Patents Granted: 0

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Dr. Akshai Kumar, Prof. Roy P. Paily, Mr. Khadimul Islam, Dr. Thomas Daniel	Symmetric Tetraalkynylated Anthracenes and the Process for Preparing the Same for Sensing and Optoelectronic Applications Indian Institute of Technology Guwahati	03/08/2021	IN Patent Application; 202131035020,	NA

AWARDS AND HONOURS

- Dr. Akshai Kumar A. S.: Selected as the Fellow of Indian Chemical Society (FICS - Life Fellow) for his Contribution to Catalysis and Organometallic Chemistry

STUDENTS' ACHIEVEMENTS

- Eileen Yasmin: Selected for Oral Presentation during the 15th RSC-CRSI symposium

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/ Org PhD degree received from	Designation	Areas of Interest
01	Rajiv K. Kar	Bose Institute, Kolkata	Assistant Professor	Quantum Mechanics, Soft Matter Simulation, Bioinformatics, Spectroscopy, Photobiology, Data Science
02	Subrata Pramanik	RWTH Aachen University, Germany	Assistant Professor	Molecular Neurobiology and Embryology, Pharmacology and Toxicology, Computational Biology and Bioinformatics, Cancer Neuroscience, Protein Engineering and Biocatalysis

PART III

RESEARCH PUBLICATIONS

Research Publications

Books

Book Chapters

DETAILS OF RESEARCH AND DEVELOPMENT

<https://www.scopus.com/results/results.uri?sort=plf-f&src=s&nlo=&nlr=&nls=&sid=72883b26c236bb3fcbe7717cdbc37747&sot=aff&sdt=cl&cluster=sco-pubyr%2c%222021%22%2ct&sl=15&s=AF-ID%2860010126%29&origin=resultslst&zone=leftSideBar&editSaveSearch=&txGid=d899e90f06174ab1b4a23a140108e56d>

DETAILS OF RESEARCH AND DEVELOPMENT**NEW SPONSORED PROJECTS REGISTERED**

Sl. No.	PI Name	Co-PI	Project Title	Project Duration (in months)	Sanction Value	Project No.	Funding Agency
1	Subramani Kanagaraj	Aparna Zagabathuni	Origami-inspired metamaterial composite orthotic insole for foot disorders	2	120000	xxMESPNTATA0070 9xSKJ014	Tata Steel, Jamshedpur
2	Manmohan Pandey	Manmohan Pandey	Experimental Investigations on Flow Boiling Instabilities in Mini- and Microchannels	36	7443260	xxMESPNSERB0030 2xxMP006	SERB
3	Sachin Kumar		RECOMBINANT NEWCASTLE DISEASE VIRUS BASED BREAST CANCER THERAPY: A NOVEL ONCOLYTIC VIRAL APPROACH	36	300000	BSBESPNBBCI0091 3xxSK011	BBCI
4	Cota Navin Gupta	Souptick Chanda	Cognitive Interfaces for Software Engineering with Multimodal Brain Imaging	36	4171719	BSBESPNxDST0119 2xCNG003	DST
5	Rajaram Swaminathan	Anki Reddy Katha	Investigating Enzymatic reactions in Crowded Physiological spaces AND Structural changes in SARS-Cov-2 S protein in response to Drug	24	1500000	BSBESPNxDST0020 9xxRS009	DST
6	Ravindranath Adda	Praveen Tripathy	DC side low-frequency ripple reduction in SBI and q-SBI based PV system with non-linear local loads and distorted PCC voltage	36	3509000	xEEESPNSERB0099 4xxRA002	SERB
7	Subramani Kanagaraj	1. Debabrata Sikdar	Design and Development of Robotic Vaccinator for mass vaccination	3	360660	xxMESPNHIFX0070 9xSKJ015	OTHER

		2. Sonali Biswas					
8	Swarup Bag	Swarup Bag	Development of a numerical model and the stability analysis of dynamic keyhole in deep penetration laser welding process using the phase-field method	36	660000	xxMESPNSERB0085 4xxSB003	SERB
9	Sachin Kumar		Cancer immunotherapy initiative In India (DUCI3): Repurposing anti-COVID19 immunity for cancer immunotherapy	60	873000	BSBESPNDMRF009 13xxSK012	Dalhousie Medical Research Foundation
10	Mihir Kumar Purkait	.	Classification of water for drinking purpose	1	24780	xCLESPNPGCI00527 xMKP020	CPRI
11	Hanumant Singh Shekhawat	1. Gaurav Trivedi 2. Dilwar Hussain 3. S.R.M. Prasanna 4. Mukesh Kumar Saini 5. Venkatasubramanian 6. Sreeraj Vs 7. Wesley De neve 8. Mark Whitaker	Centre for depression diagnosis and medication adherence	36	10522600	xEEESPnxDBT0108 9xHSS002	DBT

		9. Shodhan Rao					
		10. Vin Ryu					
		11. David Choi					
		12. Dhananjay Singh					
12	Anamika Barua		Examining nature-society relations through urban infrastructure (Project-NATURE)	8	842520	xHSSSPNKTHR0080 7xxAB008	Academic institute-KTH Royal Institute of Technology
13	Tharmalingam Punniyamurthy		Synthesis of Enantioriched Unsaturated Oxygen and Nitrogen Containing Heterocycles	36	1400000	xCHMSPNCSIR0033 4xxTP015	CSIR
14	Tamal Banerjee	1. Subrata Kumar Majumder	Sustainable, Biodegradable and Affordable Substitutes for ?Single use Plastic? using Castor Oil and Stubble Aggregate	36	3091737	xENVSPNxDST0061 7xxTB010	DST
		2. Kaushik Chatterjee					
		3. Surya Sarathi Bose					
		4. Debashis Kundu					
15	Anil Mukund Limaye	Kusum Kumari Singh	Analysis of genome-wide restoration of estrogen regulated gene expression network post epigenetic reactivation of ERalpha in ER-negative breast cancer cells	36	2468465	BSBESPNICMR0074 3xAML012	ICMR
16	Mihir Kumar Purkait		Preparation of DPR for the treatment of Panchnoi River under DRDA, Udalguri	6	400000	xCLESPNPNRD0052 7xMKP021	Govt. of Assam

17	Mihir Kumar Purkait		Preparation of DPR for the treatment of Pagladia River under Nalbari Zilla Parishad	6	575000	xCLESPNPNRD0052 7xMKP022	Govt. of Assam
18	Mihir Kumar Purkait		Preparation of DPR for the treatment of Kharsang River under Tinsukia Zilla Parishad	6	525000	xCLESPNPNRD0052 7xMKP024	Govt. of Assam
19	Abhishek Kumar	Pallabee Choudhury	Quantification of subsoil response of Birpur, Basopatti and adjacent regions of Madhubani, Bihar located adjacent to central seismic gap towards minimizing future earthquake induced damages	36	6236440	xxCESPNMOES0099 8xABK003	Ministry of Earth Sciences
20	Kusum Kumari Singh	Ashish Anand	To capture and investigate physiologically relevant interactome in UPF3B knockout cells mimicking mental retardation (MR) patient's condition	36	4343788	BSBESPNICMR0112 3xKKS007	ICMR
21	Kaustubha Mohanty	R. Vinu	Catalytic Hydrodeoxygenation of pyrolytic-oil produced from copyrolysis of agricultural residue and plastic waste	36	6866337	SESEPNxDST0061 9xxKM009	DST
22	Biman Behari Mandal		Bioengineered skin equivalent for treatment of burn injuries	36	1700000	BSBESPNxDBT0085 7xBBM023	DBT
23	Ravindranath Adda	Praveen Tripathy	Design, Development, and Demonstration of Solar-PV integrated On-board and Off-board Electric-Rickshaw Charging Infrastructure	36	6773970	xEESPNxDST0099 4xxRA003	DST
24	Krishna Pada Bhabak	1. V. G. M. Naidu 2. Avdhesh Kumar Rai	Enhancement of the Chemotherapeutic Potential of Anticancer Drugs: Biothiol-stimulated Fluorogenic Strategies for Adjuvant Delivery of Anticancer drug and GSTP1 inhibitor	24	1046500	xCHMSPNICMR011 11xKPB006	ICMR

25	Debasis Manna	Sachin Kumar	Cancer immunotherapy: Inhibition of Immunosuppressive Indoleamine 2,3-Dioxygenase 1 Enzyme Activity by targeting the Heme and Apo-form	36	2666000	xCHMSPNCSIR0077 2xxDM009	CSIR
26	Sanasam Ranbir Singh	1. Sukumar Nandi	Unified platform for Social Media Content Analytics	36	17650000	xCSESPNDEIT00804 xSRS004	DEITY
		2. Priyankoo Sarmah					
		3. Abhishek Shrivastava					
27	Dipankar Bandyopadhyay	1. Parameswar K. Iyer	Indian Nanoelectronics Users Programme - Idea to Innovation (INUP-i2i)	36	92300000	NANOSPNDIT0077 1xDPB008	DEITY
		2. Akshai Kumar Alape Seetharam					
		3. Arun Tej Mallajosyula					
		4. Dobbidi Pamu					
28	Udaya Kumar Dharmalingam		M. Des Programme / Executive Development Programme in Electronics Product Design	60	18021100 0	xDESSPNMEIT0083 4xUKD001	MIETY
29	Shyamanta Moni Hazarika		Motor Imagery BCI for Neuroprostheses and Robotic Neurorehabilitation	36	2815000	xxMESPNIHFC1219 xSMH005	IIT Delhi

30	Ajay Kalamdhad		A Pilot-scale comparative study on dumping of fresh and partially stabilized MSW followed by pretreatment of landfill leachates by conventional and electrocoagulation methods followed by upflow anaerobic filter	36	9352886	xxCESPNxDST0078 2xxAK006	DST
31	Subashisa Dutta		Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptaTion in India	6	745416	xxCESPNNERC0041 5xxSD013	UK
32	Vibin Ramakrishnan	Sharad Pawar	Mechanistic investigations on the efficacy and mode of action of Ashwagandha Rasayana and Yogaraj Guggulu, using a hybrid Proteomics-Cheminformatics-Network medicine approach for the treatment of Osteoarthritis	24	11164208	BSBESPNCRA0086 4xxVR009	CPRI
33	Pankaj Kalita	Arun Chandra Borsaikia	Development of a novel bio-composite thermal energy storage material and its applications in isothermal drying of agricultural products and passive cooling of building	36	655500	SESESPNASTE0113 4xxPK005	ASTEC
34	Anand Baskaran		Unravelling the Regulatory Mechanism that Connects Ribosome Biogenesis and Stringent Response with Bacterial Cell Growth	18	4180022	BSBExSPILSF00811x xBA011	Ignite Life Science Foundation
35	Sashindra Kumar Kakoty	1. Bhaskar Bhowmick	Empowering women through Appropriate technology intervention in weaving sector	24	3729756	SARTSPNxDST0029 6xxSK011	DSIR

		2. Prithibhushan Deka	for Productivity enhancement and drudgery reduction of artisans				
		3. Bibhuti Ranjan Bhattacharjya					
36	Sashindra Kumar Kakoty	Bibhuti Ranjan Bhattacharjya	Design and devolvement of a solar-powered pottery Chaak	12	328915	SARTSPNASEC0029 6xxSK012	ASTEC
37	Lalit Mohan Pandey		Shastri Covid-19 Pandemic Response Grant (SCPRG): Call for Innovative Solutions	12	841930	BSBESPNSICI00993 xLMP006	CPRI
38	Dipankar Bandypadhyay	Siddhartha Sankar Ghosh	Centre for Excellence in Disruptive Innovations and Product Development for Affordable Rural Healthcare	60	15069431 5	NANOSPNICMR007 71xDPB009	ICMR
39	Anamika Barua		Support for transboundary hydro diplomacy course	12	480700	xHSSSPNASIA00807 xxAB009	NGO
40	Arun Goyal	Debasish Das	DBT PAN IIT Centre for Bioenergy: Phase II	60	21932720	BSBESPnxDBT0042 0xxAG015	DBT
41	Abhijit Kakati		Study on the role of viscoelastic behaviour of aqueous polymer solution in pore level microscopic displacement of crude oil from reservoir rocks	12	500000	xCLESUGIITG1327x ABK001	IIT Guwhati
42	Debasis Manna		Ion Therapy: Synthesis and Optimization of Small molecule-based Selective Anionophores for Next-Generation Anticancer Agents	36	4694151	xCHMSPNSERB007 72xxDM010	SERB

43	Harsh Chaturvedi	Charu Monga	Fall Risk warning system for Elderly by gait analysis using wearable insole-based pressure sensors and integrated IOT	24	6417410	SESESPNxDST1144x xHC002	DST
44	Kingsuk Mahata		Synthesis, supramolecular polymerization and optoelectronics applications of perinaphthoindigo derivatives	36	4264634	xCHMSPNSERB009 64xxKM003	SERB
45	Manish Kumar	Shankar Prasad Kanaujia	Insights to the proteolytic processing and regulation of Clp protease in Leptospira by its ATPase chaperone and adaptor proteins	36	6595240	BSBESPNxDBT0092 9xxMK012	DBT
46	HOC,CET		Coursera	36	0	xCETSPNCOUR9002 2xHOC007	Coursera
47	Biman Behari Mandal	Rajkumar Parshottambhai Thummer	Nanotechnological interventions in dental and bone metal implants: Tailoring smart, multifunctional interfaces towards improved osseointegrative and anti-bacterial properties	36	3825240	BSBESPNxDBT0085 7xBBM024	DBT
48	Biranchi Narayan Panda		Tunable Mechanical properties of Architected Metamaterial Enabled via Multi-Material Additive Manufacturing	24	2373000	xxMESPNSEB0131 5xBNP003	SERB
49	Poonam Kumari	Subramani Kanagaraj	Fabrication, characterization and experimental investigation of functionally graded piezo-electric components.	36	4870800	xxMESPNSEB0097 6xxPK006	SERB
50	Rinku Kumar Mittal		Development of a Higher Order Nonlinear MDOF Stability Model for a 5-Axis High-Speed Micromilling of Difficult-to-Cut Materials	48	3316102	xxMESPNxDST1332 xRKM001	DST
51	Resmi Suresh M. P.		Online Health Monitoring and Point-of-use Testing for Batteries Using Chirp Signals	36	3828260	xCLESPNSERB0130 9xxRS002	SERB

52	Bishnupada Mandal	Animes Kumar Golder	Development of Novel Ternary Composite Membrane with High Selectivity for Direct Methanol Fuel Cell Applications	36	7432260	xCLESPNSERB0042 6xxBM006	SERB
53	Chandan Mukherjee		Utilization of CO ₂ by Electrocatalytic Conversion to Value-Added Products	36	2222000	xCHMSPNSERB008 50xxCM007	SERB
54	Dipankar Srimani		Applicability of Group-7 Transition Metals (Mn and Re) for the Utilization of Carbon Dioxide in Organic Synthesis	36	2101000	xCHMSPNSERB011 07xxDS005	SERB
55	Shyam Prosad Biswas		Systematic Investigation of Oil/Water Separation Performances of a Family of Superhydrophobic Metal-Organic Framework (MOF) Based Composites	36	3520264	xCHMSPNSERB009 75xxSPB004	SERB
56	Rajkumar Parshottambhai Thummer	Anil Mukund Limaye	Investigating the role of UTF1 in the generation of human induced pluripotent stem cells	36	5233905	BSBESPNSERB0112 8xRPT005	DST
57	Vaibhav Vasant Goud		?Integrated approach for extraction of valuable chemicals using Subcritical water extraction, followed by production of biobutanol from Scenedesmus sp. using genetically engineered Clostridium strain	36	3557580	SESESPNGITA00760 XVVG011	DST/GITA
58	Chayan Bhawal		On feedback controllers for LQR control of multi-input index-1 DAE systems	24	682000	xEEESPNSERB0131 8xxCB002	SERB
59	Lalit Mohan Pandey	Pankaj Tiwari	Bio-surfactant mediated enhanced oil recovery for Assam oil reservoirs	36	3640000	xENVSPNxDBT0099 3xLMP007	DBT
60	Bikash Bhattacharjya	Ankur Bharali	A STUDY OF RANDIC MATRIX AND ABC MATRIX OF GRAPHS	36	1005000	MATHSPNSERB008 00xxBB001	SERB

61	Shubhadeep Mandal	Shubhadeep Mandal	Development of liquid crystal based microfluidic device for particle manipulation	24	3127080	xxMESPNSERB0132 0xxSM002	SERB
62	Anugrah Singh	Raghvendra Gupta	Design and development of a microfluidic device for particle fractionation from concentrated suspensions	36	3463000	xCLESPNSERB0049 2xxAS005	SERB
63	Pankaj Kalita	Kaustubha Mohanty	Development of a novel dual fluidized bed gasification technology package for effective utilization of biomass and NE coal for efficient energy harvesting.	36	5131240	SESESPNSERB1134x xPK006	SERB
64	Amaresh Dalal	Dipankar Narayan Basu	Experimental and Numerical Appraisal of Heat Transfer Enhancement and Deterioration in Double-cooled Supercritical Forced-flow Channels	36	6842264	xxMESPNSERB0081 7xAMD006	SERB
65	Salil Kashyap		Intelligent Reflecting Surface Enabled Simultaneous Wireless Energy and Information Transfer in Next Generation IoT Networks: System Design, Optimization and Performance Analysis	36	2376180	xEEESPNSERB0124 2xxSK002	SERB
66	Satyajit Panda	Subramani Kanagaraj	Development of a viscoelastic quasi-zero-stiffness mechanism using graphite particles/graphene filled rubber composites for low-frequency vibration isolation	36	2326764	xxMESPNSERB0076 8xxSP004	SERB
67	Sumit Kumar		Machine learning augmented minimum miscibility pressure (MMP) prediction for CO ₂ -EOR	24	500000	xCLESUGIITG1326x SUK001	IIT Guwahati

68	Tadikonda Venkata Bharat	Sachin Kumar	Attenuation Ability of Municipal Solid Waste Landfill Liners for Viral Pathogens	36	4800000	xxCESPNSERB0095 3xTVB002	SERB
69	Tapan Krishnakumar Mankodi		Development of hybrid higher-order continuum-rarefied computational framework for space propulsion applications	24	969370	xxMESPNSERB0131 9TAKM004	SERB
70	Kuntal Deka		AI/ML for Beamforming in 6G	24	1008000	xEEESPNOULU1346 xKUD001	Opetushallitus Utbildningsstyrelsen
71	Lalit Mohan Pandey		Development of Fe and Zn co-doped Hydroxyapatite for the Treatment of Osteomyelitis	36	4625240	BSBESPNSERB0993 xLMP008	DST
72	Utpal Bora		Technology development of vinegar production from indigenous fruits Leteku (Baccaurea motleyana), Kordoi (Averrhoa carambola), Poniya (Flacourtia jangomas) of Assam	24	616000	xENVSPNASEC0053 4xxUB012	ASTEC
73	Senthilmurugan Subbiah	Pankaj Tiwari	Design, fabrication, and installation of raw MSW to charcoal conversion system at NTPC Ramagundam township	13	74,79,000	SESESPNNTPC0098 5xxSS010	NTPC Ramaguntam
74	Natesan Srinivasan		Robust Computational Methods for 2D Singularly Perturbed Parabolic Differential Equations	36	1005000	MATHSPNSERB003 98xNAS001	SERB
75	Manas Khatua	Shabari Nath	AI and IoT based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters	12	1777732	xCESPNCPRI01285 xxMK03	CPRI

76	Swaroop Nandan Bora	Sunanda Saha	Transient Analysis of Hydrodynamic Coefficients Connected to Cylindrical Breakwaters	36	1005000	MATHSPNSERB001 93xSNB001	SERB
77	Purandar Bhaduri		Games and Controller Synthesis	36	660000	xCESPNSERB0052 5xxPB002	SERB
78	Pratyosh Kumar		Radial solution to the wave equation and spherical mean operator on symmetric spaces	36	660000	MATHSPNSERB009 43xxPK001	SERB
79	Indrani Kar		Contraction Analysis and Resilient Control Design for Nonlinear Cyber-physical Systems under Denial-of-Service	36	660000	xEEESPNSERB0076 5xxIK003	SERB
80	Dipankar Narayan Basu		Assessment of Stability, Accuracy and Convergence of An Immersed Boundary Lattice Boltzmann Solver for Moving Boundary Problems	36	660000	xxMESPNSERB0093 0xDNB004	SERB
81	Vinay Vilas Wagh		Computing Multiplicities For Tensor Products On Special Linear Groups	36	660000	MATHSPNSERB007 33xxVW001	SERB
82	Sovan Chakraborty		Collective neutrino flavor conversion in astrophysics and cosmology	36	660000	xPHYSPNSERB0017 0SOC002	DST
83	Shyamanta Moni Hazarika		Biomimetic Grasp Analysis in Multi-Fingered Robotic Hands as Bilinear Matrix Inequality Problems	36	660000	xxMESPNSERB0121 9xSMH006	SERB
84	Arunansu Sil		Electroweak baryogenesis as a portal to neutrino and dark matter	36	660000	xPHYSPNSERB0082 8xASI001	SERB

85	Bikash Bhattacharjya		State Transfer on Graphs of Groups, Rings and Partial Cartesian Products	36	660000	MATHSPNSERB008 00xxBB002	SERB
86	Bhupen Deka		Weak Galerkin Finite Element Method for Westervelt's Equation	36	660000	MATHSPNSERB009 91xxBD002	SERB
87	Shyam Prosad Biswas		Comprehensive Exploration of Water-Stable, Functionalized Metal-Organic Frameworks for Fluorometric Detection of Heavy Metal Ions	36	3960000	xCHMSPNSERB009 75xSPB005	SERB
88	Chandan Pal		Risk-sensitive stochastic games for continuous-time stochastic processes.	36	660000	MATHSPNSERB012 27xxCP001	SERB
89	Senthilvelan Selvaraj	R. Gnanamoorthy	DEVELOPMENT OF LOW-COST PORTABLE DEVICE FOR PUDAM/ PUTA-Traditional Medicine Manufacturing	36	3433760	xxMESPNSERB0059 0xxSS006	DST
90	John Jose	Sukumar Nandi	Enhancing Security Features of On-chip Networks in Modern Multicore Processors	36	5071924	xCSESPNSERB0112 5xxJJ005	SERB
91	Biman Behari Mandal		3D printed patient specific meniscus implants with autologous biological cues for total and partial meniscus regeneration	36	4917264	BSBESPNSERB0085 7xBBM025	SERB
92	Shubhadeep Mandal		Collective dynamics of self-propelled droplets in complex microfluidic environments	36	4022355	xxMESPNSERB0132 0xxSM003	SERB
93	Rupam Barman		Distribution of certain partition functions	36	2730882	MATHSPNSERB011 85xxRB003	SERB
94	Chivukula Vasudeva Sastri		Synthesis and Characterization of novel Dinuclear Metal Complexes for peroxidic epoxidation	36	1830000	xCHMSPNSERB007 36xCVS010	SERB

95	Rajesh Kumar Srivastava		Generalization of Cartwright's Theorem	36	660000	MATHSPNSERB009 44xRKS001	SERB
96	Shankar Prasad Kanaujia		Structural and functional studies of a putative membrane protein complex of Mycobacterium tuberculosis involved in invasion and cholesterol transport	36	4895264	BSBESPNSERB0090 8xSPK009	SERB
97	Arunansu Sil		Investigating the post-inflationary era with axions and ALPs	36	2396427	xPHYSPNSERB0082 8xASI002	SERB
98	Meduri Chakravartula Kumar		Precision studies for processes at present and future collider experiments	36	3016992	xPHYSPNSERB1165 xMCK002	DST
99	Sharad Bhaurao Gokhale		Health Impacts of Exposure to Particulate Pollution from High-sulfur Coal Mines located in Assam of Northeast India	36	5032500	xxCESPNSERB0053 2xSBG006	SERB
100	Swarup Bag	Sajan Kapil	Development of multi-material wire arc additive manufacturing process including the effect of multi-physics problem of droplet interaction, metallurgical model and free surface profile using phase field method	36	4961260	xxMESPNSERB0085 4xxSB004	SERB
101	Rohit Sinha	1. Priyankoo Sarmah 2. Sanasam Ranbir Singh 3. Ashish Anand	Speech Technologies for North Eastern Languages	36	10576080	xEEESPNxDIT00612 xxRS001	DEITY

102	Pravat Kumar Giri		Development of high performance flexible photodetector array through plasmonic hot-carrier engineering in two-dimensional perovskites	36	4400301	xPHYSPNSERB0034 4xPKG005	DST
103	Anamika Barua		"Engineered land: terrestrial imaginaries and realities"	4	251892		Wageningen University, the Netherlands
104	Senthilmurugan Subbiah	1. Prasanna Venkatesh Rajaraman 2. Pankaj Tiwari 3. Sumit Kumar 4. Prathap C. 5. Vimal Kumar	Study on the effect of H2 blending in Natural Gas	13	12839223	SESESPNxOIL00985 xxSS011	OIL India Ltd
105	Sisir Kumar Nayak	Thirumurugan C.	Nanofilled natural ester impregnated surface modified pressboards for suppressing partial discharges in transformers.	36	5073024	xEEESPNSERB0087 1xSKN006	SERB
106	Ankush Bag		Indigenous design and development of wideband tunable dosimeters for UV exposed environment	36	5755172	xEEESPNSERB0135 1ANKB001	SERB
107	Gagan Kumar		Exploring tunable electromagnetic induced transparency effect using exotic materials in terahertz metamaterials	36	825000	xPHYSPNSERB0098 2xxGK005	SERB
108	Uttam Manna	1. Lingaraj Sahoo	Development of sustainable agriculture practices for biotic and abiotic stress	36	5450240	xCHMSPNxDBT011 18xxUM008	DBT

		2. Sreedeeep Sekharan	management in conventional and organic tea plantations					
		3. Somnath Roy						
		4. Popy Bora						
		5. Dr. G. Karthikeyan						
		6. P. Nepolean						
		7. Abhay K. Pandey						
		8. Perumalla Srikanth						
109	N. Selvaraju	N. Selvaraju	Analysis of Nonstationary Queues	36	660000	MATHSPNSERB004 01NSR001	SERB	
110	Sajan Kapil	1. Subramani Kanagaraj	Multi-Axis Multi-Material Wire Arc Additive Manufacturing	36	13252270	xxMESPNxDST0130 5xSJK003	DST	
		2. Santosha Kumar Dwivedy						
111	Siddhartha Sankar Ghosh	Thandavarayan Kathiresan	Mechanistic investigation on EMT targeted nanotherapeutics for drug-resistant triple-negative breast cancer cells	36	14787600	BSBESPNxDBT0039 9xSSG010	DBT	
112	Pankaj Tiwari	Nelson Muthu	Recycling of fiber reinforced polymer composite	3	70800	xCLESPNTATA0093 9xxPT005	TATA STEEL	
113	Arup Kumar Sarma		Non-Conventional Bio-Engineering Measures to Mitigate River Bank Erosion by Applying EMP Concept for 500m length at Kordoiguri	24	1756320	xxCESPNxBBG0027 0xAKS013	Brahamputra Board Guwahati	

114	HOC,NANO	1. Parameswar K. Iyer 2. Biman Behari Mandal 3. Tapas Kumar Mandal 4. Akshai Kumar Alape 5. Seetharam 6. Uttam Manna 7. Partho Sarathi Gooh 8. Pattader 9. Arun Tej Mallajosyula	SWASTHA Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs	48	42000000	NANOSPNDITY9002 4xHOC001	DEITY
115	Sovan Chakraborty	Moonmoon Devi	Neutrino Astrophysics with next generation Water Cherenkov Detectors	36	3090494	xPHYSPNSERB0117 0xxSC001	SERB
116	Vasundhara Jairath		Political Economy of Land and Development in Assam	24	600000	xHSSPNICSR01233 xxxx001	ICSSR
117	Kalyan Raidongia	Partha Pratim Saikia	Extraction of Electrical Energy from Hydrological Cycle through Two-dimensional Nanofluidic Channels	36	1005000	CHEMSPNSERB011 06xxKR001	SERB
118	Subashisa Dutta		Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptation in India	6	730800	xxCESPNLOUG0041 5xxSD014	Loughborough University

119	Latha Rangan	Sudip Mitra	Exploration of Underutilized Amaranthus species for Sustainable ?Livelihood, Nutritional Security and Climate Resilience of Western Himalayan Region	36	3900240	xBIOSPNxDBT0052 4xxLR001	DBT
120	Vimal Katiyar		DSIR-Common Research & Technology Development Hub (CRTDH) in the area of New materials/Chemical Process under DSIR-BIRD-CRF-CRTDH Programme	60	87000000	xCLESPNDSIR00860 xxVK016	DSIR
Total					1,32,88,46,944		

ONGOING SPONSORED PROJECTS

PI Name	Co-PI	Project Title	Project Duration (in months)	Sanction Value	Project No.	Funding Agency
Subramani Kanagaraj	Dr. Aparna Zagabathuni	Origami-inspired metamaterial composite orthotic insole for foot disorders	2	120000	xxMESPNTATA00709xSKJ014	TATA STEEL, Jamshedpur
Manmohan Pandey	Manmohan Pandey	Experimental Investigations on Flow Boiling Instabilities in Mini- and Microchannels	36	7443260	xxMESPNSERB00302xxMP006	SERB
Sachin Kumar		RECOMBINANT NEWCASTLE DISEASE VIRUS BASED BREAST CANCER THERAPY: A NOVEL ONCOLYTIC VIRAL APPROACH	36	300000	BSBESPNBBCI00913xxSK011	BBCI
Cota Navin Gupta	Souptick Chanda	Cognitive Interfaces for Software Engineering with Multimodal Brain Imaging	36	4171719	BSBESPNxDST01192xCNG003	DST
Rajaram Swaminathan	Anki Reddy Katha	Investigating Enzymatic reactions in Crowded Physiological spaces AND Structural changes in SARS-Cov-2 S protein in response to Drug	24	1500000	BSBESPNxDST00209xxRS009	DST
Ravindranath Adda	Praveen Tripathy	DC side low-frequency ripple reduction in SBI and q-SBI based PV system with non-linear local loads and distorted PCC voltage.	36	3509000	xEEESPNSERB00994xxRA002	SERB
	1. Debabrata Sikdar		3	360660	xxMESPNHIFX00709xSKJ015	OTHER

Subramani Kanagaraj	2. Dr. Sonali Biswas	Design and Development of Robotic Vaccinator for mass vaccination				
Swarup Bag		Development of a numerical model and the stability analysis of dynamic keyhole in deep penetration laser welding process using the phase-field method	36	660000	xxMESPNSERB00854xxSB003	SERB
Sachin Kumar		Cancer immunotherapy initiative In India (DUCI3): Repurposing anti-COVID19 immunity for cancer immunotherapy	60	873000	BSBESPNDMRF00913xxSK012	Dalhousie Medical Research Foundation
Mihir Kumar Purkait		Classification of water for drinking purpose	1	24780	xCLESPNPGCI00527xMKP020	CPRI
Hanumant Singh Shekhawat	1. Gaurav Trivedi	Centre for depression diagnosis and medication adherence	36	10522600	xEEESPNxDBT01089xHSS002	DBT
	2. Dilwar Hussain					
	3. S. R. M. Prasanna					
	4. Mukesh Kumar Saini					
	5. Venkatasubramanian					
	6. Sreeraj Vs					
	7. Wesley De neve					

	8. Mark Whitaker					
	9. Shodhan Rao					
	10. Vin Ryu					
	11. David Choi					
	12. Dhananjay Singh					
Anamika Barua		Examining nature-society relations through urban infrastructure (Project-NATURE)	8	842520	xHSSSPNKTHR00807xxAB008	Academic institute- KTH Royal Institute of Technology
Tharmalingam Punniyamurthy		Synthesis of Enantioriched Unsaturated Oxygen and Nitrogen Containing Heterocycles	36	1400000	xCHMSPNCSIR00334xxTP015	CSIR
Tamal Banerjee	1. Subrata Kumar Majumder	Sustainable, Biodegradable and Affordable Substitutes for ?Single use Plastic? using Castor Oil and Stubble Aggregate	36	3091737	xENVSPNxDST00617xxTB010	DST
	2. Kaushik Chatterjee					
	3. Surya Sarathi Bose					
	4. Debashis Kundu					

Anil Mukund Limaye	Kusum Kumari Singh	Analysis of genome-wide restoration of estrogen regulated gene expression network post epigenetic reactivation of ERalpha in ER-negative breast cancer cells	36	2468465	BSBESPNICMR00743xAML012	ICMR
Mihir Kumar Purkait		Preparation of DPR for the treatment of Panchnoi River under DRDA, Udalguri	6	400000	xCLESPNPNRD00527xMKP021	Govt. of Assam
Mihir Kumar Purkait		Preparation of DPR for the treatment of Pagladia River under Nalbari Zilla Parishad	6	575000	xCLESPNPNRD00527xMKP022	Govt. of Assam
Mihir Kumar Purkait		Preparation of DPR for the treatment of Kharsang River under Tinsukia Zilla Parishad.	6	525000	xCLESPNPNRD00527xMKP023	Govt. of Assam
Abhishek Kumar	Pallabee Choudhury	Quantification of subsoil response of Birpur, Basopatti and adjacent regions of Madhubani, Bihar located adjacent to central seismic gap towards minimizing future earthquake induced damages	36	6236440	xxCESPNMOES00998xABK003	Ministry of Earth Sciences
Kusum Kumari Singh	Ashish Anand	To capture and investigate physiologically relevant interactome in UPF3B knockout cells mimicking mental retardation (MR) patient's condition.	36	4343788	BSBESPNICMR01123xKKS007	ICMR
Kaustubha Mohanty	R. Vinu	Catalytic Hydrodeoxygenation of pyrolytic-oil produced from	36	6866337	SESESPNx DST00619xxKM009	DST

		copyrolysis of agricultural residue and plastic waste				
Biman Behari Mandal		Bioengineered skin equivalent for treatment of burn injuries	36	1700000	BSBESPNxDBT00857xBBM023	DBT
Ravindranath Adda	Praveen Tripathy	Design, Development, and Demonstration of Solar-PV integrated On-board and Off-board Electric-Rickshaw Charging Infrastructure	36	6773970	xEEESPNxDST00994xxRA003	DST
Krishna Pada Bhabak	1. V. G. M. Naidu	Enhancement of the Chemotherapeutic Potential of Anticancer Drugs: Biothiol-stimulated Fluorogenic Strategies for Adjuvant Delivery of Anticancer drug and GSTP1 inhibitor	24	1046500	xCHMSPNICMR01111xKPB006	ICMR
	2. Avdhesk Kumar Rai					
Debasis Manna	Sachin Kumar	Cancer immunotherapy: Inhibition of Immunosuppressive Indoleamine 2,3-Dioxygenase 1 Enzyme Activity by targeting the Heme and Apo-form	36	2666000	xCHMSPNCSIR00772xxDM009	CSIR
Sanasam Ranbir Singh	1. Sukumar Nandi	Unified platform for Social Media Content Analytics	36	17650000	xCESPNDEIT00804xSRS004	DEITY
	2. Priyankoo Sarmah					
	3. Abhishek Shrivastava					
Dipankar Bandyopadhyay	1. Parameswar K. Iyer	Indian Nanoelectronics Users Programme - Idea to Innovation (INUP-i2i)	36	92300000	NANOSPNDIEIT00771xDPB008	DEITY
	2. Akshai Kumar Alape Seetharam					

	3. Arun Tej Mallajosyula					
	4. Dobbidi Pamu					
Udaya Kumar Dharmalingam		M. Des Programme / Executive Development Programme in Electronics Product Design	60	180211000	xDESSPNMEIT00834xUKD001	MIETY
Shyamanta Moni Hazarika		Motor Imagery BCI for Neuroprostheses and Robotic Neurorehabilitation	36	2815000	xxMESPNIHFC1219xSMH005	IIT Delhi
Ajay Kalamdhad		A Pilot-scale comparative study on dumping of fresh and partially stabilized MSW followed by pretreatment of landfill leachates by conventional and electrocoagulation methods followed by upflow anaerobic filter	36	9352886	xxCESPNxDST00782xxAK006	DST
Subashisa Dutta		Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptaTion in India	6	745416	xxCESPNNERC00415xxSD013	UK
Vibin Ramakrishnan	Sharad Pawar	Mechanistic investigations on the efficacy and mode of action of Ashwagandha Rasayana and Yogaraj Guggulu, using a hybrid Proteomics- Cheminformatics-Network medicine approach for the treatment of Osteoarthritis	24	11164208	BSBESPNCRA00864xxVR009	CPRI

Pankaj Kalita	Arun Chandra Borsaikia	Development of a novel bio-composite thermal energy storage material and its applications in isothermal drying of agricultural products and passive cooling of building	36	655500	SESESPNASTE01134xxPK005	ASTEC
Anand Baskaran		Unravelling the Regulatory Mechanism that Connects Ribosome Biogenesis and Stringent Response with Bacterial Cell Growth	18	4180022	BSBExSPILSF00811xxBA011	Ignite Life Science Foundation
Sashindra Kumar Kakoty	1. Bhaskar Bhowmick	Empowering women through Appropriate technology intervention in weaving sector for Productivity enhancement and drudgery reduction of artisans	24	3729756	SARTSPNx DST00296xxSK011	DSIR
	2. Prithibhushan Deka					
	3. Bibhuti Ranjan Bhattacharjya					
Sashindra Kumar Kakoty	Bibhuti Ranjan Bhattacharjya	Design and devolvment of a solar-powered pottery Chaak	12	328915	SARTSPNASEC00296xxSK012	ASTEC
Lalit Mohan Pandey	Lalit Mohan Pandey	Shastri Covid-19 Pandemic Response Grant (SCPRG): Call for Innovative Solutions	12	841930	BSBESPNSICI00993xLMP006	CPRI
Dipankar Bandypadhyay	Siddhartha Sankar Ghosh	Centre for Excellence in Disruptive Innovations and Product Development for Affordable Rural Healthcare	60	150694315	NANOSPNICMR00771xDPB009	ICMR
Anamika Barua		Support for transboundary hydro diplomacy course	12	480700	xHSSSPNASIA00807xxAB009	NGO

Arun Goyal	Debasish Das	DBT PAN IIT Centre for Bioenergy: Phase II	60	21932720	BSBESPNxDBT00420xxAG015	DBT
Abhijit Kakati		Study on the role of viscoelastic behaviour of aqueous polymer solution in pore level microscopic displacement of crude oil from reservoir rocks	12	500000	xCLESUGIITG1327xABK001	IIT Guwhati
Debasis Manna		Ion Therapy: Synthesis and Optimization of Small molecule-based Selective Anionophores for Next-Generation Anticancer Agents	36	4694151	xCHMSPNSERB00772xxDM010	SERB
Harsh Chaturvedi	Charu Monga	Fall Risk warning system for Elderly by gait analysis using wearable insole-based pressure sensors and integrated IOT	24	6417410	SESESPNxDST1144xxHC002	DST
Kingsuk Mahata		Synthesis, supramolecular polymerization and optoelectronics applications of peri-naphthoindigo derivatives	36	4264634	xCHMSPNSERB00964xxKM003	SERB
Manish Kumar	Shankar Prasad Kanaujia	Insights to the proteolytic processing and regulation of Clp protease in Leptospira by its ATPase chaperone and adaptor proteins	36	6595240	BSBESPNxDBT00929xxMK012	DBT
HOC, CET		Coursera	36	0	xCETSPNCOUR90022xHOC007	Coursera

Biman Behari Mandal	Rajkumar Parshottambhai Thummer	Nanotechnological interventions in dental and bone metal implants: Tailoring smart, multifunctional interfaces towards improved osseointegrative and anti-bacterial properties	36	3825240	BSBESPNxDBT00857xBBM024	DBT
Biranchi Narayan Panda		Tunable Mechanical properties of Architected Metamaterial Enabled via Multi-Material Additive Manufacturing	24	2373000	xxMESPNSERB01315xBNP003	SERB
Poonam Kumari	Subramani Kanagaraj	Fabrication, characterization and experimental investigation of functionally graded piezo-electric components.	36	4870800	xxMESPNSERB00976xxPK006	SERB
Rinku Kumar Mittal		Development of a Higher Order Nonlinear MDOF Stability Model for a 5-Axis High-Speed Micromilling of Difficult-to-Cut Materials	48	3316102	xxMESPNxDST1332xRKM001	DST
Resmi Suresh M. P.		Online Health Monitoring and Point-of-use Testing for Batteries Using Chirp Signals	36	3828260	xCLESPNSERB01309xxRS002	SERB
Bishnupada Mandal	Animes Kumar Golder	Development of Novel Ternary Composite Membrane with High Selectivity for Direct Methanol Fuel Cell Applications	36	7432260	xCLESPNSERB00426xxBM006	SERB
Chandan Mukherjee	Chandan Mukherjee	Utilization of CO ₂ by Electrocatalytic Conversion to Value-Added Products	36	2222000	xCHMSPNSERB00850xxCM007	SERB

Dipankar Srimani		Applicability of Group-7 Transition Metals (Mn and Re) for the Utilization of Carbon Dioxide in Organic Synthesis	36	2101000	xCHMSPNSERB01107xxDS005	SERB
Shyam Prosad Biswas		Systematic Investigation of Oil/Water Separation Performances of a Family of Superhydrophobic Metal-Organic Framework (MOF) Based Composites	36	3520264	xCHMSPNSERB00975xSPB004	SERB
Rajkumar Parshottambhai Thummer	Anil Mukund Limaye	Investigating the role of UTF1 in the generation of human induced pluripotent stem cells	36	5233905	BSBESPNSERB01128xRPT005	DST
Vaibhav Vasant Goud		?Integrated approach for extraction of valuable chemicals using Subcritical water extraction, followed by production of biobutanol from Scenedesmus sp. using genetically engineered Clostridium strain	36	3557580	SESESPNGITA00760XVVG011	DST/GITA
Chayan Bhawal		On feedback controllers for LQR control of multi-input index-1 DAE systems	24	682000	xEEESPNSERB01318xxCB002	SERB
Lalit Mohan Pandey	Pankaj Tiwari	Bio-surfactant mediated enhanced oil recovery for Assam oil reservoirs	36	3640000	xENVSPNxDBT00993xLMP007	DBT
Bikash Bhattacharjya	Ankur Bharali	A STUDY OF RANDIC MATRIX AND ABC MATRIX OF GRAPHS	36	1005000	MATHSPNSERB00800xxBB001	SERB

Shubhadeep Mandal		Development of liquid crystal based microfluidic device for particle manipulation	24	3127080	xxMESPNSERB01320xxSM002	SERB
Anugrah Singh	Raghvendra Gupta	Design and development of a microfluidic device for particle fractionation from concentrated suspensions	36	3463000	xCLESPNSERB00492xxAS005	SERB
Pankaj Kalita	Kaustubha Mohanty	Development of a novel dual fluidized bed gasification technology package for effective utilization of biomass and NE coal for efficient energy harvesting.	36	5131240	SESESPNSERB1134xxPK006	SERB
Amaresh Dalal	Dipankar Narayan Basu	Experimental and Numerical Appraisal of Heat Transfer Enhancement and Deterioration in Double-cooled Supercritical Forced-flow Channels	36	6842264	xxMESPNSERB00817xAMD006	SERB
Salil Kashyap		Intelligent Reflecting Surface Enabled Simultaneous Wireless Energy and Information Transfer in Next Generation IoT Networks: System Design, Optimization and Performance Analysis	36	2376180	xEEESPNSERB01242xxSK002	SERB
Satyajit Panda	Subramani Kanagaraj	Development of a viscoelastic quasi-zero-stiffness mechanism using graphite particles/graphene filled rubber composites for low-frequency vibration isolation	36	2326764	xxMESPNSERB00768xxSP004	SERB

Sumit Kumar		Machine learning augmented minimum miscibility pressure (MMP) prediction for CO ₂ -EOR	24	500000	xCLEUGIITG1326xSUK001	IIT Guwahati
Tadikonda Venkata Bharat	Sachin Kumar	Attenuation Ability of Municipal Solid Waste Landfill Liners for Viral Pathogens	36	4800000	xxCESPNSERB00953xTVB002	SERB
Tapan Krishnakumar Mankodi		Development of hybrid higher-order continuum-rarefied computational framework for space propulsion applications	24	969370	xxMESPNSERB01319TAKM004	SERB
Kuntal Deka		AI/ML for Beamforming in 6G	24	1008000	xEEESPNOULU1346xKUD001	Opetushallit us Utbildnindss tyrelsen
Lalit Mohan Pandey		Development of Fe and Zn co-doped Hydroxyapatite for the Treatment of Osteomyelitis	36	4625240	BSBESPNSERB0993xLMP008	DST
Utpal Bora		Technology development of vinegar production from indigenous fruits Leteku (<i>Baccaurea motleyana</i>), Kordoi (<i>Averrhoa carambola</i>), Poniya (<i>Flacourtia jangomas</i>) of Assam	24	616000	xENVSPNASEC00534xxUB012	ASTEC
Senthilmurugan Subbiah	Pankaj Tiwari	Design, fabrication, and installation of raw MSW to charcoal conversion system at NTPC Ramagundam township	13	74,79,000	SESESPNNTPC00985xxSS010	NTPC Ramagundam

Natesan Srinivasan		Robust Computational Methods for 2D Singularly Perturbed Parabolic Differential Equations	36	1005000	MATHSPNSERB00398xNAS001	SERB
Manas Khatua	Shabari Nath	AI and IoT based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters	12	1777732	xCESPNCPRI01285xxMK03	CPRI
Swaroop Nandan Bora	Sunanda Saha	Transient Analysis of Hydrodynamic Coefficients Connected to Cylindrical Breakwaters	36	1005000	MATHSPNSERB00193xSNB001	SERB
Purandar Bhaduri		Games and Controller Synthesis	36	660000	xCESPNSERB00525xxPB002	SERB
Pratyoosh Kumar		Radial solution to the wave equation and spherical mean operator on symmetric spaces	36	660000	MATHSPNSERB00943xxPK001	SERB
Indrani Kar		Contraction Analysis and Resilient Control Design for Nonlinear Cyber-physical Systems under Denial-of-Service	36	660000	xEEESPNSERB00765xxIK003	SERB
Dipankar Narayan Basu		Assessment of Stability, Accuracy and Convergence of An Immersed Boundary Lattice Boltzmann Solver for Moving Boundary Problems	36	660000	xxMESPNSERB00930xDNB004	SERB
Vinay Vilas Wagh		Computing Multiplicities For Tensor Products On Special Linear Groups	36	660000	MATHSPNSERB00733xxVW00 1	SERB

Sovan Chakraborty		Collective neutrino flavor conversion in astrophysics and cosmology	36	660000	xPHYSPNSERB00170SOC002	DST
Shyamanta Moni Hazarika		Biomimetic Grasp Analysis in Multi-Fingered Robotic Hands as Bilinear Matrix Inequality Problems	36	660000	xxMESPNSERB01219xSMH006	SERB
Arunansu Sil		Electroweak baryogenesis as a portal to neutrino and dark matter	36	660000	xPHYSPNSERB00828xASI001	SERB
Bikash Bhattacharjya		State Transfer on Graphs of Groups, Rings and Partial Cartesian Products	36	660000	MATHSPNSERB00800xxBB002	SERB
Bhupen Deka		Weak Galerkin Finite Element Method for Westervelt's Equation	36	660000	MATHSPNSERB00991xxBD002	SERB
Shyam Prosad Biswas		Comprehensive Exploration of Water-Stable, Functionalized Metal-Organic Frameworks for Fluorometric Detection of Heavy Metal Ions	36	3960000	xCHMSPNSERB00975xSPB005	SERB
Chandan Pal		Risk-sensitive stochastic games for continuous-time stochastic processes	36	660000	MATHSPNSERB01227xxCP001	SERB
Senthilvelan Selvaraj	R. Gnanamoorthy	DEVELOPMENT OF LOW-COST PORTABLE DEVICE FOR PUDAM/PUTA-Traditional Medicine Manufacturing	36	3433760	xxMESPNSERB00590xxSS006	DST
John Jose	Sukumar Nandi	Enhancing Security Features of On-chip Networks in Modern Multicore Processors	36	5071924	xCESPNSERB01125xxJJ005	SERB

Biman Behari Mandal		3D printed patient specific meniscus implants with autologous biological cues for total and partial meniscus regeneration	36	4917264	BSBESPNSERB00857xBBM025	SERB
Shubhadeep Mandal	Shubhadeep Mandal	Collective dynamics of self-propelled droplets in complex microfluidic environments	36	4022355	xxMESPNSERB01320xxSM003	SERB
Rupam Barman		Distribution of certain partition functions	36	2730882	MATHSPNSERB01185xxRB003	SERB
Chivukula Vasudeva Sastri		Synthesis and Characterization of novel Dinuclear Metal Complexes for peroxidic epoxidation	36	1830000	xCHMSPNSERB00736xCVS010	SERB
Rajesh Kumar Srivastava		Generalization of Cartwright's Theorem	36	660000	MATHSPNSERB00944xRKS001	SERB
Shankar Prasad Kanaujia	Shankar Prasad Kanaujia	Structural and functional studies of a putative membrane protein complex of Mycobacterium tuberculosis involved in invasion and cholesterol transport	36	4895264	BSBESPNSERB00908xSPK009	SERB
Arunansu Sil		Investigating the post-inflationary era with axions and ALPs	36	2396427	xPHYSPNSERB00828xASI002	SERB
Meduri Chakravartula Kumar		Precision studies for processes at present and future collider experiments	36	3016992	xPHYSPNSERB1165xMCK002	DST

Sharad Bhaurao Gokhale		Health Impacts of Exposure to Particulate Pollution from High-sulfur Coal Mines located in Assam of Northeast India	36	5032500	xxCESPNSERB00532xSBG006	SERB
Swarup Bag	Sajan Kapil	Development of multi-material wire arc additive manufacturing process including the effect of multi-physics problem of droplet interaction, metallurgical model and free surface profile using phase field method	36	4961260	xxMESPNSERB00854xxSB004	SERB
Rohit Sinha	1. Priyankoo Sarmah	Speech Technologies for North Eastern Languages	36	10576080	xEESPNSxTIT00612xxRS001	DEITY
	2. Sanasam Ranbir Singh					
	3. Ashish Anand					
Pravat Kumar Giri		Development of high performance flexible photodetector array through plasmonic hot-carrier engineering in two-dimensional perovskites	36	4400301	xPHYSPNSERB00344xPKG005	DST
Anamika Barua		"Engineered land: terrestrial imaginaries and realities"	4	251892		Wageningen University, the Netherlands
Senthilmurugan Subbiah	1. Prasanna Venkatesh Rajaraman	Study on the effect of H2 blending in Natural Gas	13	12839223	SESESPNSxOIL00985xxSS011	OIL India Ltd

	2. Pankaj Tiwari					
	3. Sumit Kumar					
	4. Prathap C.					
	5. Vimal Kumar					
Sisir Kumar Nayak	Thirumurugan C.	Nanofilled natural ester impregnated surface modified pressboards for suppressing partial discharges in transformers.	36	5073024	xEEESPNSERB00871xSKN006	SERB
Ankush Bag		Indigenous design and development of wideband tunable dosimeters for UV exposed environment	36	5755172	xEEESPNSERB01351ANKB001	SERB
Gagan Kumar		Exploring tunable electromagnetic induced transparency effect using exotic materials in terahertz metamaterials	36	825000	xPHYSPNSERB00982xxGK005	SERB
Uttam Manna	1. Lingaraj Sahoo	Development of sustainable agriculture practices for biotic and abiotic stress management in conventional and organic tea plantations	36	5450240	xCHMSPNxDBT01118xxUM008	DBT
	2. Sreedeeep Sekharan					
	3. Somnath Roy					
	4. Popy Bora					
	5. G. Karthikeyan					
	6. P. Nepolean					
	7. Abhay K. Pandey					
	8. Perumalla Srikanth					

N. Selvaraju		Analysis of Nonstationary Queues	36	660000	MATHSPNSERB00401NSR001	SERB
Sajan Kapil	1. Subramani Kanagaraj	Multi-Axis Multi-Material Wire Arc Additive Manufacturing	36	13252270	xxMESPNxDST01305xSJK003	DST
	2. Santosha Kumar Dwivedy					
Siddhartha Sankar Ghosh	Thandavarayan Kathiresan	Mechanistic investigation on EMT targeted nanotherapeutics for drug-resistant triple-negative breast cancer cells	36	14787600	BSBESPNxDBT00399xSSG010	DBT
Pankaj Tiwari	Nelson Muthu	Recycling of fiber reinforced polymer composite	3	70800	xCLESPNTATA00939xxPT005	TATA STEEL
Arup Kumar Sarma		Non-Conventional Bio-Engineering Measures to Mitigate River Bank Erosion by Applying EMP Concept for 500m length at Kordoiguri	24	1756320	xxCESPNxBBG00270xAKS013	Brahamputra Board Ghy
HOC, NANO	1. Parameswar K. Iyer	SWASTHA Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs	48	420000000	NANOSPNDITY90024xHOC001	DEITY
	2. Biman Behari Mandal					
	3. Tapas Kumar Mandal					
	4. Akshai Kumar Alape Seetharam					
	5. Uttam Manna					
	6. Partho Sarathi Gooh Pattader					

	7. Arun Tej Mallajosyula					
Sovan Chakraborty	Moonmoon Devi	Neutrino Astrophysics with next generation Water Cherenkov Detectors	36	3090494	xPHYSPNSERB01170xxSC001	SERB
Vasundhara Jairath		Political Economy of Land and Development in Assam	24	600000	xHSSSPNCSR01233xxxx001	ICSSR
Kalyan Raidongia	Partha Pratim Saikia	Extraction of Electrical Energy from Hydrological Cycle through Two-dimensional Nanofluidic Channels	36	1005000	CHEMSPNSERB01106xxKR001	SERB
Subashisa Dutta		Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptaTion in India	6	730800	xxCESPNLOUG00415xxSD014	Loughborou gh University
Latha Rangan	Sudip Mitra	Exploration of Underutilized Amaranthus species for Sustainable ?Livelihood, Nutritional Security and Climate Resilience of Western Himalayan Region	36	3900240	xBIOSPNxDBT00524xxLR001	DBT
Vimal Katiyar		DSIR-Common Research & Technology Development Hub (CRTDH) in the area of New materials/Chemical Process under DSIR-BIRD-CRF-CRTDH Programme	60	87000000	xCLESPNDSIR00860xxVK016	DSIR
Shrikrishna Nandkishor Joshi	Santosha Kumar Dwivedy	Design and development of a simple cost-effective table-top multi-axis CNC machine tool configuration using parallel kinematics	36	3534764	xxMESPNSERB00815xSNJ003	SERB

Sukumar Nandi	Samit Bhattacharya	Quality of Living: Smart Home Environment Creation through Automatic Monitoring and Utilization of the Physical and Cognitive State of the Residents	36	11030000	xCLSTSPNxDIT00030xxSN010	DEITY
Chandan Mahanta		Study of Glacial Dynamics and Sustainable Hydrological Resources in Arunachal Himalaya	36	26923690	xxCESPNxDST00054xxCM004	DST
Chandan Karfa		Security Analysis of Compiler Optimization Techniques	36	2211264	xCSESPNSERB01188xxCK004	SERB
Biman Behari Mandal	Manish Kumar	Injectable bioresorbable silk hydrogel system for localized breast cancer therapy and post-lumpectomy reconstruction	36	4691240	BSBESPNSERB00857xBBM020	SERB
Keyur Babulal Sorathia	Sze Chaun Suen	Designing incentives to improve tuberculosis treatment adherence in resource constrained settings	24	12255000	xDESPNNIHA00821xxKS012	NUS-Global Asia Institute NIHA Research Grant 2018
Shyamanta Moni Hazarika	Souptick Chanda	Electroencephalographic Characterization of Post-Stroke Motor Imagery Induced Mental Fatigue for Adaptive Neurorehabilitation	36	4774600	xxMESPNxDST01219xSMH004	DST
Kanhaiya Pandey	Tapan Mishra	Towards scalable quantum computer using Yb atoms in an optical lattice	36	29082000	xPHYSPNxDST01162xxKP004	DST

Ramesh Kumar Sonkar	Donguk Nam	Design, Analysis, Modeling, and Fabrication of the Silicon Photonic Devices	24	2386000	xEEESPNxDST00875xRKS004	DST
Sanjukta Patra	Anil Mukund Limaye	STRATEGIC PLANNING FOR WATER RESOURCES AND IMPLEMENTATION OF NOVEL BIOTECHNICAL TREATMENT SOLUTIONS AND GOOD PRACTICE	36	14694560	BSBESPNxDBT00646xxSP007	DBT
Chandan Mahanta	Chandan Mahanta	Study of Glacial Dynamics and Sustainable Hydrological Resources in Arunachal Himalaya	36	26923690	xxCESPNxDST00054xxCM005	DST
Sawmya Ray		WOMEN'S LIVES WITHIN LEGAL PLURALISM: A STUDY IN ASSAM	24	800000	xHSSSPNCSR00802xxSR007	ICSSR
Subashisa Dutta	Rishikesh Bharti	CUMULATIVE IMPACT ASSESSMENT FOR CASCADING INTERVENTIONS IN HIMALAYAN RIVERS (CI2HR)	36	24501040	xxCESPNMHS00415xxSD012	Ministry of Environment, Forest and Climate Change, GOI
Parameswar K lyer		Design and synthesis of new light harvesting chromophores and studying their photophysical properties	36	3036000	xCHMSPNSERB00505xPKI011	SERB
Mihir Kumar Purkait		Prototype development for catechins extraction and production of low cost antioxidants tablets and capsules	36	5700000	xENVSPNINAE00527xMKP017	INAE

Selvaraju Narayanasamy	Senthilmurugan Subbiah	Development of an Integrated Water Treatment and fuel Production System using Ceramic Membranes and Microchannel Reactors	36	6891752	BSBESPNxDST01213xSEN003	DST
Gaurav Trivedi	Hanumant Singh Shekhawat	SMART CONTACTLESS TECHNOLOGY DEVELOPMENT FOR SMART FENCING	36	3241141	xEEESPNxDST00883xxGT005	DST-DAAD
Bhisma Kumar Patel	Kamal Krishna Rajbongshi	Functionalization of sulfoximines and related compounds based on nitrogen-centred radical chemistry.	36	1830000	xCHMSPNSERB00110xBKP012	SERB
Arun Goyal	Vijayanand S. Moholkar	Lignocellulosic biomass utilization for lactic acid and bioethanol production	36	3710240	xCEESPNxDBT00420xxAG014	DBT
Selvaraju Narayanasamy	Senthilmurugan Subbiah	Water Filtration, Advanced-oxidation and Capacitive-deionisation Treatments for Removal of Emerging Contaminants in Water. Acronym: (Water-FACTs)	24	4304164	BSBESPNxDST01213xSEN004	DST
Mohammad Qureshi		Combinatorial approach for enhancing surface oxidation and reduction kinetics for value added products from renewable sources	36	3637788	xCHMSPNxDST00729xxMQ006	DST
Praveen Kumar	Tousif Khan N.	Intelligent Disturbance Observer based Adaptive Control of DC-DC Power Converter for Nonlinear Loads	36	3204000	xEEESPNxDST00781xxPK003	DST

Debapratim Das		Localized Therapeutic Delivery Systems Based on Water Insoluble Thixotropic Hydrogels of Small Peptides for Breast Cancer Treatment	36	5236000	xCHMSPNSERB00865xxDD008	SERB
Biman Behari Mandal		Modeling human liver microarchitecture and cellular physiology in vitro using 3D bioprinting for drug toxicity and high throughput drug screening applications	60	30635040	BSBESPNxDST00857xBBM022	DST
Biman Behari Mandal		SwarnaJayanti Fellowship Grant	60	2500000	BSBESPNxDST00857xBBM021	SERB
Sudarshan Mukherjee		Timing Synchronization in Cell-free massive MIMO Systems	24	1279344	xEEESPNSERB01321xSDM002	SERB
Anil Mukund Limaye	Bithiah Grace Jaganathan	The non-canonical estrogen receptor repertoire in breast cancer: towards refined disease classification and therapeutic decision	36	2460966	BSBESPNICMR00743xAML010	ICMR
Pranab Kumar Mondal	Pranab Kumar Mondal	Variational Calculus Method for Solving Microflows in a Rotating Platform	36	660000	xxMESPN SERB01115xPKM003	DST
Manish Kumar	Shankar Prasad Kanaujia	Role of Trigger factor in caseinolytic protease system of Leptospira	36	5624605	BSBESPNxDST00929xxMK011	DST
Vijayanand S. Moholkar	Lepakshi Barbora	BIOCATALYTIC DESULPHURIZATION OF CRUDE OIL BY HIGH PERFORMING GENETICALLY ENGINEERED MICROORGANISMS	36	1800000	xCEESPNC SIR00491xVSM008	CSIR

Santabrata Das		Study of ejection mechanism from magnetized accretion disk around rotating black holes	36	660000	xPHYSPNSERB00783xSBD001	SERB
Subhamay Saha		Stochastic Games for Continuous-time Stochastic Processes	36	660000	MATHSPNSERB01187xSUS001	SERB
Biplab Mondal		Synthesis of Cobalt -Nitrosyl Complexes having {Co(NO)} ₉ Configuration as a Source of Nitroxyl/HNO	36	4356000	xCHMSPNSERB00574xxBM006	SERB
Gagan Kumar	Uday Narayan Maiti	Dynamically tunable resonances in terahertz metamaterials using 2-D materials	36	7436000	xPHYSPNSERB00982xxGK003	SERB
Satyajit Panda		Development of a reduced-basis numerical continuation method	36	660000	xxMESPNSERB00768xxSP003	SERB
Kalyan Raidongia		Fabrication of Electrical Actuators with Special Wettability Surfaces for Efficient Handling of Micro/Nano Droplets	36	2772000	xCHMSPNSERB01106xxKR007	SERB
Bibhas Ranjan Majhi	Sayan Kumar Chakrabarti	Connecting Navier-Stokes equation with dynamical equations in gravity: a new perspective	36	2126894	xPHYSPNSERB01080xBRM002	SERB
Debaprasad Maity	L. Sriramkumar	Reheating the universe: Decoding the observational signatures	36	1017491	xPHYSPNSERB00950xxDM001	SERB
Roy Paily Palathinkal		Powering the Ultra-Low-Power Wireless System/IoT Node by Scavenging Multi-Band Radio Frequency (RF) Energy	36	1937760	xEEESPNSERB00507xRPP006	SERB

Vimal Katiyar		Development of new functional nanocomposite coating/spray formulation to prolong the postharvest life of whole pineapple fruits	24	110000	CHEMESPnxDBT00860xxV001	DBT
Vibin Ramakrishnan	Siva Chetri	Study on the bioactive compounds of five ethno-medicinal plants of Assam	36	335000	BSBESPNSERB00864xxVR008	SERB
Santabrata Das	Anuj Nandi	Probing the effect of strong gravity around the black hole X-ray binaries through AstroSat observations	24	1808480	xPHYSPNISRO00783xSBD002	ISRO
Atul Kumar Soti		Development of an ultra-low head flow-induced vibration turbine	24	2871000	xxMESPNSERB01314xAKS002	SERB
Tharmalingam Punniyamurthy		Tandem Ring-Opening Cyclization/Cycloaddition of Small Ring Heterocycles with Nucleophiles for the Assembly of Medicinally Important Heterocycles	36	335000	CHEMSPNSERB00334xxTP014	SERB
Poulose Poulose		Teachers Associateship for Research Excellence (TARE)	36	1005000	xPHYSPNSERB00511xxPP005	SERB
Siddhartha Singha	Him Jyoti Dutta	Technology Development & Innovation Engineering for Value Chain Development for Citrus Fruits of North East Region	36	4250240	xCRTSPNxDBT01195xxSS003	DBT
Gagan Kumar		Metamaterials based Compact Broadband Tunable Modulator for Terahertz Photonics	36	7339640	xPHYSPNxDIT00982xxGK004	DEITY

Deepak Sharma	Ashish Anand	An Advanced Predictive Maintenance Tool for Equipment and Machines Using Industry 4.0 Concepts	36	2739264	xxMESPNSERB00900xxDS003	SERB
Anupam Saikia		A Study of Selmer Groups of Elliptic Curves and Their Applications	36	660000	MATHSPNSERB00577xxAS001	SERB
Lingaraj Sahoo		Development of diagnostic Kits for quick detection of CTV, HLB and Phytophthora rot diseases in Citrus of North East India	36	6135440	BSBESPNxDBT00391xxLS017	DBT
Ratnajit Bhattacharjee	Rohit Sinha	Development of signal and channel models, circuits, and antennas for next generation Wireless systems with emphasis on vehicular communication	36	47496000	xEEESPNMEIT00378XXRB003	MIETY
Vimal Katiyar		Use of non-toxic nanoformulations for prolonging shelf life and reduction of post-harvest loss of Khasi mandarin orange (Citrus reticulata) of North East India	36	9023200	xCLESPNxDBT00860xxVK015	DBT
Kusum Kumari Singh	Anil Mukund Limaye	Understanding the regulations of RNPS1 by miRNAs and RNA-Binding Proteins under ER stress	36	4866956	BSBESPNxDBT01123xKKS006	DBT
Sajan Kapil	Manas Das	Design and Development of a Bulk Material Handling Device for Metering, Mixing, and Delivery of Powder Feedstock	36	5275240	xxMESPNxDST01305xSJK002	DST

Biranchi Narayan Panda	Uday Shanker Dixit	Design and development of an intelligent extrusion device for 3D printing of concrete structures	36	4344222	xxMESPNxDST01315xBNP002	DST
Atul Kumar Soti		A Numerical and experimental investigation of Renewable energy from Flow-induced vibrations	24	240000	xxMESGTIITG01314xAKS003	IITG
Sandip Paul	Lal Mohan Kundu	Theoretical insight into the structure and functioning of Defensin family of proteins: An all-atom Molecular Dynamics simulation study	36	2650000	xCHMSPNxDBT00725xxSP007	DBT
Sachin Kumar		Understanding the cross talk between the host and the pathogen: A way to identify the novel biomarker for the diagnosis of Japanese encephalitis virus infection	36	7200000	BSBESPNICMR00913xxSK009	ICMR
Rishikesh Dilip Kulkarni	Pranab Kumar Mondal	Development of Configurable Digital Holographic Microscope for Microfluidics Applications	36	5270034	xEEESPNSERB01237xRDK002	SERB
Hemant B. Kaushik		Evaluation of Column-to-Beam Flexural Capacity Ratio for Strong-Column Weak-Beam Design in RC Buildings	36	4048264	xxCESPNSERB00671xHBK007	SERB
Arnab Kr. De	Sandip Sarkar	Vortex-induced vibrations of a rotating sphere close to a solid wall	24	1350000	xxMESPNxDST00776ARKD005	DST
Arunasis Chakraborty	Sandip Das	Combined Synchrosqueezing and HMC based Bayesian Updating for Condition Assessment of Reinforced Concrete Road Bridge	36	3201520	xxCESPNSERB00777xxAC003	SERB

P. Muthukumar	G. Srinivasan	Design and Development of Biogas Driven Hybrid Solar Dryer for North-Eastern Climate Condition	36	3541000	xCRTSPNxDBT00584xPMK010	DBT
Anil Mukund Limaye	Latha Rangan	Investigations into estrogen receptor modulatory activities of Karanjin, a furanoflavonol from Pongamia pinnata	24	2709344	BSBESPNSERB00743xAML011	DST
Tapan Krishnakumar Mankodi		Development of hybrid CPU/GPU direct simulation Monte Carlo with dynamic load balancing schemes for hypersonic flow applications	24	1280000	xxMESPNxDST01319xTKM003	DST
Debabrata Sikdar	Prithwiji Guha	iDT-NaPaMeGs: Inverse design tool for nanoparticle meta-grid based photonic devices using computational electromagnetics and deep learning	24	1950040	xEEESPNxDST01218xxDS002	DST
Sachin Kumar	Shirisha Nagotu	Modelling of indigenous diagnostics and immuno-potent vaccine candidates to combat African swine fever in India	24	8253040	BSBESPNDT00913xxSK010	DBT
Ramesh Kumar Sonkar	Arun Tej Mallajosyula	Fabrication and demonstration of a state-of-the-art C-band optical modulator in silicon photonics platform for 400G networks	36	3927264	xEEESPNSERB00875xRKS005	SERB
Arijit Sur		Design of a framework to resist image-based adversarial attacks on deep learning models	36	2928821	xCSESPNDST00778xARS003	DST

Atanu Banerjee	Vinayak Narayan Kulkarni	Design and Development of Smart Morphing Wing based on Shape Memory Alloy Actuators	36	4092264	xxMESPNSERB00820xxAB004	SERB
Mahuya De	Lepakshi Barbora	Development of low cost transition metal based catalysts for electro-oxidation of poly-alcohols for application in Fuel Cells	36	5538764	xCEESPNSERB00705xxMD004	DST
Rishikesh Bharti	Rajan Choudhary	ROAD SURFACE QUALITY ASSESSMENT OF SELECTED BORDER ROADS SECTIONS OF INDIA THROUGH ADVANCED REMOTE SENSING TECHNIQUE	36	5902028	xxCESPNDTRL01140xRIB005	DTRL
Siddhartha Sankar Ghosh	Aiyagari Ramesh	Development of nano-ensemble kit for the detection of clinically Relevant serum biomarkers	36	8663280	BSBESPNxDBT00399xSSG009	DBT
Pranab Goswami	Biplab Bose	Development of a Low Cost and Field Deployable Sensor for Detection of Formaldehyde Both in Liquid and Gaseous Forms	36	9479720	BSBESPNxDBT00389xxPG008	DBT
Pranab Goswami	Lingaraj Sahoo	Development of Low Cost and Portable Field Deployable Methanol and Malaria Sensing Kits	36	100.74	BSBESPNxDBT00389xxPG009	DBT
Siddhartha Sankar Ghosh	Pranab Goswami	Translational Programme for Developing Diagnostics and Nano-based Sensors (Main Project in continuation of the DBT program Support-II)	36	28217320	BSBESPNxDBT00399xSSG010	DBT

Gaurav Trivedi	Prithwijiit Guha	AI enabled advanced aquaponics ecosystem for the self-reliance of SC community in central and lower Assam	36	26847040	xEEESPNxDST00883xxGT006	DST
Gaurav Trivedi	Hanumant Singh Shekhawat	AI enabled advanced aquaponics ecosystem for the self-reliance of SC community in central and lower Assam	36	26847040	xEEESPNxDST00883xxGT006	DST
Poonam Kumari	Subramani Kanagaraj	Development and testing of a wearable device for the early detection of a cartilage damage in a knee stepping towards an osteoarthritis condition using acoustic emission	24	2976738	xxMESPNxDST00976xxPK005	DST-DAAD
Meena Khwairakpam		Composting/vermicomposting of Mikania micrantha kunth and it's effect on soil properties	36	4398434	xCRTSPNSERB01203xMEK003	DST
Tarak Nath Dey		Coherent Control of Wave Front Engineering	36	2346850	xPHYSPNSERB00638xTND002	SERB
Sajal Kanti Deb		Experimental study on seismic evaluation of performance of 3 storeyed test structure isolated by U-FREIs	36	200000	xxCESPNGoAP00281xSKD007	Arunachal Pradesh, PWD
Nelson Muthu	The Award is individual centric	Computational and Experimental study of damage and failure in carbon/glass fiber reinforced composite materials	36	4959350	xxMESPN SERB01220xxNM002	SERB

Soumitra Nandi		Study of the heavy flavour observables for an indirect detection of physics beyond the Standard Model	36	2320560	xPHYSPNSERB00946xxSN001	SERB
Animes Kumar Golder	Kaustubha Mohanty	Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	36	9663060	xCLESPNSERB00674AKGO003	SERB
Manas Das		Design and development of a novel plasma processing set up for uniform nano-polishing of Prism and any freeform surfaces of fused silica	36	4983000	xxMESPNSEB00922xMDA004	SERB
P. Muthukumar	Pankaj Kalita	Metal hydride materials and systems for the increase of efficiency in renewable and hydrogen energy	36	3516400	xCEESPNxDST00584xPMK008	DST
Prabu Vairakannu		Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization	36	7402047	xCLESPNSERB00965xxVP003	DST
Abu Taleb Khan		Synthesis of Heterocycles and Their Biological and Photo-Physical Studies	36	5942990	xCHMSPNxDST00091xATK004	DST
Gaurav Trivedi		An Energy Efficient IOT Processor built using an Optimized Near-Threshold Voltage Standard Cell Library	36	4895000	xEEESPNSERB00883xxGT004	SERB
Sukumar Nandi	Samit Bhattacharya	Archiving, Modelling and Visualization of the Eco-Cultural	36	4950000	CLSTSPNxDST00030xxSN009	DST

		Heritage of the Majuli River Island of Assam				
Kaustubha Mohanty		Innovative Algae Platform for Industrial Wastewater Valorization (InWAP)	36	119.0252	xCEESPNxDBT00619xxKM008	DBT
P. Muthukumar		DST-Energy Storage Platform on Hydrogen	60	16594920	xxMESPNxDST00584xPMK009	DST
Subramani Kanagaraj		Development of new generation Acetabular Socket Linear and Femoral Head Prototypes with unique 3D microstructures and better fracture resistance for Osteoporosis and Osteoarthritis treatment	36	2134008	xxMESPNxSERB00709xSKJ011	MHRD
Senthilmurugan Subbiah	Chandan Mahanta	LOW-cost innovative Technology for water quality monitoring and water resources management for Urban and rural water Systems in India (LOTUS)	48	23271000	xCLESPNxDST00985xxSS008	DST
Bipul Bhuyan		Indian Institutions-Fermi Lab Collaboration in Neutrino Physics.	60	16054000	xPHYSPNxDST00627xxBB006	DST
Bhaba Kumar Sarma	Debashish Sharma	A study on highly acyclic matrices with special emphasis on the role of graph labelling in solving some inverse eigenvalue problems for such matrices	36	1005000	MATHSPNSERB00208xBKS001	SERB

Ashok Kumar Dasmahapatra		Studies on the crystallization of crystalline/crystalline binary polymer blends	36	5383000	NANOSPNSERB00763AKDM004	SERB
Soumen Kumar Maiti		Process intensified production of lignocellulosic liquid biofuel by cyclic shifting of the process parameters in a single bioreactor	36	2995920	BSBESPNSERB00992xSKM002	SERB
Poonam Kumari		Experimental and theoretical studies of thermo-elastic response of axially graded beams	36	1800000	xxMESPNSERB00976xxPK003	SERB
Mahima Arrawatia		Design of IoT Trans-receiver integrated with compact MIMO/Diversity antenna scheme	36	2592000	xEEESPNDST01238xxMA003	DST
Hemant B. Kaushik	Pawan K. Kaushik	EVALUATION OF BAMBOO HOUSES FOR EARTHQUAKE RESISTANCE	36	1498420	xxCESPNMEFC00671xHBK005	Ministry of Environment, Forest and Climate Change, GOI
Anil Kumar Saikia		Synthesis of heterocyclic compounds via activation of C-H, allylic-OH and alkynes by organic and metallic reagents	36	1390000	xCHMSPNCSIR00380xAKS006	CSIR
Sajal Kanti Deb		Experimental study on cyclic horizontal force-displacement characteristics of prototype U-FREIs with and without rotation	36	2833600	xxCESPNAPWD00281xSKD008	APWD

Sushanta Karmakar	Santosh Biswas	Game Theory based Intrusion Detection System (IDS) for Cyber Physical System	36	30.601	xCESPNxDST00803xxSK001	DST
Santosh Biswas	Chandan Karfa	Formal Methods for Modeling and Verification of Intrusion Detection System in Wireless Networks.	36	2674400	xCESPNxDST00728xSAB003	DST
90006	Santosh Kumar Dwivedy	FIST 2018: Mechanical Engineering Department	60	57000000	xxMESPNxDST90006xHOD002	DST
Hemant B. Kaushik		Seismic Strengthening of Unreinforced Masonry Buildings using Ferrocement Bands	36	1696000	xxCESPNCSIR00671xHBK006	CSIR
Kusum Kumari Singh		Construction of a minigene to analyze the alternative splicing regulation of UPF3B variable exon	36	2000000	BSBESPNCSIR01123xKKS004	CSIR
Rishikesh Bharti	Subashisa Dutta	Risk Assessment Of Floating Debris Dominated Flash Floods In Trans-Boundary Upper Himalayan Catchments	36	13495020	xxCESPNCTRL01140xRIB004	DTRL
Sanjukta Patra	Shankar Prasad Kanaujia	Study of in?depth genetic heterogeneity with respect to resistome and compensatory adaptation of MDR Mtb clinical strains inside BM? Mesenchymal stem cells circulating in the North East Region	36	6841000	BSBESPNxDBT00646xxSP006	DBT
Vaibhav Vasant Goud		Enhanced carbonate precipitation of ureolytic and nitrifying microbe treated rubber wastewater	36	3756520	xCESPNxDBT00760xVVG010	DBT

Vibin Ramakrishnan	Nitin Chaudhary	Design and Characterization of peptide based cell targeting domains with live cell and animal imaging methods	36	4306240	BSBESPNxDBT00864xxVR007	DBT
Sweta Tiwari		Study of nonlocal elliptic and parabolic problems with variable exponents	36	600000	MATHSPNSERB01179xxST001	SERB
Bithiah Grace Jaganathan	Rajkumar Parshottambhai Thummer	Targeting mechanosensitive ion channel Piezo1 in metastatic breast cancer	36	2149100	BSBESPNICMR00756xBGJ010	ICMR
Nanda Kishore	Nageswara Rao Peela	Combined Catalytic Reforming and Upgrading Technique for Production of Biofuels in Circulating Fluidized Bed Reactor	36	3630000	xCLESPNSERB00852xxNK004	SERB
Nitin Chaudhary	Sachin Kumar	Isolation, synthesis, and structure-function analysis of frog and toad-skin derived antimicrobial, anticancer, and wound-healing peptides	36	4801240	BSBESPNxDBT00848xxNC006	DBT
Sudip Mitra	Pratap Bhattacharyya	"Greenhouse gas emission, mitigation & adaptation: strategies for better inventory and management of such gases in rice ecosystems of two agro-climatic zones of Assam	36	5471856	xCRTSPNxDBT01191xxSM004	DBT
Mihir Kumar Purkait		Development of catalysts and a prototype device for conversion of CO2 to fuels/chemicals	36	1674000	xENVSPNxDST00527xMKP015	DST

Bhubaneswar Mandal		Tailor Made Peptidomimetics Designing Against Human Islet Amyloid Polypeptide (hIAPP) Aggregation: A Therapeutic Approach Associated with Type-2 Diabetes	36	2487456	xCHMSPNxDBT00703xBHM006	DBT
Dobbidi Pamu		Development of biologically active ferroelectric Ca ₁₀ (PO ₄) ₆ (OH) ₂ - K _{0.5} Na _{0.5} NbO ₃ composite thin films for biomedical applications	36	53099	NANOSPNSERB00764xxDP009	SERB
Kalyan Raidongia	Sunanda Chatterjee	Design and Synthesis of Freestanding Ion-Selective Membranes from Peptide Modified Two-Dimensional Nanomaterials	36	800000	xCHMSPNCSIR01106xxKR006	CSIR
Sisir Kumar Nayak	Santosha Kumar Dwivedy	Development of non-edible green vegetable oil as a potential liquid dielectric for power/distribution transformer from the renewable source	36	6870461	xEEESPNSERB00871xSKN005	SERB
Bhisma Kumar Patel		Probing Annulations in Multi Directing Systems and Development of Multifunctional AIEgens	36	800000	xCHMSPNCSIR00110xBKP011	CSIR
Chivukula Vasudeva Sastri		Chemical and Structural Intricacies in the Formation, Stability and Reactivity of Metal-Oxygen Adducts in Non-Heme Synthetic Scaffolds	36	4782230	xCHMSPNSERB00736xCVS009	SERB
Subhaditya Bhattacharya		Multipartite Dark Matter at Direct and Collider Searches	36	3105300	xPHYSPNSERB00983xSUB002	DST

Sumana Dutta		Dynamics and Control of Two and Three-dimensional Excitation Waves	36	7719154	xCHMSPNSERB00853xxSD003	SERB
Sachin Singh Gautam	Arup Kumar Nandy	Functionality Enhancement through Design and Development of Advanced Finite Element Algorithms for STRTOOLS	36	6610692	xxMESPNSERB00974xSSG004	SERB
Arup Kumar Sarma	Rajib Kumar Bhattacharjya	DESIGN OF AN AUTOMATIC COMMUNICATION SYSTEM THROUGH CLOUD COMPUTING USING SENSOR BASED AUTOMATED INPUT FOR EFFICIENT OPERATION OF RANGANADI HEP WITH DUE EMPHASIS ON DOWNSTREAM CONCERNS UPTO CONFLUENCE WITH SUBANSIRI RIVER	36	6193824	xxCESPNNEPC00270xAKS012	NEEPCO
Pavan Kumar Kancharla		Synthesis of 1-C, 2-C, 3-C-Branched Pyranosides and Heptanosides, Higher-Carbon Sugars, L-Sugars and All the Epimers of Sialic acids and KDN Non-Ulosinic acids from Perlin Aldehydes	36	4684648	xCHMSPNSERB01146xPKK004	SERB
Partho Sarathi Gooh Pattader	Dipankar Bandyopadhyay	Investigation of the dynamics of charged particle/macromolecules in gel electrophoresis in presence of external noise	36	4664000	xCHMSPNSERB01018PSGP003	SERB

Akshai Kumar Alape Seetharam		Design of Efficient, Recyclable and Sustainable Immobilised Molecular-Pincer Group (VIII) Metal Catalytic Systems for Fine Chemical Synthesis Via Direct Functionalization of Carbon Dioxide	36	4992000	NANOSPMHRD01122AKAS00 7	MHRD
Kusum Kumari Singh	Sachin Singh Gautam	Deciphering the assembly of RNPS1 into the spliceosomal machinery	36	4548740	BSBESPNSERB01123xKKS005	SERB
Anand Baskaran		Functional Mechanism of CRISPR RNA Maturation in an Atypical CRISPR-Cas Adaptive Immune System	36	7448760	BSBESPNSERB00811xxBA010	SERB
Senthilkumar Sivaprakasam	Anil Mukund Limaye	Process Analytical Technology (PAT) control tools for high cell density cultivation of glycoengineered Pichia pastoris for Human Interferon Alpha 2b production	36	4301264	BSBESPNSERB00861xxSS007	SERB
Chandan Kumar Jana		Metal Free Simultaneous C(sp ³)-H and C(sp ²)-H Functionalizations of Aliphatic Amines/Amino Acids and Nitrosoarenes to Indoles and Perophoramidine?s Analogs	36	6029760	xCHMSPNSERB00863xCKJ007	SERB
Tamal Banerjee	Suryasarathi Bose	Deep Eutectic Mixtures with Graphene Functionalized Nanofluids for Indirect Solar Desalination using Multistage Flash Approach	36	4040220	xCLESPNSERB00617xxTB009	DST

Partha Sarathi Mandal		Fault-tolerance in Priority Evacuation and Mutual Visibility of Mobile Robots	36	660000	MATHSPNSERB00732xPSM001	SERB
Shreemayee Bora		Eigenvalues of Linear and Non-linear Matrix Valued Functions: A Study of Inclusion Regions, μ -Pseudospectra and Low Rank Perturbations	36	660000	MATHSPNSERB00579xxSB002	SERB
Poonam Kumari		Development of three-dimensional analytical solutions for elastic laminated and piezoelectric shells subjected to Levy-type boundary conditions using Extended Kantorovich Method	36	660000	xxMESPNSERB00976xxPK004	SERB
Arnab Kr. De		Dynamics of wake behind 3D tapered and circular cylinder in vortex induced vibration subject to planar and span-wise shear	36	660000	xxMESPNSERB00776ARKD003	SERB
Sushanta Karmakar		Design and Analysis of Some Fast Steiner Tree Algorithms	36	720000	xCESPNSERB00803xxSK002	SERB
Arup Chattopadhyay		Trace Formulae and Multivariable Operator Theory	36	660000	MATHSPNSERB01119xARC001	SERB
Arun Chattopadhyay		Assembly of Nanoscale Particles for Theranostic and Energy Applications Sanction order no JCB/2019/000039	60	9500000	NANOSPNSERB00041xxAC012	SERB
Siddhartha Pratim Chakrabarty		Stochastic Models for Chronic Myeloid Leukemia	36	660000	MATHSPNSERB00630xSPC001	SERB

Anjan Kumar Siddagangaiah	Teiborlang Lyngdoh Ryntathiang	Assessment of Recycled Materials Interaction and its Effect on Durability of Cold Bituminous Mixes	36	2836022	xxCESPNSERB01097AKSG006	SERB
Bithiah Grace Jaganathan	Bosanta Ranjan Boruah	To study the mechanosensitive cell surface protein Piezo1 as a target for metastatic colorectal cancer	36	3982000	BSBESPNxSERB00756xBGJ011	SERB
Amarendra Kumar Sarma		Soliton Dynamics of the Generalized Nonlinear Schrödinger Models In Parity-Time (PT) Symmetric potentials	36	660000	xPHYSPNSERB00626AMKS004	SERB
90009		FIST Project Level-2	60	59400000	xCHMSPNxDST90009xHOD003	DST
Biman Behari Mandal	Rajkumar Parshottambhai Thummer	NIRMAN 3D- Novel minimally invasive implants for reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing	48	12363600	BSBESPNxDBT00857xBBM018	DBT
Shabari Nath	Ravindranath Adda	Development of high power density solid state transformer using direct AC to AC power electronic conversion	42	3699724	xEEESPNSERB01006xxSN002	SERB
Amaresh Dalal	Gautam Biswas	National Centre of Clean Coal Research and Development	60	3370000	xxMESPNxDST00817xAMD005	DST
Head, BSBE		Strengthening of research facilities in the Department	60	14400000	BSBESPNxDST90001xHOD003	DST
Head EEE	Ramesh Kumar Sonkar	Fabrication Facility for Silicon Photonics and Microelectronic Devices	60	26000000	xEEESPNDST90036xHOD003	DST

Head, CE		FIST Grant	60	33400000	xxCESPNxDST90005xHOD002	DST
Mihir Kumar Purkait		Centre for Technological Excellence in Water Purification (CTEWP)	60	9993000	xCLESPNxDST00527xMKP013	DST
Perumal Alagarsamy	Subhash Thota	FIST Phase II	60	44000000	xPHYSPNxDST90007xHOD002	DST
HoD, Chemical	Raghvendra Gupta	FUND FOR IMPROVEMENT OF SCIENCE AND TECHNOLOGY	60	39000000	xCLESPNxDST90003xHOD002	DST
Satyam Agarwal		Wireless Networking for Sustainable Rural Connectivity	60	3500000	xEEESPNxDST01231xxSA001	DST
Chivukula Vasudeva Sastri	G. Rajaraman	Perspective of Fluctuations in Electron Transfer Reactions in Non-Heme Chemistry	24	7118645	xCHMSPNMHRD00736xCVS007	MHRD
Shirisha Nagotu	Rajkumar Parshottambhai Thummer	Investigating the role of peroxisomes in Parkinson's disease	36	7095360	BSBESPNxDBT01129xxSN005	DBT
Shabari Nath	Ravindranath Adda	Development of high power density solid state transformer using direct AC to AC power electronic conversion	42	3699724	xEEESPNSERB01006xxSN002	SERB
Vishal Trivedi	Vibin Ramakrishnan	Re-purposing of FDA approved drugs for Tuberculosis treatment	36	21187972	BSBESPNxDBT00789xxVT008	DBT
Cota Navin Gupta	Souptick Chanda	Data driven neuro-behavioral clusters in adults who were born very preterm using multivariate analysis	24	4442900	BSBESPNMHRD01192xCNG002	MHRD
Souptick Chanda	Debabrata Chakraborty, Rajkumar	Investigation on the Influence of Ferromagnetic Coating on Bone Ingrowth in Hip Stems Made of	24	2726893	BSBESPNMHRD01216xxSC003	MHRD

	Parshottambhai Thummer	Composite Titanium-Tantalum (Ti-Ta) Foam				
John Jose	Tamarapalli Venkatesh	Approximate Computing Techniques for Resource Constrained Edge Devices	24	7748935	xCSESPNMHRD01125xxJJ004	MHRD
Siddhartha Sankar Ghosh	Arun Chattopadhyay	Modulation of Connexin-43 and Histone Deacetylase to Comprehend Cancer Therapy	36	3423200	NANOSPNxDBT00399xSSG008	DBT
Manas Khatua		Adaptive Cell Scheduling Function of 6TiSCH Network for Efficient Data Communication in Industrial Internet of Things	24	2050400	xCSESPNSERB01285xxMK002	SERB
Vinayak Narayan Kulkarni		Experimental studies on finiteness of a wing	24	3554000	xxMESPNARDB00713xVNK006	ARDB
Chivukula Vasudeva Sastri		Chemical and Structural Intricacies in the Formation, Stability and Reactivity of Metal-Oxygen Adducts in Non-Heme Synthetic Scaffolds	36	4782230	xCHMSPNSERB00736xCVS009	SERB
Subramani Kanagaraj	Nelson Muthu	An affordable lower limb prosthesis with polycentric knee joint, dynamic ankle joint and suction-suspension socket system having advanced features	36	7337818	xxMESPN SERB00709xSKJ010	MHRD
Manish Kumar	Shankar Prasad Kanaujia	Elucidating the role of Cas6, Cas7 and Cas8 in spirochetes CRISPR adaptive immunity against alien genetic elements	36	4272996	BSBESPNxDBT00929xxMK007	DBT

Soumitra Nandi		Study of the heavy flavour observables for an indirect detection of physics beyond the Standard Model	36	2320560	xPHYSPNSERB00946xxSN001	SERB
Tarak Nath Dey		Coherent Control of Wave Front Engineering	36	2346850	xPHYSPNSERB00638xTND002	SERB
Manish Kumar	Shankar Prasad Kanaujia	Repurposing endogenous CRISPR-Cas type-I machinery for efficient markerless genome editing tool in <i>Leptospira interrogans</i>	18	2375000	BSBESPNxDBT00929xxMK010	DBT
Subramani Kanagaraj	Senthilvelan Selvaraj	Development of new generation Acetabular Socket Linear and Femoral Head Prototypes with unique 3D microstructures and better fracture resistance for Osteoporosis and Osteoarthritis treatment	36	2134008	xxMESPN SERB00709xSKJ011	MHRD
Animes Kumar Golder	Kaustubha Mohanty	Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	36	9663060	xCLESPNSERB00674AKGO003	SERB
Abu Taleb Khan		Synthesis of Heterocycles and Their Biological and Photo-Physical Studies	36	5942990	xCHMSPNxDST00091xATK004	DST
CET, Head		Massive Online Open Courses (MOOCS) compliant e-content	60	189897500	CET/P/HOC/04	DHE
HOD, Design		National Initiative for setting up of Design Innovation Centre	60	100000000	DES/P/HOD/01	DHE
Ratnajit Bhattacharjee		VIRTUAL LABS PROJECT(PHASE-III EXTENDED)	60	544100000	CET/P/RB/02	IITD

COMPLETED SPONSORED PROJECTS

PI Name	Project No.	Title	Funding Agency	Amount	Start date	Duration (months)	Completion Date
Krishna Pada Bhabak	CHEMSPNSERB01111xKPB004	Development of ROS Sensitive Turn-on Fluorescent Probes for Targeted Delivery of Anti-cancer Compounds	SERB	5304000	14/06/2017	48	14/06/2021
Biman Behari Mandal	BSBESPNSERB00857xBBM015	Bioengineered 3D constructs for cartilage repair, osteochondral regeneration and high throughput drug screening towards osteoarthritis management	SERB	4681000	05/04/2018	36	05/04/2021
Kanhaiya Pandey	xPHYSPNSERB01162x xKP002	Laser cooling and trapping of Rubidium atom, and superflash of light using the narrow 5S1/2 \rightarrow 6P3/2 transition at 420 nm	SERB	3406611	06/04/2018	36	06/04/2021
Chandan Mukherjee	xCHMSPNxDBT00850 xxCM006	Synthesis and MR Image Investigation on MRI Contrast Agent-Entrapped Mesoporous Silica Nanoparticles	DBT	6900000	06/04/2018	36	06/04/2021
Pratul Chandra Kalita	xDESSPNMOEF01081 xPCK001	Bamboo bricks/laminates from BMFs (Bamboo Micron Fibres) for low cost housing structures for North Eastern Himalayan region	MoEF	1156000	06/04/2018	36	06/04/2021
Amaresh Dalal	xxMESPNxDST00817 xAMD004	Development of Microbial Fuel Cells and theoretical modeling on the multiple effect of flow-materials in waste water bio-energy reactor	DST	4296756	06/04/2018	36	06/04/2021

Kannan Pakshirajan	xENVSPNx DST00504 xxKP009	The development and implementation of sensors and treatment technologies for freshwater systems in India	DST	34227700	06/04/2018	36	06/04/2021
Biman Behari Mandal	BSBESPNx DBT00857 xBBM016	Fabrication of Biocompatible Scaffolds for Delivery of Stem Cells in Myocardial Infarct Model: In Search of an Ideal Cardiac Patch	DBT	4123000	11/04/2018	36	11/04/2021
Tapan Mishra	xPHYSPNSERB01161x xTM002	Theoretical studies of quantum phase transitions of dipolar bosons in frustrated and flatband lattices.	SERB	3205915	17/04/2018	36	17/04/2021
Rakhi Chaturvedi	BSBESPNx DBT00498 xxRC007	SEEDLESS PLANT PRODUCTION AND MASS SCALE PROPAGATION OF MUSA BALBISIANA (BHIMKOL BANANA) OF NER USING IN VITRO APPROACHES	DBT	4562000	19/04/2018	36	19/04/2021
Raghvendra Gupta	xCLESPNBRNS01010x xRG003	Validating CFD Simulations of Gas-Liquid Stirred Tank Reactor for different impellers through Radiotracer Based Techniques	BRNS	2488160	16/05/2018	36	31/03/2022
Ajaikumar Bahulayan Kunnumakkara	BSBESPNICMR00936 xABK007	Placental oxidative stress in gestational diabetes mellitus	ICMR	2077000	16/05/2018	36	16/05/2021
P. Muthukumar	xCEESPNx DST00584x PMK007	Reversible Alkali Metal Based Hydrides for High Temperature Thermal Energy Storage	DST	4505774	06/06/2018	36	06/06/2021

Uday Narayan Maiti	xPHYSPNBRNS01082 xUNM003	Studies on the development of devices using MXenes/mono-elemental 2D materials for energy harvesting and storage applications (Part 2: Energy storage applications)	BRNS	2993483	11/06/2018	36	11/06/2021
A. Srinivasan	xPHYSPNCSIR00105x xAS012	Comparative study of low dimensional ferromagnetic Heusler alloys prepared by different routes	CSIR	900000	24/06/2018	36	24/06/2021
Rupam Barman	MATHSPNSERB0118 5xxRB002	Elliptic curves with complex multiplication and hypergeometric sums	SERB	660000	29/06/2018	36	29/06/2021
Manish Kumar	BSBESPNxDBT00929 xxMK007	Elucidating the role of Cas6, Cas7 and Cas8 in spirochetes CRISPR adaptive immunity against alien genetic elements	DBT	4272996	10/07/2018	36	26/03/2022
Uday Narayan Maiti	xPHYSPNCSIR01082x UNM004	Defect and doping synergist in perforated graphene-aerogel nanohybrid for the development of efficient hydrogen generation catalyst	CSIR	1100000	13/07/2018	36	13/07/2021
Dipankar Narayan Basu	xxMESPN SERB00930 xDNB003	Experimental and Computational Analyses of Flow-induced Heat Transfer Deterioration in Supercritical Natural Circulation Loop	SERB	4726040	24/07/2018	36	09/01/2022
Ayon Ganguly	MATHSPNSERB0118 4xxAG001	Investigation of Statistical Aspects of Step-stress Life Testing	SERB	660000	27/07/2018	36	27/07/2021

Subhas Chandra Pan	xCHMSPNxDBT00879 xSCP007	Novel rationally designed DNA gyrase inhibitors as antibacterials	DBT	4114991	07/08/2018	36	07/08/2021
Jiten Chandra Kalita	MATHSPNSERB0040 9xJCK001	Coupled ψ-v and immersed interface method for incompressible viscous flows	SERB	660000	09/08/2018	36	09/08/2021
Ajaikumar Bahulayan Kunnumakkara	BSBESPNxDBT00936 xABK008	DBT-AIST International Centre for Translational and Environmental Research (DAICENTER)	DBT	9846000	08/08/2018	36	11/01/2022
Manas Das	xxMESPN SERB00922 xMDA003	Fabrication of Prosthetic Implants and further Nanofinishing Using Magnetic Field Assisted Finishing (MFAF) Process	SERB	4768000	10/08/2018	36	10/08/2021
Bhisma Kumar Patel	xCHMSPNSERB00110 xBKP010	Non-Directed Remote sp3 C-H Functionalizations	SERB	5490320	15/08/2018	32	23/01/2022
Rajaram Swaminathan	BSBESPNxPPS00209x xRS008	Research project for understanding structure and function of several IDPs and mechanism of HBV capsid formation using ProCharTS	PurplePatch Services, USA	2062500	16/08/2018	36	16/08/2021
Uday Narayan Maiti	xPHYSPNDRDO01082 xUNM004	Ultrafast Joule heating induced defect healing and in-situ activation of spontaneously assembled graphene network for wearable energy storage	DRDO	2118400	20/08/2018	36	20/08/2021
Vimal Katiyar	xCLESPNxDBT00860x xVK009	Integrated Production of Advanced Biofuels and Biocommodities under 'Centre Of Excellence (COE)Proposal'	DBT	11422000	30/08/2018	36	30/08/2021

Nitin Chaudhary	BSBESPNSERB00848x xNC005	Mechanistic insights into IAPP self-assembly – targeting early intermediates for therapeutics	SERB	4785000	30/08/2018	36	30/08/2021
Vishal Trivedi	BSBESPNSERB00789x xVT009	Chemical Biology Approaches to exploit FIKK Kinase (s) from plasmodium falciparum to develop potent antimalarials	SERB	5120249	14/09/2018	36	14/09/2021
Chandan Kumar	xEEESPNSERB01137x xCK003	Design, Operation and Control of Smart Transformer-based Microgrid System	SERB	5282500	20/09/2018	36	20/09/2021
Sashindra Kumar Kakoty	xCRTSPNPSA000296x xSK008	Rural Technology Action Group (RuTAG)- at IIT Guwahati	PSA - GoI	16556560	03/10/2018	36	03/10/2021
Vimal Katiyar	xCLESPNxDBT00860x xVK010	Development of Biodegradable Polymer based Controlled Release Fertilizers and Pesticides for Sustainable Agro-economy ?BioPolyCRF?	DBT	5172996	28/09/2018	36	28/09/2021
Sandip Paul	xCHMSPNx DST00725 xxSP006	Understanding the Inhibiting Actions of Different Inhibitors on the Aggregation of Human Amylin Peptide	DST	4521835	03/10/2018	36	03/10/2021
Ranjan Tamuli	BSBESPNxDBT00747 xxRT005	Understanding molecular mechanism of calcium signaling in Neurospora crassa	DBT	5641200	03/10/2018	36	03/10/2021

Chandan Kumar Jana	xCHMSPNxDBT00863 xCKJ006	Synthesis and Biological Evaluation of Dysideanone and Its Synthetic Analogs for the Development of Potent and Selective Anti-Oral-Cancer Agents	DBT	4409600	11/10/2018	36	11/10/2021
Arun Goyal	BSBESPNxDBT00420 xxAG012	Development of novel and efficient carbohydrate enzymes for bioenergy and biovalued products	DBT	7199996	11-10-2018	36	27/03/2022
Senthilkumar Sivaprakasam	BSBESPNxDBT00861 xxSS006	Continuous Fermentative Production of D (-) Lactic Acid Using Whey as a Feedstock in Automated Membrane Integrated Bioreactor	DBT	4464996	09-10-2018	36	09/10/2021
Sachin Kumar	BSBESPNxDBT00913 xxSK008	Molecular platform for epidemiology, disease mapping and development of diagnostics for economically important diseases of ducks	DBT	2722996	24-10-2018	36	24/10/2021
Ajaikumar Bahulayan Kunnumakkara	BSBESPNICMR00936 xABK009	Deciphering the Role of Different Isoforms of AKT in the Development of Human Oral Squamous Cell Carcinoma (North-East Concept-ECD)	ICMR	3033000	13-10-2018	36	31/03/2022
Arun Goyal	xCEESPNxDBT00420x xAG013	Efficient utilization of sugarcane top for production of cellulosic ethanol and other value added products	DBT	2495000	02-11-2018	36	02/11/2021
Lal Mohan Kundu	xCHMSPNxDBT00775 xLMK004	Development and evaluation of peptide conjugated antitumor drugs in combination with nucleobases	DBT	4172000	15-11-2018	36	15/11/2021

		deaminases for controlled and targeted drug delivery					
Debasish Borah	xPHYSPNSERB01152x xDB001	Particle Dark Matter Beyond the WIMP Paradigm: Model Building and Phenomenological Studies	SERB	2137520	16/11/2018	36	16/11/2021
Subashisa Dutta	xxCESPNEPSA00415x xSD011	Integrated use of WRF-Hydro and space based inputs for flood forecasting	ISRO	2763600	27/11/2018	30	27/05/2021
Chandan Kumar	xEEESPNSERB01137x xCK005	Design, control and management of distributed generation in microgrid	DST	2152000	12/12/2018	36	12/12/2021
Keyur Babulal Sorathia	xDEESPNxSSA00821x xKS011	Design and development of an ICT based ecosystem for digitization of educational resources/materials for teachers and students	Sarba Sikhsha Abhiyan, Govt. of Assam	14961600	07/02/2019	36	07/02/2022
Vijayanand S. Moholkar	xCEESPNxDBT00491x VSM007	Design, Optimization and Intensification of a Bioprocess for Converting North East Natural Gas into Liquid Fuels (Bio-GTL)	DBT	2250000	27/02/2019	36	27/02/2022
Biman Behari Mandal	BSBESPND0HR00857 xBBM019	DEVELOPMENT OF MINIMAL INVASIVE NOVEL INJECTABLE HYDROGEL AND NANO-CARRIER - HYBRID SYSTEM FOR LOCALIZED TARGETED CANCER THERAPY	ICHR	4722356	07/03/2019	36	07/03/2022
Kalyan Raidongia	xCHMSPNx DST01106 xxKR005	Aerobic Oxidations of Light Alkanes over Atomically Thin Clay Layers of Controlled Lateral Dimensions	DST	5950520	07/03/2019	36	07/03/2022

Ramesh Kumar Sonkar	xEEESPNSERB00875x RKS003	Analytical and Numerical Design of Hybrid Multiplexer for Optical Interconnect using Silicon Photonics	SERB	3669000	19/03/2019	36	19/03/2022
Tharmalingam Punniyamurthy	xCHMSPNSERB00334 xxTPO13	Study of Selective C-H Activation: Carbon-Carbon and Carbon-Heteroatom Bonds Formation	SERB	5462864	28/03/2019	36	28/03/2022
Achalkumar Ammathnadu Sudhakar	xCHMSPNSERB00862 xASA004	Molecular Engineering of Perylene for Energy Conversion	SERB	4191000	22/03/2019	36	22/03/2022
Manas Kamal Bhuyan	xEEESPNSERB00746x MKB002	Development of a prototype of disabled-friendly automatic virtual text-entry keyboard interface system	SERB	2301025	28/03/2019	36	28/03/2022
Subhas Chandra Pan	xCHMSPNSERB00879 xSCP008	Organocatalytic Asymmetric Kinetic Resolution for the Synthesis of Aziridines and Tetrahydropyrans	SERB	4301000	28-03-2019	36	28/03/2022
Shankar Prasad Kanaujia	BSBESPNSERB00908x SPK008	Structural and functional characterization of an ABC transporter involved in the maintenance of lipid asymmetry in Escherichia coli and Shigella flexneri: structure-based drug-designing	SERB	2750000	28/03/2019	36	28/03/2022
Akshai Kumar Alape Seetharam	xCHMSPNSERB01122 AKAS006	Greenhouse Gas to Fuel: Development of Powerful Catalytic Systems Based on Pincer-Metal Catalysts Heterogenized on Solid Supports for the Conversion of Carbon Dioxide to Methanol	SERB	3875696	28/03/2019	36	28/03/2022

Chivukula Vasudeva Sastri	xCHMSPNx DST00736 xCVS008	Modulating the reactivity of high-valent nonheme transition metal oxidants by tuning the ligand field enforced by substituted bispidine ligands	DST	890600	30/07/2019	24	30/07/2021
Arun Tej Mallajosyula	xEEESPNSERB01141x ATM002	Flexible Memristors Using 2D Layered Hybrid Organic-Inorganic Perovskites	SERB	4993090	30/03/2019	36	30/03/2022
Parameswar K. Iyer	xCHMSPNMHRD005 05xPKI009	Hybrid Organic-Inorganic Perovskites for Solar Energy Conversion	Indian Institute Of Technology Guwahati	2639450	10/06/2019	24	10/06/2021
Rajib Kumar Bhattacharjya	xxCESPNxDST00708x RKB003	Impact of Climate Change on the Integrated Flood Vulnerability Index of Hilly terrain	DST	2132000	24/06/2019	24	24/06/2021
Chandan Kumar	xEEESPNCPRI01137x xCK006	Design, operation, and control of distributed generation (DG) integrated unified power quality conditioner (UPQC) in electric grid	Centre for power research ins	3228000	01/07/2019	24	01/07/2021
Tamal Banerjee	xCLESPNMHRD00617 xxTB008	Deep Eutectic Solvent for Remediation of Antifungal and Antibiotics in Waste water	MHRD	5179584	02/08/2019	24	02/08/2021
Tamal Banerjee	xCLESPNHPCL00617x xTB007	Development of Novel Deep Eutectic Solvents for the Extraction of Aromatics to Produce Food/Pharma Grade Hexane and Speciality Products Using COSMO-SAC Screening	HPCL GREEN	2792790	02/08/2019	24	31/01/2022

Parameswar K. Iyer	NANOSPMHRD00505xPKI010	Organic Nanomaterials Based Portable Device for Biosensing and Disease Diagnostic	MHRD	2639450	02/09/2019	24	02/09/2021
Shyamanta Moni Hazarika	xxMESPNxDST01219xSMH002	Five Fingered Bionic Prosthetic Hand	DST	2600422	05/09/2019	30	24/01/2022
Anjan Kumar Siddagangaiah	xxCESPNRDA01097AKSG005	Life Cycle and Performance Assessment of Roads Constructed Using Cold Mix Technology	NRRDA	3322000	29/11/2019	18	31/12/2021
Anil Mukund Limaye	BSBESPNICMR00743xAML008	DNA methylation in the upstream CpG island of GPER1 and its association with GPER1 expression in colon cancer: a pre-clinical proof of concept study in colon cancer cell lines	ICMR	3011112	13/12/2019	24	13/12/2021
Niranjan Sahoo	xxMESPNISRO00530xxNS005	Stress Wave Force Balance (SWFB) Technique: An Alternative Method of Accurate Force Measurement	ISRO	2807000	25/12/2019	18	25/06/2021
Manish Kumar	xBIOSPNxDBT00929xxMK009	Biochemical characterization of seminal gel and its application for biostimulation in pigs	DBT	1179900	02/01/2020	24	02/01/2022
Souptick Chanda	BSBESPNSERB01216xxSCO02	Proximal Femoral Locking Plates (PFLP): Biomechanical Exploration of Design Variants for North Eastern (NE) Population	SERB	2297270	16/01/2020	24	16/01/2022
Ashish Anand	xCESPNxDBT00842xxAA002	Integrated software for analyzing single-cell RNA sequencing	DBT	75000	16/01/2020	24	16/01/2022

Harsh Chaturvedi	xCEESPMHRD0114 4xxHC001	Technology for Large scale development of textile fibres for wearable electro-optic devices	MHRD	80.6	05/02/2020	24	05/02/2022
Uday Shanker Dixit	xxMESPNxDST00155 xUSD008	Experimental and numerical research on contact friction in the process of plastic deformation by means of compression with torsion	DST	2629152	05/02/2020	24	05/02/2022
Santosha Kumar Dwivedy	xxMESPNxDBT00228 xSKD003	Bioengineered bilayer 3D printlets for segregated compartmental delivery of fixed dose antitubercular drug combinations	DBT	1190250	29/02/2020	24	28/02/2022
Arnab Kr. De	xxMESPNxSERB00776 ARKD004	Numerical investigation on the effect of surface roughness and tilt angle on turbulent Rayleigh-Bénard convection	SERB	1582000	04/03/2020	24	04/03/2022
Sashindra Kumar Kakoty	xCRTSPNxDST00296x xSK010	Drudgery Reduction of Tribal Women through S&T Intervention in Betel nut Cutting	DST	1980000	01/05/2020	12	01/05/2021
Vimal Katiyar	xENVSPNxDST00860 xxVK014	This project is to develop reusable and compostable CNC formulated Nano-coating based anti-viral Mask and coverall suites for COVID 19 Patients and Healthcare Workers	DST	1752984	22/05/2020	12	22/05/2021
Uttam Manna	xCHMSPNSERB01118 xxUM007	Extremely Water Repellent Coating for Anti-Viral Application	SERB	1705000	15/06/2020	12	15/06/2021
Siddhartha Pratim Chakrabarty	MATHSPNSERB0063 0xSPC002	Mathematical and Statistical Modeling of COVID-19 Outbreak in India	SERB	550000	21/07/2020	12	21/07/2021

Mihir Kumar Purkait	xENVSPNPNRD00527 xMKP018	Preparation of DPR for the treatment of Polluted Kamalpur Beel under Kamrup Zilla Parishad	Govt. of Assam	441320	12/01/2021	4	12/05/2021
Pranab Kumar Mondal	xxMESPNBIRA01115 xPKM002	CRISPER based diagnosis of Covid-19 using paper microfluidics	DBT	1493000	29/12/2020	12	29/12/2021
Mihir Kumar Purkait	xCLESPNSITA00527x MKP019	Development of Solar power driven water treatment plant	CPRI	3916800	26/02/2021	12	26/02/2022

PART IV

Status Report related to Special Recruitment Drive
Administrative and Technical Staffs (Group A)
Degree Awarded
Progress of Construction Work
Summary of Institute Accounts

STATUS REPORT RELATED TO SPECIAL RECRUITMENT DRIVE UNDER MISSION MODE 2021-22

Following status/ inputs for the period 2021-22, in respect of Special Recruitment Drive under Mission Mode 2021, IIT Guwahati is prepared and furnished for reference:

- Reservation policy for faculty position has been adopted in IIT Guwahati after issuance of the gazette notification, 'The Central Educational Institutions (Reservations in Teachers' Cadre) Act 2019' and IIT Guwahati has started to fill up the vacancy against reserved category accordingly
- IIT Guwahati has advertised for special recruitment drive under mission mode for the vacancies in position against reserved category for all Department/Schools for all positions (Professor / Associate Professor / Assistant Professor) and a large number of applications received. Shortlisting processes are going on and Selection Committee will be held shortly
- It may be worth mentioning that IIT Guwahati is trying to fill the vacancies as much as possible under regular recruitment drive also

In the year 2021-22, IIT Guwahati has already appointed 17 faculty members from reserved category under regular recruitment as detailed below

SC	ST	OBC	EWS	TOTAL
07	02	07	01	17

IIT Guwahati is following a flexible cadre structure for appointment of faculty (i.e. Professor, Associate Professor & Assistant Professor) with faculty/student ratio of 1:10, similar to all other IITs. As such, the Institute is unable to fix vacancy position-wise, i.e., Assistant Professor, Associate Professor and Professor and prepare the roster accordingly. As such, IIT Guwahati has requested the Ministry of Education for necessary advice on creation of a reservation roster keeping the flexible structure of the cadre and same is awaited.

DEGREE AWARDED

List of students who have fulfilled the requirements for award of B.Tech degree in Computer Science and Engineering

Sl. No	Roll No.	Name
1	170101001	AAYUSH PATNI
2	170101002	ABHISHEK JAISWAL
3	170101003	ADITYA VARDHAN GARA
4	170101005	AMAN MISHRA
5	170101006	AMAN RAJ
6	170101007	ANIKET RAJPUT
7	170101008	ANNANYA PRATAP SINGH CHAUHAN
8	170101009	ANUBHAV TYAGI
9	170101011	ARANYA ARYAMAN
10	170101012	ARPIT GUPTA
11	170101013	ARYAN AGRAWAL
12	170101014	AVIRAL GUPTA
13	170101015	AVNEET SINGH CHANNA
14	170101016	BANDAGONDA SHRI RAAM REDDY
15	170101017	CH ROHITH RAVI PRABHU TEJA
16	170101018	CHALUMURU BHAVANI DATT
17	170101019	CHIRAG GUPTA
18	170101020	DEEPAK GAMI
19	170101021	DEVAISHI TIWARI
20	170101022	DEVANSH GUPTA
21	170101024	GEDDAM IKYA VENUS
22	170101026	HARDIK KATYAL
23	170101027	KADAM KIRAN ZATINGRAO
24	170101028	KANCHUGANTLA RHYTHM
25	170101030	KARTIK GUPTA
26	170101031	KEERTI HARPAVAT
27	170101032	KETHAVATH NAVEEN
28	170101033	LUCKY
29	170101034	MAKHARIA AAYUSH
30	170101035	MANAN GUPTA
31	170101036	MANI MANNAMPALLI
32	170101037	MAYANK CHANDRA

33	170101038	MAYANK WADHWANI
34	170101039	NAGULAPALLI KASI VENKATA SAI KIRAN
35	170101040	NAKKA SRIHARSHA
36	170101041	NAVEEN KUMAR GUPTA
37	170101043	PARTHA PRATIM MALAKAR
38	170101044	PARVINDAR SINGH
39	170101045	PIYUSH GUPTA
40	170101047	PRANAY GARG
41	170101048	PRANSHU SRIVAS
42	170101049	PRIYANSHU SINGH
43	170101050	PULIKONDA ROOP SAI RAKESH GUPTA
44	170101051	RAJANALA HARSHAVARDHAN REDDY
45	170101052	RASHI SINGH
46	170101053	RAVI SHANKAR
47	170101054	RISHI PATHAK
48	170101055	ROHAN NIGAM
49	170101056	ROUNAK PARIHAR
50	170101057	RUTVIK GHUGHAL
51	170101058	RYTHUM SINGLA
52	170101059	SACHIN GIRI
53	170101060	SANCHIT
54	170101061	SAYAK DUTTA
55	170101063	SHIVAM BANSAL
56	170101064	SHUBHAM KUMAR
57	170101065	SHYAM SUNDAR RAV
58	170101066	SOUMIK PAUL
59	170101067	SOURABH JANGID
60	170101068	SUNNY KUMAR
61	170101070	THAHIR MAHMOOD POOVADA
62	170101071	THEEGALA RAKESH REDDY
63	170101073	TUSHAR RAJENDRA BHUTADA
64	170101074	UMANG
65	170101075	UTKARSH JAIN
66	170101076	VAKUL GUPTA
67	170101077	VEMURI SAHITHYA
68	170101078	VINEET MALIK
69	170101079	VINIT KUMAR

70	170101080	VIVEK KUMAR
71	170101081	UDBHAV CHUGH
72	170101082	LAVISH GULATI
73	170101083	UTKARSH SANTOSH MISHRA
74	170101084	MAYANK BARANWAL
75	170101085	SPARSH SINHA
76	170101086	SHIVANG DALAL
77	170101087	SIDDHARTH AGARWAL
78	170101088	SHASHANK SHARMA
79	130101058	PRARABDHA SONI
80	150101011	ASHUTOSH KUMAR

**List of students who have fulfilled the requirements for award of B.Tech degree in Electronics and
Communication Engineering**

Sl. No.	Roll No.	Name
1	170102002	ABHINAV SINGH
2	170102004	AKARSH ARYA
3	170102005	AKHILESH KUMAR
4	170102006	ALOK URMALIYA
5	170102007	AMAN KUMAR
6	170102008	AMAN KUMAR RAY
7	170102009	AMAN SHARMA
8	170102010	ANCHIT AYUSH GURIA
9	170102011	ARSH SINGLA
10	170102012	ARVIND KUMAR
11	170102013	ASHISH
12	170102014	AVISHMITA MANDAL
13	170102015	AYUL JAIN
14	170102019	BHARATH THAKKALAPALLY
15	170102020	BHASKAR BAIPLAWAT
16	170102021	BIPIN KUMAR
17	170102022	BODUGULA SAI NIKHIL
18	170102023	BORRA LAKSHMAN KUMAR
19	170102024	BUDDHADEB DAS
20	170102025	BUSWALA NITESH KAMLESH
21	170102026	DEVASHISH TANEJA
22	170102027	GUINING PERTIN
23	170102028	JAIN KASHISH
24	170102029	KATRAGADDA PRAPHULLA VASUDHAR
25	170102030	KETAN SANJAY CHAUDHARI
26	170102031	KODALI JATIN KRISHNA SAI
27	170102032	KONDA NIKHIL REDDY
28	170102033	LOKESH G
29	170102034	MANIKYAM GOVINDARAJA TEJA SAI
30	170102036	MAYANK TANTUWAY
31	170102037	MILIND JAIN
32	170102038	MITTA VENKATA PUNEETH
33	170102039	MOHAMMAD WASEEM AKRAM
34	170102040	MOHNISH KUMAR

35	170102041	MRINAL KANTI MAHATO
36	170102042	NAMAN AGGARWAL
37	170102043	NARENDRA KUMAR
38	170102044	NILESH DAS
39	170102045	NISHTHA RAUTELA
40	170102046	PARSI SRIDHAR MANOJ
41	170102047	PARTH BAJAJ
42	170102048	PEELA JASWANTH ARAVIND KUMAR
43	170102049	POKA SRI KIRAN
44	170102050	PRANAV GOEL
45	170102051	PRATYUSH KISHORE
46	170102052	PRIYANSH MANGAL
47	170102053	RAHUL VADDEPALLY
48	170102054	REGINTHALA MAHESH
49	170102055	RISHABH SETHI
50	170102056	SAI MANIKANTA RISHI R
51	170102057	SANABOYINA THARUNKUMAR
52	170102058	SANSKAR AGARWAL
53	170102060	SHREYAS DIXIT
54	170102061	SOURAV SUMAN
55	170102062	SUSHVANTH AKKIREDDY
56	170102063	SWAPNIL KOTHIWAL
57	170102064	TATA SAI GANESH KARTHIK
58	170102065	UPENDRA KUMAR
59	170102066	UTKARSH JAISWAL
60	170102067	VAIBHAV SINGH
61	170102068	VASU GOYAL
62	170102069	VIKAS PRAJAPATI
63	170102070	VUSUVANDLA KHAGESH KUMAR
64	170102071	YASHRAJ BALIDANI
65	170102072	YEGUVAPALLI THRELOK
66	170102073	YOGESH YADAV
67	170102074	SUYASH BAGHEL
68	170102075	RATHOD MEET SATISH
69	170102076	HARSHIT GOYAL
70	170102077	CHANDAN GOVIND AGRAWAL
71	170102078	PRATHAM ARORA
72	170102079	NEERAJ SINGH

73	170102080	PATEL PRERAK SANJAYBHAI
74	170102081	JAYANT PRAKASH SINGH
75	170102082	GIRIJA PRASANNA PARIDA
76	170102083	VULASALA YUVA KISHORE REDDY
77	170102084	MUKUL RANJAN
78	11010246	MANNAVA SURYA
79	120102051	RAVI KIRAN JATAV
80	150102018	E PONGBA KONYAK
81	150102040	NIDHI BHARTI
82	150102050	PRANAV BHUSHAN
83	160102005	ALLU MANIK
84	160102016	BATHULA MANOJ
85	160102027	HARIDAYAL BAGHEL
86	160102037	MALLAPURAM VENKATA SAI
87	160102039	MANCHINELLA SAI ABHISHEK
88	160102045	NAGIREDDY PRAVARDHAN

List of students who have fulfilled the requirements for award of B.Tech degree in Mechanical Engineering

Sl. No.	Roll No.	Name
1	170103001	AAKASH
2	170103002	ABHISHEK
3	170103003	AKASH SHARMA
4	170103005	AMOGH SINGH PATHANIA
5	170103006	ANANYA MANOHAR
6	170103007	ANIRUDH PRATAP SINGH
7	170103008	ANURAG KUMAR
8	170103009	ARUN KUMAR
9	170103010	ASHISH KUMAR MEENA
10	170103012	ASHISH RANJAN
11	170103013	ASHIT HANWAT SHENDE
12	170103014	ASHUTOSH BEHERA
13	170103015	ATHARV DIPAK DEORE
14	170103016	ATUL GAUTAM
15	170103018	AYUSH KUMAR
16	170103019	BHUKYA VENU NAIK
17	170103020	BRAJESH KUMAR
18	170103022	DHANIRAM TAW
19	170103023	DISHANK BADADWAL
20	170103024	DIVYANSHU SINGH CHAUHAN
21	170103027	HEMANTH KUMAR CHINTA
22	170103029	HURSH
23	170103031	KATANA SRI AJAY
24	170103032	M SABHAREESH
25	170103033	MD TOUQUIR AHMAD
26	170103034	MILAN RAYAT
27	170103035	MOHIT HASIJA
28	170103036	MOHIT RAJA NENIWAL
29	170103037	MONJIT DOLEY
30	170103038	MRIGANAV BORDOLOI
31	170103039	NARENDRA KUMAR
32	170103040	NIKHIL SONI
33	170103041	NITESH JANGHU
34	170103042	NITESH KUMAR

35	170103043	NYATI ADITYA ATUL
36	170103045	PRABHANDAM SUHAS
37	170103047	PRATYUSH SINGH
38	170103048	RAGHAV AGGARWAL
39	170103049	RAHUL KATARIYA
40	170103050	RAHUL KUSHWAHA
41	170103051	RAHUL MEEL
42	170103052	RAHUL RAJ
43	170103053	RAJAT
44	170103054	RAMAVARAPU ACHYUT
45	170103057	ROHIT KUMAR
46	170103058	ROUTHU ANIL KUMAR
47	170103059	SADAIVAL SINGH
48	170103060	SARTH SAMEER VITEKAR
49	170103061	SATISH AGRAHARI
50	170103062	SAYAN SARKAR
51	170103063	SHIVASISH BISWAL
52	170103064	SHUBHAM BHAUSAHEB SALUNKE
53	170103065	SPARSH DUTTA
54	170103068	SUPRAGYA SHRESTHA
55	170103071	SWAPNIL AUDICHYA
56	170103072	T GOUTHAM KUMAR GOUD
57	170103073	THOTA SAI VAISHNAV
58	170103074	TIKESWAR NAIK
59	170103075	TRIPAN DIPTA ROY
60	170103076	VAIBHAV SINGH
61	170103077	VIKAS MAURYA
62	170103078	VINEET SINGLA
63	170103080	YASH KUMAR
64	170103081	ABHISHEK KUMAR GUPTA
65	170103082	HIMANSHU KESHARI
66	170103084	KARTIK GUPTA
67	170103085	KUSHAGRA PANDEY
68	170103086	RISHABH AGRAWAL
69	170103087	VISHAL KUMAR JAMUAR
70	170103088	PRASUN GOURAV
71	170103089	AJIT KUMAR SINGH
72	170103090	ALBIN BENNY

73	170103091	YASHRAJ VIJAY MOLAWADE
74	170103092	RAUT PRAJWAL VISHVANATH
75	170103093	R SHREEKAVI
76	170103094	KUNTAL NAYAK
77	170103095	HARIOM SINGH
78	140103009	AMEET KUMAR DEKA

List of students who have fulfilled the requirements for award of B.Tech degree in Civil Engineering

Sl. No.	Roll No.	Name
1.	170104001	ABHISHEK KUMAR
2.	170104002	ABHISHEK PUROHIT
3.	170104005	ADITYA KAKOTI
4.	170104006	ADITYA SAHA
5.	170104007	ADITYA VERMA
6.	170104008	ADNAN AHMAD
7.	170104009	AJEET KUMAR
8.	170104010	AKASH GUPTA
9.	170104011	AKSHAT PUROHIT
10.	170104012	AMAN KUMAR JAIN
11.	170104014	ANIKET JAIN
12.	170104015	ANIKET PRAKASH
13.	170104016	ANIKET SINHA
14.	170104017	ANIMESH MISHRA
15.	170104018	ANURAG NAYAK
16.	170104019	ARHAN KUNDU
17.	170104021	ASHUTOSH KUMAR
18.	170104022	BASANT KUMAR
19.	170104024	BHOOMIT TEHLAN
20.	170104026	DEEPAK KUMAR PANDEY
21.	170104027	DHANAVATH VASU NAYAK
22.	170104029	DURGESH
23.	170104030	GADDAM NIKHIL
24.	170104031	GANNE KARTHIK
25.	170104032	GHANISHTHA GARGAV
26.	170104033	GOURAV PATIR
27.	170104035	HARIRAM MANGLAW
28.	170104037	JAY PRAKASH SONI
29.	170104038	JAYESH PALIWAL
30.	170104039	KAMAL KANT
31.	170104040	KANISHQ AGRAWAL
32.	170104043	MAHENDRA YADAV
33.	170104044	MANAK KASHYAP
34.	170104045	MAYANK RAI
35.	170104046	MD AASIF HUSSAIN

36.	170104047	MEHUL CHATURVEDI
37.	170104049	NANDANIYA CHIRAG LAXMANBHAI
38.	170104050	NANDIGAMA NAVYA
39.	170104052	NETI KASI VENKATESH
40.	170104053	NITESH KUMAR
41.	170104054	NITESH KUMAR MANDAL
42.	170104056	PARVEEN JAKHAR
43.	170104057	PRAGATI RANJAN
44.	170104058	PRIYANSHU KANOUIA
45.	170104059	PRIYANSHU SINGH
46.	170104060	PUSHPENDRA MEENA
47.	170104061	RAHAT REZA SULEMANI
48.	170104063	RUPESH YADAV
49.	170104066	SHASHANK BOUDH
50.	170104067	SHIVAM KUMAR
51.	170104068	SHIVAM RAJ
52.	170104070	SHUBHAM ROHILLA
53.	170104074	SURYA PRATAP YADAV
54.	170104076	TUSHAR SETHIA
55.	170104077	UPPALAPATI PREETHAM VARMA
56.	170104078	VIKAS MEENA
57.	170104079	VISHAL SHRIVASTAVA
58.	170104080	YOGESH BAGARIYA
59.	140104055	RAVINDRA PRAKASH FARDOLIYA
60.	140104061	SANKARACHARYA DUTTA SAIKIA
61.	150104061	SIMRAN SONI
62.	160104009	ANMOL MOKTAN
63.	160104028	GOWTHAM BONI
64.	160104062	RICKY ROMIN
65.	160104067	SATYA RAM DAS

List of students who have fulfilled the requirements for award of B.Tech degree in Biotechnology

Sl. No.	Roll No.	Name
1	170106002	ABHAY GUPTA
2	170106004	ABHISHEK MEROTHA
3	170106008	AMAN VERMA
4	170106009	ANANT SACHAN
5	170106010	ANDHIGARI YASH
6	170106011	ANIRUDDH BAKSHI
7	170106012	ANKIT BHICHAR
8	170106013	ARNAB RAY
9	170106014	ASHISH KHOSHYA
10	170106015	ASHISH POONIA
11	170106016	BAJRANG LAL BANA
12	170106017	BHABESH BORO
13	170106018	BHAVYA SINGH
14	170106019	BHAWANA BENDA
15	170106023	JAYESH DAMANI
16	170106024	JIVESH
17	170106026	KARTIKEYA SHARMA
18	170106027	KARTIK NAIK
19	170106029	KOMMINENI SRI ACHALA
20	170106030	KRISHAN KANT
21	170106031	LAZMY DEWARE
22	170106032	MAYUKH PRAMANIK
23	170106033	MD.FARZAN AKHTAR
24	170106034	MRUTYUNJAYA MOHAPATRA
25	170106035	MURALA ABHISHEK
26	170106036	MUSKAN BANSAL
27	170106039	NIKHIL ARYA
28	170106038	NIKHIL
29	170106040	NIKUNJ AGRAWAL
30	170106041	PARAM UDAY KOTHARI
31	170106042	PATIL DHAIRYASHIL PRATAPSIH
32	170106043	PAVAN KUMAR GUPTA
33	170106045	PRATHYOOM M S
34	170106046	RAHUL BISHNOI
35	170106047	RAHUL SAROHA

36	170106049	SAMAD FARAZ
37	170106050	SAPAVATH PARAMESH
38	170106051	SEJAL GOYAL
39	170106052	SHAMBHAVI PANDEY
40	170106053	SHIVRAJ SINGH
41	170106055	SHUBHAM AVINASH CHAUDHARI
42	170106056	SHUBHAM GAURAV
43	170106057	SIDDHESH JITENDRA METKAR
44	170106058	SIVA SAI HIMAKAR SREERANGAM
45	170106060	VANKUDOTHU BABU RAO
46	170106061	VEDANT BHARTI
47	170106062	VIKAS PARSHURAM PATEL
48	170106063	VINAY KUMAR
49	170106064	VIPIN YADAV
50	170106065	YASH AGRAWAL
51	170106066	ANSHUMAN PANDEY
52	170106067	RAHUL MEENA
53	140106020	DASARI SIVA PRASAD
54	140106040	PINGKU BRAHMA
55	160106020	KOHALE MITHILESH PADMAKAR
56	160106025	N SHARAN RAO
57	160106034	RAJ KUMAR
58	160106055	YASH SHARMA

List of students who have fulfilled the requirements for award of B.Tech degree in Chemical Engineering

Sl. No.	Roll No.	Name
1	170107001	AAYUSH BOHRA
2	170107002	ABHISHEK BAJPAI
3	170107005	AKSHAT SINGHAL
4	170107006	AKSHAY KUMAR
5	170107007	AMGOTH RAJU NAIK
6	170107009	ANKIT KUMAR SAINI
7	170107010	ANSHUL SHARMA
8	170107011	ASHISH BHASKAR
9	170107012	AVI KUMAR
10	170107014	BHAVYA SHARMA
11	170107015	BOJJA SAI KIRAN
12	170107016	CHINMAY KOTHARI
13	170107017	DIVYAM SHAURYA
14	170107018	GITIKA SONKER
15	170107021	HIMANSHU KAUSHIK
16	170107022	JATIN THAKUR
17	170107023	KANAN KUMAR DAS
18	170107024	KARRI KARTHEEK
19	170107025	KAUSTUBH RAMCHANDRA PATIL
20	170107026	KRISHN KANHAIYA TIKMANI
21	170107027	KRISHNA
22	170107028	KUNAL
23	170107030	MAJUMDAR RITAM MANABENDRA
24	170107031	MANAN CHAWLA
25	170107032	MANISH ANAND
26	170107033	MANOJ KUMAR PANDEY
27	170107034	MAYANK DHAKA
28	170107035	MAYANK PRASAD
29	170107036	MRIGANGKA SEKHAR KUTUM
30	170107037	MUJAHID BARI
31	170107038	MURARI LAL
32	170107039	MUSKAN MAHESHWARI
33	170107040	NAMAN KHEMCHAND AGARWAL
34	170107041	NAVYA GAUR

35	170107042	NEERAJ KUMAR RATHORE
36	170107043	NITIN KUMAR KHANDAL
37	170107047	PRAKHAR SETH
38	170107049	PRATYAY SINGH
39	170107050	PRIYANSHU BARNWAL
40	170107051	PULKIT KHATOR
41	170107052	RAJESH CHAUHAN
42	170107053	RIPUNJOY MEDHI
43	170107055	SAGNIC MANDAL
44	170107056	SANKALP GUPTA
45	170107057	SATYAM SARAN
46	170107059	SHASHANK SHARMA
47	170107060	SHIKHAR RAJ
48	170107061	SIDDHANT SAHEBRAO MAHALLE
49	170107064	SURYANSH PRABHAT
50	170107065	TRISHLA SOOD
51	170107066	UNMESH AJAY DESALE
52	170107067	VAIBHAVI BINDLISH
53	170107068	VIKRANT PRASAD
54	170107071	RAJESH KUMAR SAHOO
55	170107072	PRATYUSH SHARMA
56	170107073	AVINESH KRISHNAN
57	120107060	SOMKUWAR SOURABH RAMCHANDRA
58	140107001	AADITYA BECHHOTE
59	150107040	PIYUSH JADHAO
60	150107046	RAJU REGAR
61	150107065	VIKASH KUMAR GUPTA
62	160107033	KUNDAN ROY
63	160107039	PIYUSH SINGH MANDAVI
64	160107061	SUBHAJIT DAS

List of students who have fulfilled the requirements for award of B.Tech degree in Electronics and Electrical Engineering

Sl. No.	Roll No.	Name
1	170108001	AAYUSH
2	170108002	ABHISHEK RAJ
3	170108003	ADEPU VISHAL VARDHAN
4	170108004	ADITYA MEHNDIRATTA
5	170108005	AMRIT SAHA
6	170108006	ANIKET MADHUKAR GUDADHE
7	170108007	ASHUTOSH GUPTA
8	170108008	ATHARVA SHARMA
9	170108009	BHAVYA DHING
10	170108010	BHOSALE RUTVIJ
11	170108012	DINESH KUMAR MAHAWAR
12	170108013	DIWAKAR SHARMA
13	170108014	DUPPALA SREE CHANDRA
14	170108015	GAURAV KUMAR
15	170108016	GHONGADE PRATIK KANBA
16	170108017	HIMANSHU JAIN
17	170108019	JEEVESH KAUSHIK
18	170108020	JILLA VAMSI KRISHNA
19	170108021	K M SUDARSHAN
20	170108023	MAYANK SONI
21	170108025	NAMAN JAIN
22	170108026	NIKI SONOWAL
23	170108027	NISHIT GAUR
24	170108028	PARAG AGRAWAL
25	170108029	RAHUL NAGARWAL
26	170108030	REET AKSHAT
27	170108031	REVANURU VINAY KUMAR
28	170108032	RUDRANSHU PRAJAPATI
29	170108034	SAMEER KUMAR GHAWANA
30	170108035	SHUBHAM KUMAR
31	170108036	SONU KUMARI MINA
32	170108037	SRI HARSHA VADATHYA
33	170108038	TEJRAJ CHOUDHARY
34	170108039	UPPALA ADITYA

35	170108042	VISHWAJEET KUMAR SINGH
36	170108043	SURAJ KUMAR
37	170108044	ABHISHEK
38	170108045	SIDDHARTH JAIN
39	170108046	SRIJAN SANKRIT
40	170108047	AMIT TIWARI
41	170108048	LAKSHYA
42	170108049	ANAMITRA MANDAL
43	170108050	SARVESH ARUN CHOUSHETTI
44	170108051	RISHABH SRIVASTAVA
45	160108034	SACHIN RAJ
46	160108040	VARTHYAVATH SHYAMNAIK

**List of students who have fulfilled the requirements for award of B.Tech degree in Engineering
Physics**

Sl. No.	Roll No.	Name
1	170121001	ABHIBRAT SHARMA
2	170121004	AMEYA SANJEEV MADHEKAR
3	170121005	ANUP PRAKASH POHANEY
4	170121006	ARNAV MATHUR
5	170121008	ATHARVA YOGESH BELAPURKAR
6	170121010	AVINASH RANJAN
7	170121011	CHETAN KUNDARA
8	170121012	CHILUMULA ANAND VARDHAN
9	170121013	CHINMAYA K
10	170121014	DEVANSH BHARDWAJ
11	170121018	HARSHIT BHORGA
12	170121019	HARSHIT DAHIYA
13	170121020	IBRAR ALI
14	170121026	MOHAMMAD AAMIR PASHA
15	170121027	NAVIN KUMAR
16	170121029	NIKHIL VITHAL SHINDE
17	170121030	NITIN CHAUHAN
18	170121032	RADHIKA GOYAL
19	170121034	RAJGURU SHIVAM DATTA
20	170121035	RAJIV RAMESH SANGLE
21	170121039	SAHIL KUMAR PANIGRAHY
22	170121040	SANKALP SHANDILYA
23	170121041	SHOAIB HUSSAIN
24	170121042	SHRIDHAR
25	170121044	SURYA CHANDRA KOTLA
26	170121045	TAMMANA DRUVA VENKATA RAJU
27	170121048	TAPAN MAYUKH
28	170121050	VIVEK KUMAR
29	130121041	ULHARE SHASHANK BALKRISHNA
30	150121010	AYUSH KUMAR BHOJRAJ
31	150121033	R ADARSH BHARGAV
32	160121019	KANDLIKAR SWARAJ MADHUSUDAN
33	160121042	VARUN SESHADRI

List of students who have fulfilled the requirements for award of B.Tech degree in Chemical Science and Technology

Sl. No.	Roll No.	Name
1	170122001	ABHINAV GUPTA
2	170122003	ANKIT JAIN
3	170122004	ARNOLD ROYAL CHINDRIPU
4	170122005	ARVIND PATIDAR
5	170122006	ARYAN AGARWAL
6	170122007	ASHISH ASHOK DUKARE
7	170122008	ASHISH BAKOLIYA
8	170122009	ASHISH SANJEEV SONAVANE
9	170122011	BHAWNA PARMAR
10	170122012	CHETAN SUBHASH NETNE
11	170122013	DEEKSHANT
12	170122014	DEEPAK KUMAR MANDAL
13	170122016	DEEPENDRA MEENA
14	170122017	DEVANSHI PINGOLIA
15	170122019	DODDI MOHIT
16	170122022	KRISHNAKANT SINGH
17	170122023	KRITIK RATHORE
18	170122024	MANAS PRATIM PATHAK
19	170122025	MANISH KUMAR GURNANI
20	170122026	MAYANK PRASAD
21	170122027	MAYURI MANOJKUMAR CHHAJED
22	170122028	MUKESH BHANGALE
23	170122029	NANDITA VARSHNEY
24	170122030	P ABHISHEK
25	170122031	PANKAJ KUMAR
26	170122033	RAHUL DADABHAI MORE
27	170122034	RAMJILAL YADAV
28	170122037	S KRISHNA RAAJAN
29	170122038	SAISH SHRIVASTAVA
30	170122039	SANSKAR SINGHAI
31	170122040	SHAIENDRA SINGH
32	170122041	SHREYASH MEENA
33	170122042	SHUBHAM MAURYA
34	170122044	SIMRAN LOKWANI

35	170122045	SOURADIP SEN
36	170122049	VATSA SHAH
37	170122050	VIPUL SHRIVASTAVA
38	11012216	GAURAV KUMAR
39	160122013	DHARAVATH SANDEEP NAIK
40	160122022	MOHAMMAD SAQIOB

List of students who have fulfilled the requirements for award of B.Tech degree in Mathematics and Computing

Sl. No.	Roll No.	Name
1	170123001	AAYUSH BANSAL
2	170123002	ABHINAV ANAND
3	170123003	ABHINAV R
4	170123004	ADITYA RAJ
5	170123006	ANKIT TRIPATHI
6	170123007	ANKUR PRAMOD INGALE
7	170123008	ARAV GARG
8	170123010	ARYAN RAJ
9	170123011	ASHISH AGARWAL
10	170123012	AYUSH DALIA
11	170123013	BAGAL SATEJ BABANRAO
12	170123015	BOJJA SAI PREETHAM
13	170123016	CHINDAM SUJANA MAITHILI
14	170123017	DEV PRIYA GOEL
15	170123018	GARVIT MEHTA
16	170123019	GARVIT SARJARE
17	170123020	HARIT GUPTA
18	170123021	HEMANT YADAV
19	170123022	JAYANT PATIDAR
20	170123023	KEDAR NATH
21	170123024	KESHETTI SAI KUMAR
22	170123025	KOMMINENI NIKHIL
23	170123026	KONDRU SURAJ
24	170123027	KOTTA PREM SUJAN
25	170123028	KRISHNA PRIYATAM D
26	170123029	KUSHAGRA MAHAJAN
27	170123031	MALISSETTI KIRAN KARTHEEK
28	170123032	MANNE HEMA PRIYA
29	170123033	MAYANK SAHARAN
30	170123034	MIHIR YADAV
31	170123035	MOGILLAPALLI NIKHIL
32	170123036	MOHIT DHAKA
33	170123037	MOHIT KUMAR MEENA
34	170123038	MRIGANKA BASU ROY CHOWDHURY

35	170123039	NAKKA LAHARI
36	170123040	PARV SOOD
37	170123041	RUPAM SAHU
38	170123042	S SAI VAMSHI
39	170123043	SAHILPREET SINGH THIND
40	170123044	SAKSHI SHARMA
41	170123045	SAURABH KUMAR
42	170123046	SHALINI KUMARI
43	170123048	SIDDHANT SINHA
44	170123051	TANVI OHRI
45	170123052	TANYA CHAUHAN
46	170123053	TEJASVEE PANWAR
47	170123054	TUMARADA ADITYA
48	170123056	PRATHIK.S.NAYAK
49	170123057	KARTIK SETHI
50	170123058	ARUN KUMAR
51	170123059	SHRUTI DINESH AGARWAL
52	170123060	TRIKAY NALAMADA
53	170123061	MAHFOOZUR RAHMAN KHAN
54	170123062	DIVYANSH MANGAL
55	170123063	JOEL RAJA SINGH
56	170123064	AGNIV BANDYOPADHYAY
57	150123029	P RAMADOSS
58	150123034	ROHIT KUMAR
59	160123026	NIPENDRA SINGH

List of students who have fulfilled the requirements for award of B.Tech degree in Design

Sl. No.	Roll No.	Name
1	170205001	ADIL ABDUSHUKOOR
2	170205002	ADITYA BIALA
3	170205004	ANKITA PATRA
4	170205006	DHITI SINGH
5	170205007	ITTI JOSEPH
6	170205008	JACOB STEPHEN
7	170205010	KARTIK GUPTA
8	170205011	LAKSHYA NIMESH
9	170205012	LIPIKA GUPTA
10	170205013	MANASI SHETH
11	170205014	MEDHA AGRAWAL
12	170205015	MEGHA AGRAWAL
13	170205016	MOHAMMED SHIBILI C P
14	170205017	MUSKAN GUPTA
15	170205020	NAVEEN KUMAR GODARA
16	170205021	NEELUSHANSH NANDESHWAR
17	170205022	OMKAR JOSHI
18	170205023	POORNIMA SUBRAMANIAM
19	170205024	PRASATH SHANMUGOM
20	170205025	PRERANA BISWAS
21	170205026	PRIYAL SHRIVASTAVA
22	170205027	PRIYANSHU JAIN
23	170205028	RAJANALA PRAVAR PRASAD
24	170205029	RISHABH SINGH
25	170205030	RISHABH SOOD
26	170205031	RUSHIKESH TARALEKAR
27	170205032	SACHIN RAJA M
28	170205033	SANCHIT KHESS
29	170205035	SHRAWANI MALKAR
30	170205036	SHRISTI CHUMBER
31	170205038	TEKHENGUTSO THERIEH
32	170205040	VAIBHAV SINGH
33	170205041	VARUN SINGH
34	170205042	VENKAT RITHVIK VARMA JAMPANA
35	160205027	NISHITA SUDHIR

36	160205028	PARTHA SARATH9 I MANDAL
37	160205033	RAJ AGRAWAL
38	160205042	SUDEEP S BABU

List of students who have fulfilled the requirements for award of Master of Arts in Development Studies

Sl. No.	Roll No.	Name
1	192241001	AAKRITI CHAKRAVARTY
2	192241002	AKANKSHA GARG
3	192241003	ALEX CHONGTHAM
4	192241004	ANINDYA BASAK
5	192241005	ANMOL GUPTA
6	192241006	AREESHA KHAN
7	192241007	ARINDOM BORA
8	192241008	ASHISH KUMAR PASWAN
9	192241009	ASHUTOSH KERKETTA
10	192241011	BIMBINI BARUAH
11	192241013	FARZEEN ZAMAN BARUAH
12	192241015	GIRDHARI LAL YADAV
13	192241016	GOTE ROSHAN DNYANESHWARRAO
14	192241017	HARSH SINGH
15	192241018	HARSHITA SAHU
16	192241019	HIMASMITA DAS
17	192241021	KAKOLI DAS
18	192241022	KESHAV RAJ
19	192241023	KRISTY SAIKIA
20	192241024	MANEESH M M
21	192241025	MOHAMMED.I
22	192241026	MONALISHA MAJUMDER
23	192241027	MOUSUMI BARUAH
24	192241028	MRIDUTPAL SINHARAY
25	192241029	NARAYAN SHARMA
26	192241030	OVIYA T
27	192241031	PRASHANT KUMAR SAGAR
28	192241032	PRATIK KARGUPTA
29	192241033	RAHUL ABROL
30	192241034	RISHIKA RAI
31	192241035	RUPESH KUMAR JHA
32	192241036	SABITH K A
33	192241037	SAMYAK BALWANT LOHAKARE
34	192241038	SAPTAK BRAHMA
35	192241040	SHEKHAR RAJ
36	192241041	SHELLY DAS
37	192241042	SHIVAM KUMAR
38	192241043	SHIVAM SINGH
39	192241044	SHUBHAM KUMAR

Sl. No.	Roll No.	Name
40	192241045	SHWETA KAKKAR
41	192241046	SIDDHARTHA KUMAR SHARMA
42	192241047	SONAL
43	192241048	SUANTAK LHINGNEIHAWI VAIPHEI
44	192241049	SUNIT KUMAR KARN
45	192241050	TANAYA HAZARIKA
46	192241051	TEERNA MANDAL
47	192241052	TIKENDRA RAI CHELAK
48	192241053	UPASANA NATH
49	192241054	VARSHA PRIYADARSHINI
50	192241055	WASIF OSMAN
51	182241018	MOHIT SARMA

List of students who have fulfilled the requirements for award of Master of Science in Physics

Sl. No.	Roll No.	Name
1	192121001	ABHIK SARKAR
2	192121002	AJITH B
3	192121003	ALAY PAL
4	192121004	AMANDEEP PARMAR
5	192121005	AMIT KUMBHAKAR
6	192121006	AVINASH TIWARI
7	192121007	DHIMAN BISWAS
8	192121008	DIBYANANDA SAHOO
9	192121009	DIL MOHAN MEENA
10	192121011	HEMANT YADAV
11	192121012	HILLOL KUMAR BARMAN
12	192121013	HIMANSHU GUPTA
13	192121014	HRIDAY KUMAR SANGMA
14	192121015	JOYA GHOSH DASTIDER
15	192121017	KAVITA MEENA
16	192121018	KIRTI SHARMA
17	192121019	M GOJENDRA SINGH
18	192121020	MANISH SONI
19	192121021	MANISH SWAMI
20	192121022	MEGHA GUPTA
21	192121023	NEETESH MUDGAL
22	192121024	NIKITA
23	192121025	PRABHAT KUMAR SINGH
24	192121026	PRADUMAN PANDEY
25	192121027	PRANATI KHARBANDA
26	192121028	PRANKUR GARG
27	192121029	PRATYUSHA CHOWDHURY
28	192121031	RAJKUMAR SINGH DANU
29	192121032	RATAN SARKAR
30	192121033	ROHIT KUMAR
31	192121035	SAHIL DHIMAN
32	192121036	SANTANU MANDAL
33	192121037	SHIKHAR SRIVASTAVA
34	192121038	SIDDHARTH PAL
35	192121039	SMITA KALA
36	192121040	SUBHARTHI DASGUPTA
37	192121041	SUMIT KUMAR SINGH
38	192121042	SUPRIYA DUTTA
39	192121043	SURESH KUMAR POONIA

40	192121044	SUROJIT KAYAL
41	192121045	TARUNKANTI DAS BAIDYA
42	192121046	VAIBHAV BISHI
43	192121047	VINOD KUMAR
44	192121048	VISHAL JOSHI
45	172121013	ELEX KHAKHLARI
46	172121014	GUNISHETTY VIVEK
47	172121029	MONIT LAMA
48	182121027	NARTHU HAREESH

List of students who have fulfilled the requirements for award of Master of Science in Chemistry

Sl. No.	Roll No.	Name
1	192122001	ABHAY SRIVASTAVA
2	192122002	AKASHDEEP SAHA
3	192122003	AMIT KUMAR GUPTA
4	192122004	AMIT RAMCHIARY
5	192122005	ANIRBAN SIL
6	192122006	ANKIT
7	192122007	BHARATI
8	192122008	BHRIGU KUMAR PEGU
9	192122009	BHUSHAN LAL BHUARYA
10	192122010	BISHAL DUTTA
11	192122011	DIPISHA SAWOO
12	192122012	EPSHEETA BARUAH
13	192122013	GOURANGA MAHAPATRA
14	192122014	HARSH BALIYAN
15	192122016	KARTIK BANERJEE
16	192122017	KRISHNA SAMANTA
17	192122018	MAITERY YADAV
18	192122019	MALAY KUMAR BAROI
19	192122020	MANKIRAT KAUR
20	192122021	MOSTAFA ZAMAN
21	192122022	NIBAI CHARAN SOREN
22	192122023	NIHAL ANSARI
23	192122024	NILADRI SEKHAR DUTTA
24	192122025	PANKAJ KIRAN SWAIN
25	192122026	PAPU KALITA
26	192122027	PINKY
27	192122028	PRADHUMAN KUMAR
28	192122029	PRANTICK SHAW
29	192122030	PRAVEEN SINGH
30	192122031	PRIYANK SRIVASTAVA
31	192122032	RAMAKANT SINGH
32	192122033	RITTIKA CHATTERJEE
33	192122034	RITVIKA KUSHWAHA
34	192122035	SAJAL KAR
35	192122036	SANDEEP VIRENDRA YADAV
36	192122037	SAURABH MAURYA
37	192122038	SAUVIK SAHA
38	192122039	SAYANTAN MANDAL
39	192122040	SHAIVI KESARI

40	192122041	SHIVANI
41	192122042	SHRESHTHA TRIPATHI
42	192122043	SIDDHARTHA BERA
43	192122044	SOURAV MALIK
44	192122045	SRIJIT SEN
45	192122046	SUBHADEEP DE
46	192122047	SUBHADEEP SHIT
47	192122048	SUDEEP SARKAR
48	192122051	SUMAN DAS
49	192122052	SUSMITHA KUMAR
50	192122053	TAPAN HIKAKA
51	192122054	THALESH PAL
52	192122055	VIKASH KUMAR

**List of students who have fulfilled the requirements for award of Master of Science in
Mathematics and Computing**

Sl. No.	Roll No.	Name
1.	192123001	ABHIJEET DAS
2.	192123002	AKASH DAS
3.	192123003	ANUBHAV SRIVASTAVA
4.	192123004	ARINDAM SARKAR
5.	192123005	ARUSHI KATIYAR
6.	192123006	ATUL KUMAR
7.	192123007	ATUL SONI
8.	192123008	AVINASH KUMAR SHARMA
9.	192123011	DEEPIKA SINHA
10.	192123012	JAINISH JITUBHAI PATEL
11.	192123014	KISHAN CHAKRABORTY
12.	192123016	LAVESH NAMA
13.	192123018	MANISH GOKANI
14.	192123021	MOHIT KUMAR
15.	192123023	MUSKAN AGARWAL
16.	192123024	NAVEEN GUPTA
17.	192123025	NITISH KUMAR VISHWAKARMA
18.	192123026	NOBIN DAIMARY
19.	192123027	PANKITA KACHARI
20.	192123028	PAROMITA BORDOLOI
21.	192123030	PRABHAT KUMAR MISHRA
22.	192123031	PRIYA BANSAL
23.	192123032	PURUSHOTTAM PRASAD
24.	192123034	RAYVADERA MEET HITESHKUMAR
25.	192123035	ROHIT SINGHAL
26.	192123037	SHIVAM VERMA
27.	192123038	SHUBHAM GUPTA
28.	192123039	SOUMYA GANAI
29.	192123041	SUKRITI SHAH
30.	192123042	SUMAN BARMAN
31.	192123044	SUPRAVAT SAMANTA
32.	192123045	SWARNAKAMAL BARMAN
33.	192123046	VIRAJ RAGHOBHA DHURI
34.	192123047	VISHAL SAINI
35.	192123048	YASH SARIN
36.	182123026	MADHURENDRA KUMAR

**List of students who have fulfilled the requirements for award of Master of Technology in
Computer Science and Engineering**

Sl. No.	Roll No.	Name
1	194101002	ABHAY CHANDRA SONKAR
2	194101006	ANKIT AGRAWAL
3	194101010	ASUTOSH PADHI
4	194101011	AVADHESH SHARMA
5	194101012	AVIKASH SINGH CHAWLA
6	194101014	BHUPENDER
7	194101016	DAMKONDWAR SHUBHAM RAVINDRA
8	194101017	DESHMUKH SHUBHAM MADHUKAR
9	194101019	IRA BISHT
10	194101020	JAYPRAKASH PATIDAR
11	194101021	JOSHI AJITEM PRAMOD MADHAVI
12	194101022	JOYS MARIA JOSEPH
13	194101023	KHARE PRIYANKA HANUMANT
14	194101026	MAHIMA MALIK
15	194101027	MANISH GUPTA
16	194101030	MAYANK SHARMA
17	194101031	MAYANK VERMA
18	194101033	MOON MEGHA RAJENDRA
19	194101035	NAMAN GARG
20	194101040	RASHIKA SHARMA
21	194101041	RUPAK GUPTA
22	194101043	SANIL UPADHYAY
23	194101044	SHASHANK MAURYA
24	194101045	SHIVAM MAURYA
25	194101046	SHIVANGI GARG
26	194101047	SHUBHAM SHARMA
27	194101048	SINGH PRIYANSHU PANCHAM RAM
28	194101049	SONU KUMAR SINGH
29	194101050	SUDESHNA CHAUDHURI
30	194101051	SUNIL DASHARATH SHINDE
31	194101053	UTKARSH SINGH
32	194101054	VAIBHAV GUPTA
33	194101057	YASH SONI
34	194101059	HIMADRI SHEKHAR DAS
35	184101022	MANISHA DOLEY
36	184101048	SNEHALATA AGASTI

**List of students who have fulfilled the requirements for award of Master of Technology in
Electronics and Electrical Engineering**

Sl. No.	Roll No.	Name
1	194102001	AASHVI SINGLA
2	194102003	BANTU NIKHIL KUMAR
3	194102005	BRAJKISHOR TUDU
4	194102011	PRAFULL GUJARIA
5	194102012	RAHUL BHADRA
6	194102014	RISHABH KUMAR SRIVASTAVA
7	194102018	ABHINEET KUMAR
8	194102022	PRASHANT KUMAR
9	194102025	POLA SAIDINESH
10	194102026	VISHNU V
11	194102102	ALLAM TEJA SAI ANVESH
12	194102103	DAKE SAGAR CHINTU
13	194102106	MANISH RANJAN OTTA
14	194102108	PIYUSH CHAUHAN
15	194102111	YASH MAKKAR
16	194102113	GAUREEJ GAUTTAM
17	194102201	AAKASH KUMAR
18	194102202	LAKKIMSETTI SUNANDA
19	194102203	BINOY KUMAR PAUL
20	194102204	VELURI ANURAG REDDY
21	194102205	MONASHREE DUTTA
22	194102206	ANURAG DASH
23	194102207	SHILPA KUMARI
24	194102208	SONU KUMAR
25	194102302	ANAL AMOD
26	194102307	HOSUR BALAJI DEVENDRANATH
27	194102308	KARUMURI MEHER ABHIJEET
28	194102309	KOTA YAMINI SUGUNA
29	194102310	MANISH KUMAR
30	194102311	MATHAV RAJ J
31	194102313	MUNDE AKSHAY ASHOK
32	194102316	SHUBHAM ASHOK RATHOD
33	194102318	SIDHARTH NAIR
34	194102320	VIKASH KUMAR
35	194102321	AKSHAY PRAVIN KASAR
36	194102322	BATTAVOYINA BHANUSHANKAR
37	194102323	DILJITH.K.D
38	194102325	RAVI KUMAR SANJAY SANE

39	194102401	ABHINAV KUMAR SINGH
40	194102403	ANUP KUMAR
41	194102404	DANGE VIKRAM DILEEP
42	194102405	HIMANSHU PRAKASH MAHATO
43	194102407	JAYANT BHASKER
44	194102409	MARAKALAKUPPAM ANIL KUMAR
45	194102410	NIKHIL GUPTA
46	194102411	PAWAN KUMAR
47	194102414	RAHUL KUMAR
48	194102417	SAYOOJ
49	194102418	SUMIT KULLU
50	194102419	UJJWAL KUMAR
51	194102421	YERRAMREDDY MYSURA REDDY
52	194102501	ASHUTOSH KUMAR
53	194102502	BHOJNE SACHHITANAND RANGNATH
54	194102503	GANGADARI VARAPRASAD
55	194102506	NIKHIL N
56	194102507	PATEL MEET ASHOKBHAI
57	194102508	SANDEEP JAIN
58	184102315	VISHNU HARIDAS P

**List of students who have fulfilled the requirements for award of Master of Technology in
Mechanical Engineering**

Sl. No.	Roll No.	Name
1	194103007	MAHAMUNI SANKALP UGRASAIN
2	194103008	PRIYAKSHI GOSWAMI
3	194103009	KESHAR KASHYAP
4	194103010	INZAMAM UL HUSSAIN
5	194103012	NEHA KESHARWANI
6	194103013	ARNAB KUMAR DAS
7	194103014	HIDAM NGANTHOIBA SINGH
8	194103106	DEBJYOTI BAKSI
9	194103107	ANIRUDDHA PANJA
10	194103109	DAVE DHARMANSHU JAYESHBHAI
11	194103110	SANTOKI KASHYAP VITHALBHAI
12	194103113	KHIZR MOHAMMAD KHAN
13	194103204	BHAMARE AKASH ASHOK
14	194103214	KARISHMA MITTAL
15	194103216	PRITESH CHHAJED
16	194103217	SATYAM SINHA
17	194103219	SHIVAM AGRAWAL
18	194103220	NISHIBONYA KAKOTI
19	194103222	SHAIK GULSHAN MOHIDDIN
20	194103223	SUKUMAR SONI
21	194103224	RAJESH GORAI
22	194103226	NEERAJ SINGH YADAV
23	194103227	PRITESH BHIMA KAHANDAL
24	194103229	SURAJ GUPTA
25	194103301	AAVIRBHAV SHUKLA
26	194103304	AMITESH BHAGAT
27	194103305	ANIMESH AKHULI
28	194103306	ANUBHAV CHATTERJEE
29	194103307	ANUBHAV JHA
30	194103319	SIRANGU HANUMA VENKATA SATISH
31	194103320	SOURABH PANDA
32	194103321	SRINIBASH SAHU
33	194103323	VIVEK S
34	194103325	TOPIWALA ADIT DHARMESH
35	194103332	UMAPATHI N
36	194103335	K SAMRAT YADAV

37	194103336	RAJASHREE BORAH
38	194103401	ADITYA NEMA
39	194103407	APOORVA MAHESHWARI
40	194103410	DEVORSHI BHATTACHARJEE
41	194103411	FALDU JAY
42	194103419	MAVUDILLI JAGAN
43	194103420	MAYANK KUMAR
44	194103423	NITESH AGARWALA
45	194103425	PATIL MANISHKUMAR MANOJKUMAR
46	194103426	PRASHANT SINGH
47	194103430	SHARMA AKASH VASUDEO
48	194103433	SOURABH KUMAR
49	194103434	THASHREEF P A
50	194103435	TWINKLE MANDAWAT
51	194103436	VISHAL BHARDWAJ
52	194103437	AMAN GUPTA
53	184103405	DHIRAJ KUMAR

List of students who have fulfilled the requirements for award of Master of Technology in Civil Engineering

Sl. No.	Roll No.	Name
1	194104003	PATEL VATSAL DHARMESHKUMAR
2	194104203	JYOTIRMOY SAHA
3	194104204	KALLURU THARUNKUMAR
4	194104205	MEENAKSHI MEENA
5	194104208	ROHIT KUMAR
6	194104210	SUBASH CHANDRA PRUSTY
7	194104213	ROHIT RATHORE
8	194104214	SOURAV KUMAR MANDAL
9	194104215	JISHNU CHOUDHURY
10	194104216	SHASWAT
11	194104218	DEBABRATA THAKUR
12	194104224	VINEET GAJAMER
13	194104225	ANSHUMAN SINGH
14	194104404	CHOVATIYA MITAL PRAFULBHAI
15	194104410	M BHARATH KUMAR
16	194104411	MOHAMMAD IMRAN
17	194104418	SHAILESH GARG
18	194104425	ABDULWAHID KEMAL KEDIR
19	194104427	SUBHA PRASAD NAYAK
20	194104501	ABHINAY PATHAK
21	194104505	ARUN PRATAP SINGH NARWARIA
22	194104508	MOHIT CHUGH
23	194104521	PANKAJ KUMAR SINGH
24	194104523	PADALA BHARGAV RAJU
25	194104612	SADIQ MIRZA
26	164104084	SUBHESIS PATI
27	184104406	BIPLAB MANDAL
28	184104410	DIPAN PRAMANICK
29	184104413	KSANKUPAR LYNGDOH
30	184104414	MANOJ KHETERPAL
31	184104418	SUBHANKAR MUKHERJEE

**List of students who have fulfilled the requirements for award of Master of Technology in
Biotechnology**

Sl. No.	Roll No.	Name
1	194106001	AKRITI AGRAWAL
2	194106002	AKSHITA GUPTA
3	194106003	ALSHA S PRADEEP
4	194106005	ANJALI J
5	194106006	ASWIN.C.B.
6	194106007	ATCHAYA S R
7	194106009	BHAGYASHREE PADHAN
8	194106010	BHARATHEESWARAN M
9	194106011	BHOSALE SMITIN HEMANT
10	194106013	DEVASHREE PATEL
11	194106014	DHILIPHAN MADHAV M C
12	194106017	GAURAV GANGWAR
13	194106018	KALPAJYOTI HAZARIKA
14	194106019	KASHISH SAHIL
15	194106020	LEKHASHREE L K
16	194106022	MOHIT KUMAR
17	194106023	NAKHUL PAI
18	194106024	NISHA SANJAY BARGE
19	194106025	NITESH KUMAR
20	194106027	PRATIKSHA P BHAT
21	194106028	R SIVAKUMAR
22	194106030	RAMYA V
23	194106032	REKSHAND GEHLOT
24	194106033	ROSHIKA KAUSHIK
25	194106035	SACHIN THOMAS
26	194106036	SAKSHI CHAUHAN
27	194106037	SAMVIDHA DAS
28	194106038	SAPTARSHI ROY CHOWDHURY
29	194106039	SAWNA ROY
30	194106040	SELVANAYAKI S
31	194106041	SHREYA BHATTACHARYA
32	194106042	SHWETA PATEL
33	194106043	SHYAM JI
34	194106044	SIBANI JANI
35	194106045	SONALI CHATTERJEE
36	194106046	SOUNDARAM R

37	194106047	SUDIPTA MAHAPATRA
38	194106048	SUJISHA S NAMBIAR
39	194106049	SURAJ SINGH
40	194106050	SUSHOVAN DALUI
41	194106051	SWAGATA DATTA
42	194106052	VEDAM PRUTHVI PAVAN KUMAR

**List of students who have fulfilled the requirements for award of Master of Technology in
Chemical Engineering**

Sl. No.	Roll No.	Name
1	194107001	AKSHAY YADAV
2	194107002	ANSHUMAN SHARMA
3	194107006	DIYA SEN GUPTA
4	194107007	GANESH CHANDRA BARO
5	194107008	KALLOLINI BARUAH
6	194107009	KIRAN KUMARI
7	194107010	KUMAR KARTIKEY SINGH
8	194107011	MANKODI NAVADHA KEYOOR
9	194107012	MILI BANG
10	194107013	MUKUL JHA
11	194107014	RAJAN KUMAR KUJUR
12	194107016	SANJAY PAUL
13	194107021	SUMIT KUMAR
14	194107022	THIMIRISHETTY SWETHA
15	194107026	TESFAY GEBREMIKAEL TEKLEHAIMANOT
16	194107028	SAYAN MANDAL
17	194107029	CHANDRAMANI RAI
18	194107030	AMIT KUMAR PANDEY
19	194107031	ROHAN KUMAR
20	194107032	CHAPPIDI NAVEEN KUMAR
21	194107033	SHIVA WADHWA
22	194107034	JOY SRIMAN SARMAH
23	194107035	SHREYANSHU AGRAWAL
24	194107036	M SAI MARUTI PRASOONA RANI
25	194107103	AKSHAY SAGAR EKKA
26	194107104	ARSHDEEP SINGH
27	194107106	BRIJESH KUMAR
28	194107107	DEEPALI SHARMA
29	194107108	DHARANIKOTA NAGA PHANI SAI KUMAR
30	194107109	DHARMVEER SINGH
31	194107111	HARSHIT YADAV
32	194107113	JAYANT MATHUR
33	194107114	K SAI MADHUKIRAN
34	194107115	KATIKALA SATISH CHANDRA
35	194107124	PRATEEK KUMAR SINGH
36	194107125	RAJNISH KUMAR PANDEY
37	194107126	REDDI RAMU
38	194107127	REEZWAN PARVEZ

39	194107129	SATYAM GARG
40	194107132	VASADI ASWINI
41	194107134	ANGELA TIWARI
42	194107136	SAKSHI MEHRA
43	194107137	SUDDALA CHARISHMA
44	184107004	ARIF ANSARI
45	184107104	AKSHAY TIWARI
46	184107124	SHIVAM GUPTA

List of students who have fulfilled the requirements for award of Master of Technology in Rural Technology

Sl. No.	Roll No.	Name
1	194154003	DUSU GENDA
2	194154007	SATYAM RAJ
3	194154011	VIJAYA
4	194154012	VISHAL BAIRAGI

List of students who have fulfilled the requirements for award of Master of Technology in Data Science

Sl. No.	Roll No.	Name
1	194161001	ARUNAV SAIKIA
2	194161003	BAWANE AKSHAY SHALIKRAM
3	194161005	HARDIK KUMAR PRAJAPATI
4	194161006	JYOTISH SAIKIA
5	194161007	KRISHNAVANDAN PADHYE
6	194161010	PRIYA UNDIRWADE
7	194161012	RISHABH DHAWAN
8	194161013	SAGAR KUMAR
9	194161014	SANDESH
10	194161016	VAJJA SAI KIRAN
11	194161020	ROHIT KUMAR JAIN
12	194161021	HIMANSHU SHEKHAR

List of students who have fulfilled the requirements for award of Master of Technology in Food Science and Technology

Sl. No.	Roll No.	Name
1	194162003	KORGAONKAR PRIYANKA VILAS
2	194162004	MAYANK SHARMA
3	194162005	RUPESH KUMAR
4	194162006	SANJAY RAGHUWANSHI

List of students who have fulfilled the requirements for award of Master of Design

Sl. No.	Roll No.	Name
1.	194205001	ABHISHEK DHAR
2.	194205002	ABHISHEK P
3.	194205003	ADITHYA N G
4.	194205004	ADITI BHATT
5.	194205005	AFRIN IQBAL
6.	194205006	AMAN CHANDRA
7.	194205007	AMEY RAJESH KUNDLEY
8.	194205008	ARBANIABUD MAWTHOH
9.	194205009	ASHISH MATHAI
10.	194205010	AYUSH PRAJAPATI
11.	194205011	BALU MOHAN S
12.	194205012	BHAGYESH PANCHAL
13.	194205013	CHOTALIA FORAM NARENDRA
14.	194205014	DEBASHREE KACHARI
15.	194205015	DEEPIKA NANDA
16.	194205016	GURGENIUS SINGH KAPOOR
17.	194205017	HONEY S NAIR
18.	194205018	MADABATTULA HYNDAVI
19.	194205019	MADHU MOHAN C
20.	194205020	MANESA KRICHENA MAO
21.	194205021	NAIK AKARSHA CHANDRAHAS
22.	194205022	NAYANMANI BRAHMA
23.	194205023	NIHARIKA YADAV
24.	194205024	PATIL PRASHANT BABU
25.	194205025	PATRE ANKUSH DHANRAJ
26.	194205026	PRANAV VENKATESH
27.	194205027	PRANJAL JAIN
28.	194205028	RASHMI KUMARI
29.	194205029	SANTOSH SIVAN
30.	194205030	SHANBHAG ACHYUT ASHOK
31.	194205031	SHIVA SAH
32.	194205032	SREEJA CHOWDHURY
33.	194205033	TEJASVI ARYA
34.	194205034	THAKARE KASTURI DINESH
35.	194205035	BAIAN EL SEBAAY
36.	184205027	RADWA MOHAMED ELHASSANY HASAN

List of students who have fulfilled the requirements for award of Master of Science by Research in Energy

Sl. No.	Roll No.	Name
1	194351001	CHANDRIMA SAHA
2	194351003	DURGA PRASAD SAHOO
3	194351006	MOULI KARMAKAR
4	194351008	RACHEL SONA ISWARY
5	194351013	SUMEE SARMAH

List of students who have fulfilled the requirements for award of PhD/Dual Degree

Sl. No.	Name	Roll No.	Department
1	Ruchika Goyal	146106021	Biosciences and Bioengineering
2	Ruchira Bajpai	11610631	Biosciences and Bioengineering
3	Ashutosh Kumar	166106107	Biosciences and Bioengineering
4	Vimalathithan D.	146106011	Biosciences and Bioengineering
5	Payel Sarkar	126106023	Biosciences and Bioengineering
6	Dixcy Jaba Sheeba J M	146106007	Biosciences and Bioengineering
7	Mayurketan Mukherjee	146106025	Biosciences and Bioengineering
8	Monika Chandravanshi	136106030	Biosciences and Bioengineering
9	Anusua Dhara	156106044	Biosciences and Bioengineering
10	Avishek Roy	156106025	Biosciences and Bioengineering
11	Sooram Banesh	156106009	Biosciences and Bioengineering
12	K. N. R. Yoganand	116106006	Biosciences and Bioengineering
13	Bhuvan Dixit	146106014	Biosciences and Bioengineering
14	Arun S	156106006	Biosciences and Bioengineering
15	Ajay Kumar	126106033	Biosciences and Bioengineering
16	Kiran Kumar Gali	146106041	Biosciences and Bioengineering
17	Dudul Das	156151011	Centre for Energy
18	Swati Shukla	126151004	Centre for Energy
19	Neha Singh	146151015	Centre for Energy
20	Prosenjit Mondal	136151001	Centre for Energy
21	Bidhu Bhusan Makut	156151006	Centre for Energy
22	Sounak Bera	126151009	Centre for Energy
23	Berihu Gebreyohannes Abreha	156151007	Centre for Energy
24	Rishabh Saxena	146151012	Centre for Energy
25	Pavitra Singh	166151001	Centre for Energy
26	Sanjeev Mishra	146151004	Centre for Energy
27	Bibhuti Ranjan Bhattacharjya	146154001	Centre for Rural Technology
28	Biswanath Saha	166154003	Centre for Rural Technology
29	Himali Horo	156152006	Centre for the Environment
30	Arnab Ghosh	156152002	Centre for the Environment
31	Niharika Kashyap	146152011	Centre for the Environment

32	Paulomi Bose	146152005	Centre for the Environment
33	Tanushree Paul	156152001	Centre for the Environment
34	Somen Mondal	156107032	Chemical Engineering
35	K. Dharmalingam	156107026	Chemical Engineering
36	Pradip Das	146107011	Chemical Engineering
37	Abhishek Shukla	136107006	Chemical Engineering
38	Pyarimohan Dehury	156107021	Chemical Engineering
39	Shravan Kumar	146107030	Chemical Engineering
40	Upasana Mahanta	166107001	Chemical Engineering
41	Fahad M K	126107038	Chemical Engineering
42	Kuldeep Roy	156107033	Chemical Engineering
43	Tabli Ghosh	166107020	Chemical Engineering
44	Sushma Chakraborty	156107040	Chemical Engineering
45	Robinson Timung	136107028	Chemical Engineering
46	Ritesh Prakash	156107030	Chemical Engineering
47	A. Vamsi Krishna Reddy	146107034	Chemical Engineering
48	Abdisa Jabesa	136107035	Chemical Engineering
49	Surendra Singh Gaur	156107017	Chemical Engineering
50	Habtom Teklu Asseffa	156107036	Chemical Engineering
51	Harshal Dnyandeo Kawale	166107114	Chemical Engineering
52	Piyal Mondal	156107029	Chemical Engineering
53	Abhik Bhattacharjee	126107019	Chemical Engineering
54	Pavan Krishna Kanchi	136107014	Chemical Engineering
55	Joydip Chaudhuri	156107003	Chemical Engineering
56	Sweta Chetanand Balchandani	166107018	Chemical Engineering
57	Megha Balha	156122029	Chemistry
58	Nilotpal Borah	136122013	Chemistry
59	Munendra Pal Singh	156122020	Chemistry
60	Minati Das	146122004	Chemistry
61	Tousif Hossen	156122043	Chemistry
62	Biswajit Nayak	156122040	Chemistry
63	Dibyangana Parbat	156122001	Chemistry
64	Karabi Roy	156122021	Chemistry
65	Moumita Dutta	156122031	Chemistry
66	Suresh R	146122006	Chemistry
67	Tushar Kanta Sahu	156122009	Chemistry
68	Saikat Pal	156122030	Chemistry
69	Sayanta Sekhar Nag	146122024	Chemistry
70	Bhrigumani Sharma	136104019	Civil Engineering
71	Arya Anuj Jee	136104012	Civil Engineering
72	Pranjal Barman	09610403	Civil Engineering
73	Nishant Sharma	126104007	Civil Engineering
74	Pulendra Dutta	166104038	Civil Engineering
75	Rohini Chhatrapati Kale	156104042	Civil Engineering
76	Prodip Kumar Paul	11610424	Civil Engineering
77	Lewoye Tsegaye	166104045	Civil Engineering
78	Mitali Sahu	126104020	Civil Engineering

79	Arunabha Banerjee	146104010	Civil Engineering
80	Benazir Fatima Ahmed	136104009	Civil Engineering
81	Saswati Ray	156104018	Civil Engineering
82	Partha Das	146104039	Civil Engineering
83	Biswajit Chand	136104013	Civil Engineering
84	Jyotirmoy Haloi	156104044	Civil Engineering
85	Nithin V.L.	136104011	Civil Engineering
86	V. R. Narendra Babu Perumalla	126104009	Civil Engineering
87	Bhagath Parabattina	146101017	Computer Science and Engineering
88	Parikshit Saikia	156101016	Computer Science and Engineering
89	Panthadeep Bhattacharjee	136101011	Computer Science and Engineering
90	Neelakshi Sarma	156101011	Computer Science and Engineering
91	Awnish Kumar	11620104	Computer Science and Engineering
92	Sukanta Dey	146201002	Computer Science and Engineering
93	Nayantara Kotoky	136101010	Computer Science and Engineering
94	Subhrendu Chattopadhyay	146101002	Computer Science and Engineering
95	Achyut Mani Tripathi	136101008	Computer Science and Engineering
96	Arunita Paul	156105002	Design
97	Nilakshi Yein	146105008	Design
98	Sharmistha Banerjee	136105012	Design
99	Arunachalam Muthiah	156105020	Design
100	Indresh Kumar Verma	146105005	Design
101	Shiv Kumar Verma	156105010	Design
102	Suchitra Pyarelal	156105005	Design
103	Mriganka Madhukaiilya	136105005	Design
104	Vimal Kumar Singh Yadav	146102016	Electronics and Electrical Engineering
105	Ganji Sreeram	156102028	Electronics and Electrical Engineering
106	Gautam Rituraj	136102005	Electronics and Electrical Engineering
107	Ashok Kumar Ray	136102024	Electronics and Electrical Engineering
108	Jyoti Prakash Medhi	10610226	Electronics and Electrical Engineering
109	Kaushik Debbarma	146102025	Electronics and Electrical Engineering
110	Sneha Kiran Thombre	10610203	Electronics and Electrical Engineering

111	Prateek Kumar Sharma	156302010	Electronics and Electrical Engineering
112	Hrishikesan V M	156102024	Electronics and Electrical Engineering
113	Robindro Lairenlakpam	126102031	Electronics and Electrical Engineering
114	Kamlesh Badiyari	146102044	Electronics and Electrical Engineering
115	Mrinmoy Bharadwaj	126102008	Electronics and Electrical Engineering
116	Ujwal Deep Kadiyam	136102027	Electronics and Electrical Engineering
117	Suman Roy	126102024	Electronics and Electrical Engineering
118	Resmi N C	10610210	Electronics and Electrical Engineering
119	Amit Kumar Singh	126102013	Electronics and Electrical Engineering
120	Uddipana Dowerah	136102006	Electronics and Electrical Engineering
121	Abhijit Mazumdar	146102019	Electronics and Electrical Engineering
122	Kedarmal Verma	156141012	Humanities and Social Sciences
123	Savio Hollienthang Touthang	146141015	Humanities and Social Sciences
124	Bharat Konwar	136141009	Humanities and Social Sciences
125	Konkumoni Boro	136141014	Humanities and Social Sciences
126	Prerona Baruah	156141003	Humanities and Social Sciences
127	Chandana Deka	146141020	Humanities and Social Sciences
128	Shivali Kashyap	146141023	Humanities and Social Sciences
129	Mizinksa Daimari	136104015	Humanities and Social Sciences
130	Gitashree Tamuly	136141013	Humanities and Social Sciences
131	Leena Dihingia	136141006	Humanities and Social Sciences
132	Namrata Borkotoky	156141002	Humanities and Social Sciences
133	Gautam Singh	156123007	Mathematics
134	Nilanjan Bag	156123024	Mathematics
135	Mohit Tripathi	156123023	Mathematics
136	Jogen Dutta	146123010	Mathematics
137	Abhijit Sarkar	156123013	Mathematics
138	Reshmi Biswas	156123025	Mathematics
139	Sangram Kishor Jena	156123017	Mathematics
140	Somnath Ghosh	156123010	Mathematics
141	Sunil Das	156123011	Mathematics
142	Kiran Saikia	126103010	Mechanical Engineering
143	Shahnawaz Ahmed	136103007	Mechanical Engineering
144	Dipendra Kumar Roy	136103037	Mechanical Engineering
145	Amit Raj	156103044	Mechanical Engineering
146	Maryom Dabi	156103039	Mechanical Engineering
147	Sagar Hanamant Pawar	166103021	Mechanical Engineering

148	Pritam Kumar Rana	146103017	Mechanical Engineering
149	Rajkumar Sarma	156103003	Mechanical Engineering
150	Rajendra Prasad Soni	146103014	Mechanical Engineering
151	Saipraneeth Gouravaraju	146103016	Mechanical Engineering
152	Bhaskarjyoti Sarma	156103041	Mechanical Engineering
153	Sudip Shyam	156103017	Mechanical Engineering
154	Samir Kumar Panda	10610312	Mechanical Engineering
155	Vishal Agrawal	146103021	Mechanical Engineering
156	Avinish Tiwari	156103019	Mechanical Engineering
157	Pankaj Kumar	136103005	Mechanical Engineering
158	Gireesh Sharma. N	166103023	Mechanical Engineering
159	Prabhat Kumar	166103028	Mechanical Engineering
160	Wittison Kamei	126103040	Mechanical Engineering
161	Gurpreet Singh Sodhi	156103007	Mechanical Engineering
162	Nithin Narmada R	146103007	Mechanical Engineering
163	Rahul Narasimhan A	146153002	Centre for Nanotechnology
164	Surjendu Maity	166153003	Centre for Nanotechnology
165	Pulak Talukdar	136121008	Physics
166	Sheuly Ghosh	156121017	Physics
167	Satya Siddhartha Goutam Buddha	146121020	Physics
168	Suman Mondal	166121004	Physics
169	Basabendu Barman	156121033	Physics
170	Krishnanjan Pramanik	136121031	Physics
171	Ogaro Elijah Nyakang'o	166121022	Physics
172	Sreemanti Chakraborti	156121030	Physics
173	Sayandeep Ghosh	166121011	Physics
174	Sumaiya Parveen	156121029	Physics
175	Sourav Chattopadhyay	126121004	Physics

List of PhD/Dual Degree students who have opted to receive final degree certificate after 22nd Convocation and prior to 23rd Convocation

Sl. No.	Name	Roll No.	Department
1	Kamal Kumar Basumatary	136103031	Mechanical Engineering
2	Buddhadev Purohit	166106110	Biosciences & Bioengineering
3	Thainswemong Choudhury	126104024	Civil Engineering
4	Sumantra Chaudhuri	156102019	Electronics and Electrical Engineering
5	Dilip Kumar	156104045	Civil Engineering
6	Abhishek Saha	146122036	Chemistry
7	Venkateswara Rao Naira	146106012	Biosciences & Bioengineering
8	Gobinda Pradhan	146121006	Physics
9	Arul Manikandan N	156107020	Chemical Engineering
10	Abhijit Dilip Lade	176104013	Civil Engineering
11	Tilendra Choudhary	156102016	Electronics and Electrical Engineering
12	Abhijeet Thakur	156106027	Biosciences & Bioengineering
13	Amit Baran Das	136107040	Chemical Engineering
14	Toney Sebastian	156105007	Design
15	Mohit Kumar Joshi	146102002	Electronics & Electrical Engineering
16	Dipankar Mondal	146123013	Mathematics
17	Soutick Nandi	156122053	Chemistry
18	Srijita Paul	156122028	Chemistry
19	Larionette P. L. Mawlong	136153008	Centre for Nanotechnology
20	Naba Kumar Kalita	146107035	Chemical Engineering
21	Barnali Nath	146106006	Biosciences & Bioengineering
22	Sudhir M R	146106040	Biosciences & Bioengineering
23	Prateek Rathore	136102015	Electronics & Electrical Engineering
24	Kallol Mondal	126121017	Physics
25	Jayshree Hazarika	136104016	Civil Engineering
26	Sumit Kumar Rano	156123004	Mathematics
27	Abhijit Gogoi	156103020	Mechanical Engineering
28	Srirupa Bhattacharyya	156106023	Biosciences & Bioengineering
29	Vishnu Venugopal T.	136103004	Mechanical Engineering
30	Bhaben Kalita	146103047	Mechanical Engineering
31	Atma Prakash	176104007	Civil Engineering
32	Gaikwad Harshad Sanjay	166103004	Mechanical Engineering
33	Darpan Mishra	156102009	Electronics and Electrical Engineering
34	Mirza Galib Anwarul Husain Baig	146201003	Computer Science and Engineering
35	Joydip Ghosh	156121015	Physics
36	Dibyajyoti Das	126102009	Electronics & Electrical Engineering
37	Mohammed Modu Aji	176107033	Chemical Engineering
38	Ankit Gangrade	136106016	Biosciences & Bioengineering
39	Ruma Das	156121010	Physics

40	Santanu Ghosh	146122013	Chemistry
41	Satyannarayana Edubilli	126107012	Chemical Engineering
42	Subrata Tikadar	156101028	Computer Science and Engineering
43	Trusna Meher	136102020	Electronics & Electrical Engineering
44	Khushboo Rani	126101001	Computer Science and Engineering
45	Bapi Mandal	146106022	Biosciences & Bioengineering

ADMINISTRATIVE STAFF (GROUP A)

Name	Designation	Department/ Section
Dr. Suresh S. M.	Registrar upto 16.08.2021	Registrar's Office
Prof. A. Srinivasan	Registrar (Interim) from 16.08.2021	Registrar's Office
Mr. Dibya Jyoti Goswami	Joint Registrar	Finance and Accounts
Mr. Dilip Boro	Joint Registrar	Students' Affairs
Mr. Kuntal Bhuyan	Joint Registrar	Stores and Purchase
Mr. Dhruvajyoti Sharma	Joint Registrar	Former Academic
Mr. T Tongkholun Haokip	Joint Registrar	Establishment
Mr. Prakash Hazarika	Joint Registrar	Admn.
Mr. Gunamani Das	Deputy Registrar	EO-Cum-SRC. Additional Charge Of Student Affairs
Mr. Labanu Kishore Konwar	Assistant Registrar	Industrial Interactions and Special Initiatives
Dr. Subhajit Choudhury	Assistant Registrar	R&D
Mr. Pranab Borgohain	Assistant Registrar	Legal & PIO
Mr. Sanjay Mandal	Assistant Registrar	Public Relations, Branding And Ranking
Ms. Monalisa Kakati	Assistant Registrar	Faculty Affairs
Ms. Nandeeta Das Salhotra	Assistant Registrar	Alumni and External Relations
Ms. Amaya Phukan	Assistant Registrar	Director's Office
Mr. Kushal Ch. Das	Assistant Registrar	Admn.
Mr. Dipon Lal Boishya	Assistant Registrar	Finance and Accounts
Mr. Dip Jyoti Dutta	Assistant Registrar	Internal Audit
Mr. A. Wanshai Shynret	Assistant Registrar	Academic Affairs
Dr. Tamal Kr. Guha	Librarian	Central Library
Dr. Ranjit Kr. Rajbangshi	Deputy Librarian	RAM Cell
Dr. Sanjib Kr. Deka	Asst. Librarian	Central Library
Dr. (Mrs.) Mala Borthakur	CMO(SAG)	Medical
Dr. (Mrs.) Leena Barua	CMO(SAG)	Medical
Dr. Anuj Kr. Baruah	CMO(SAG)	Medical
Dr. Surojit Majumdar	Sr. Medical Officer	Medical
Dr. Pallabi Sarmah	Sr. Medical Officer	Medical
Dr. Palash Bortamuly	Medical Officer	Medical
Mr. Nirupam Roy	Additional Supdt. Engg.	Infrastructure Planning & Management
Mr. Aditya Kr. Gogoi	Executive Engineer	Infrastructure Planning & Management
Mr. Srikanta Senapati	Executive Engineer (Elect.)	Infrastructure Planning & Management
Mr. Dibyajyoti Dutta	Exe. Eng. (Civil)	Infrastructure Planning & Management
Mr. Nayan Kr. Sarma	Asst. Exe. Eng. (Civil)	Infrastructure Planning & Management
Mr. Kumud Barman	Asst. Exe. Engineer (Elect.)	Infrastructure Planning & Management
Mr. Bhaskar Choudhury	Asst. Exe. Eng. (Civil)	Infrastructure Planning & Management
Mr. Sunirmal Bhattacharjee	Asst. Exe. Eng. (Civil)	Infrastructure Planning & Management
Mr. Nandan Kanan Das	Asst. Workshop Superintendent	Mechanical Engineering

Ms. Pallabita Barooah Chowdhury	Students' Counsellor	Student Affairs
Ms. Namrata Naomi Rynjah	Students' Counsellor	Student Affairs
Dr. Nesmita Das	Students' Counsellor	Student Affairs

* Prof. A. Srinivasan, Registrar (Interim) is Academic Staff/ Faculty member of the Institute. His term as Registrar (Interim) was from 16.08.2021 to 21.04.2022

TECHNICAL STAFF (GROUP A)

Name	Designation	Department/ Section
Dr. Laxmi Narayan Sharma	Sr. Technical Officer	Electronics and Electrical Engineering
Dr. Sanjib Das	Sr. Technical Officer	Electronics and Electrical Engineering
Dr. Pallav Kr. Dutta	Sr. Technical Officer	Director's Office
Dr. Sidananda Sarma	Technical Officer Gr. I	Physics
Dr. Arun Ch. Borsaikia	Technical Officer Gr. I	Civil Engineering
Dr. Lepakshi Barbora	Technical Officer Gr. I	School of Energy Science and Engineering
Mr. Chandan Borgohain	Technical Officer Gr. I	Central Instruments Facility
Dr. Babulal Das	Technical Officer Gr. I	Chemistry
Mr. Kaustubh Acharyya	Technical Officer Gr. I	Nanotechnology
Dr. Deepmoni Deka	Technical Officer Gr. I	Environment
Ms. Josephine S.	Technical Officer Gr. I	Electronics and Electrical Engineering
Mr. Sanjoy Das	Technical Officer Gr. I	Computer and Communication Centre
Mr. Manab Mohan Borah	Technical Officer Gr. I	Computer and Communication Centre
Dr. Kula Kamal Senapati	Technical Officer Gr. I	Central Instruments Facility
Ms. Jonali Saikia	Technical Officer Gr. I	Civil Engineering
Dr. Rituraj Saikia	Technical Officer Gr. I	Mechanical Engineering
Mr. Jishu Krishna Ghosh	Technical Officer Gr. I	Computer and Communication Centre
Mr. Nanu Alan Kachari	Technical Officer Gr. I	Computer Science and Engineering
Mr. Bhriguraj Borah	Technical Officer Gr. I	Computer Science and Engineering
Mr. Pranjol Paul	Technical Officer Gr. I	Mechanical Engineering
Dr. Madhuriya Pratim Das	Technical Officer Gr. I	Electronics and Electrical Engineering
Mr. Guna Kanta Saikia	Technical Officer Gr. I	Computer and Communication Centre
Ms. Ritumoni Kalita	Technical Officer Gr. I	Chemical Engineering
Dr. Pranjoli Das	Technical Officer Gr. I	Nanotechnology
Mr. Iqbal Inam	Technical Officer Gr. I	Public Relations, Branding and Ranking
Md. Jeherul Islam	Technical Officer Gr. I	Computer and Communication Centre
Mr. Harsaraj Biswanath	Technical Officer Gr. I	Chemical Engineering
Ms. Abhilasha Mohan Baruah	Technical Officer Gr. II	Chemistry
Dr. Dolly Gogoi	Technical Officer Gr. II	Central Instruments Facility
Mr. Kuldeep Kalita	Technical Officer Gr. II	Civil Engineering
Mr. Samarjyoti Kalita	Technical Officer Gr. II	Civil Engineering
Mr. Debarshi Baruah	Technical Officer Gr. II	School of Energy Science and Engineering
Mr. Dhruvajyoti Pathak	Technical Officer Gr. II	Computer and Communication Centre
Mr. Bishnu Tamuli	Technical Officer Gr. II	Design
Dr. Hitesh Sharma	Technical Officer Gr. II	Design

Mr. Pankaj Kumar	Technical Officer Gr.-II	Chemical Engineering
Mr. Basab Bijoy Purkayastha	Technical Officer Gr.-II	Physics
Mr. Aditya Kalita	Technical Officer Gr.-II	Physics
Mr. Paban Bujor Barua	Technical Officer Gr.-II	Electronics and Electrical Engineering
Mr. Gobinda Chhetry	Technical Officer Gr.-II	Nanotechnology
Ms. Sayanika Das	Technical Officer Gr.-II	Nanotechnology
Dr. Dhruvajyoti Bordoloi	Technical Officer Gr.-II	Mechanical Engineering
Mr. Jyotirmoy Kakati	Technical Officer Gr.-II	Mechanical Engineering
Mr. Deepjyoti Saikia	Technical Officer Gr.-II	Computer and Communication Centre
Ms. Aparna Barik	Technical Officer Gr.-II	Computer and Communication Centre
Ms. Lipika Nath	Technical Officer Gr.II	Chemistry
Mr. Utpal Kr. Sarma	Technical Officer Gr.II	Electronics and Electrical Engineering
Mr. Amal Kalita	Technical Officer Gr.II	Mechanical Engineering
Dr. Lukumoni Borah	Technical Officer Gr.II	Chemical Engineering
Mr. Atul Ch. Deka	Technical Officer Gr.II	Physics
Mr. Naba Kr. Thakuria	Technical Officer Gr.II	Computer and Communication Centre
Mr. Romen Ch. Dutta	Asst. Physical Education Officer	Gymkhana
Dr. Diganta Saikia	Asst. Physical Education Officer	Gymkhana

PROGRESS OF CONSTRUCTION WORKS

Sl. No.	Works	Cost of works (in lakhs)	Physical progress		Total progress upto 31.03.2022		Remarks
			Up to 31.03.2021	During 2021-2022	Physical	Financial (in lakhs)	This Year
	Hostel Building						
01	Boys' Hostel 11 (1144 capacity with 34785 sqm floor area)	9665.00 Revised 12719.00	95%	5%	100%	10987.42	The right wing of the hostel has been completed and is under occupation as Girls' hostel to accommodate increasing nos. of Girl students
02	Economically weaker section students' Hostel (500 seater, 11890 sqm)	3897.98	-	5%	5%	176.19	The construction work of the hostel has been started from January 2022. At present site development work and piling works is in progress
	Academic Complex						
03	(Phase – V) DoD, CSE, Physics, Chemical Engg, HSS, Mathematics and Centre for Nano Technology. (19045 sqm floor area)	6944.74 Revised 8575.50	99%	1%	100%	7633.00	The work has been completed
04	Academic Phase VI (6559.00 sqm)	3272.00	18%	17%	35%	919.49	Super structure works upto G+5 has been completed. Finishing works are in progress. The work is expected to be completed by next year
	Residential Building						
05	F-Type (Phase-V) (5186.08 Sqm floor area)	13686.00	28%	40%	68%	7306.47	Superstructure works is completed in Tower 1,2 and 3. Finishing work is in progress. Super structure work of Tower 4 is 80% completed
06	Boundary wall Phase-V (3.9 Km)	2340.79	90%	10%	100%	2101.63	The work has been completed

07	Dormitory for Guest House (2155 sqm floor area)	488.86	95%	5%	100%	411.76	The work has been completed
08	Research Park(19663 sqm floor area)	7500.00	40%	40%	80%	5437.23	The structural framework upto G+8 level has been completed. Effort is made to make the Research block ready by July 2022
09	Data Centre at Central Library Centre for Computer & Communication Centre (CCC) Building	213.94	--	90%	90%	113.40	Tender was floated though e-tendering and the work was allotted. The work is in progress and about to be completed soon

SUMMARY OF INSTITUTE ACCOUNTS