



भारतीय प्रौद्योगिकी संस्थान गुवाहाटी

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

www.iitg.ac.in

ANNUAL REPORT

2022-2023



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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 2024 IIT Guwahati has secured 32nd rank globally (37th in 2023) in the 'Research Citations per Faculty' category. The Institute has gained rank =364 in World University Ranking globally. This marks an improvement of 20 places by the IIT Guwahati, which was ranked 384 in the 2023 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 2023', achieved rank of 9th in the 'Overall' category this year (2023) and in the 'Research Citation' category IIT Guwahati achieved the 9th rank. 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	2021-22	2022-23	Growth Percentage
Student Strength	7430	8163	9.87
Faculty Strength	435	436	0.23
R &D Funds Received (In crores)	478.55	494	3.23
Total Research Publications	2073	2468	19.05

Major R&D Project Received:

Sl. No.	Department/ Centre	Principal Investigator	Project Title	Funding Agency
01	Centre Nano Technology	HOC NANO	SWASTHA Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs	DEITY
02	Chemical Engineering	Mihir Kumar Purkait	JJM Chair Professor	Govt. of India
03	Centre for Sustainable Polymer	Vimal Katiyar	Creation of DSIR-Common Research and technology Development Hub (CRTDH)	DSIR
04	Mechanical	Subramani Kanagaraj	School of Innovations in Biomedical Devices and Systems and Inter-institutional Biodesign Center (SIBDS-IIBC)	DBT
05	Humanities and Social Sciences	Anamika Barua	Water transformation pathways planning, trans-path-planning	IHE Delft

06	Chemical Engineering	Prabu Vairakannu	ULTRASONIC WASHING FOR DESULFURIZATION OF COAL	Central Mine Planning & Design Institute Limited (CMPDI)
07	Biosciences and Bioengineering	Siddhartha Sankar Ghosh	Mechanistic investigation on EMT targeted nanotherapeutics for drug-resistant triple-negative breast cancer cells	DBT
08	School of Agro and Rural Technology	Siddhartha Singha	"Development of pigmented rice based antioxidant-rich traditional and innovative food products as adaptogens for reducing oxidative stress"	DRDO
09	Mechanical Engineering	Sajan Kapil	Multi-Axis Multi-Material Wire Arc Additive Manufacturing	DST
10	Design	Keyur Babulal Sorathia	Design of Educational Metaverse as an extension of Virtual Reality (VR) zone	Guwahati Planetarium Management Society

MAJOR NATIONAL AND INTERNATIONAL CONFERENCES ORGANIZED

Sl. No.	Name Of Conference / Seminar/Workshop	Department/ Centre	Date
01	Indo-Japan Bilateral Symposium (IJBS-2023) on Technologies for Bio Economic Development of NER".	Bioscience & Bioengineering	March 03-04, 2023
02	North East Research Conclave (NERC)-2022; Sustainable Science and Technology	Chemistry	May 20-22, 2022
03	Spring School 2023 Ministry of Education, Culture, Sports, Science and Technology, Japan	Chemical	March 03-04, 2023
04	International Workshop on Scaling Blockchains: From Bitcoin to the Lightning Network	Computer Science	August 23, 2022

05	Research Workshop on 'Problem based Learning' At ICoRD'23	Design	January 11, 2023
06	National Conference on Communications 2023	EEE	February 23-26, 2023
07	ISS Young Researchers' Workshop	Humanities	December 18-19, 2022
08	Annual Foundation School -III (AFS-III)	Maths	June 20-July 16, 2022
09	International Conference on Biomaterials, Regenerative Medicine and Devices (BIO-Remedi 2022).	Mechanical	Dec 15, 2022 -Dec 18, 2022
10	Structured Light and Spin-Orbit Photonics 2022	Physics	November 29 - December 02, 2022



Annual Report 2022-23: A Quick Look

Department/Centre/School	
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Students Admitted	
Preparatory	05
BTech/BDes	999
MTech/MDes	662
MSc/MA	237
PhD	350
MS (R)	36
Dual Degree	05
Total	2294

Student Strength	
Preparatory	05
BTech/BDes	3796
MTech/MDes	1301
MSc/MA	463
PhD	2465
MS (R)	74
Dual Degree	36
Total	8147

Number of degree awarded in 24 th Convocation	
BTech/BDes	697
MTech/MDes	469
MSc	148
MA	31
MS (R)	19
PhD/Dual Degree	256
Total	1620

Staff Strength	
Academic Staff/ Faculty	436
Technical Staff (Group A)	62
Administrative Staff (Group A)	37
Technical & Administrative Staff (Group B&C)	618
Total	1153

Research Papers	
Research Publications	2071
Total	2071

Grants (In Crores)	
Revenue	402.29
Capital	57.44
Total	459.73

Consultancy Projects	
New Projects	285
Total	285

Sponsored Research Projects	
New Projects	137
Total	137

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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 Drone Technology
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
Centre for Sustainable Water Research

EXTRAMURAL CENTRES

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

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School of Agro and Rural Technology
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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 (upto 20.12.2022)

Officiating Director

Prof. Parameswar K. Iyer (From 20.12.2022)

Dy. Director

Prof. Sashindra Kr. Kakoty

Dean, Academic Affairs

Prof. Chitrallekha Mahanta (upto 22.08.2022)

Prof. Kanduru V. Krishna (From 22.08.2022)

Dean, Faculty Affairs

Prof. T. Punniyamurthy

Dean, Research & Development

Prof. Vimal Katiyar

Dean, Students' Affairs

Prof. V. Venkata Dasu (upto 07.10.2022)

Prof. Anamika Barua (from 07.10.2022)

Dean, Infrastructure Planning & Management

Prof. M. K. Bhuyan

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. Rajib Kr. Bhattacharjya

Registrar (Interim)

Prof. A. Srinivasan (upto 21.04.2022)

Registrar

Mr. Pradeep Kr. Ray (from 21.04.2022 to 06.12.2022)

Registrar (In-charge)

Prof. G. Krishnamoorthy (from 06.12.2022)

Head, Department of Biosciences and Bioengineering

Prof. Rakhi Chaturvedi

Head, Department of Chemical Engineering

Prof. Kaustubha Mohanty

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. Sougata Karmakar

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. K. S. R. K. Murthy

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

Centre for Drone Technology

Prof. Pradip Kr. Das (From 07.11.2022)

Head, Centre for Central Instruments Facility

Prof. G. Pugazhenthir

Head, Centre for Environment

Prof. Utpal Bora

Head, Centre for Educational Technology

Prof. Hemant B. Kaushik (upto 02.09.2022)

Prof. T.V. Bharat (From 02.09.2022)

Head, Centre for Nanotechnology

Prof. Akshi Kumar A. S.

Head, Centre for Indian Knowledge System

Prof. Uday Shanker Dixit

Head, Centre for Linguistic Science and Technology

Prof. Rohit Sinha

Head, Centre for Career Development

Prof. Abhishek Kumar (upto 02.11.2022)

Dr. Lalit Mohan Pandey (From 02.11.2022)

Head, Centre for Creativity

Dr. Manoj Majhi

Head, Centre for Sustainable Polymers

Prof. Amit Kumar

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

Prof. Sanjukta Patra

Head, School of Business

Prof. L. Boeing Singh

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

Prof. Ratnajit Bhattacharjee

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

Prof. Dipankar Bandopadhyay

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

Prof. Kaustubha Mohanty (upto
11.07.2022)

Prof. Vaibhav V. Goud (From
11.07.2022)



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 (upto 20.12.2022)

Prof. P.K. Iyer

Officiating Director, IIT Guwahati (from
20.12.2022)

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

Additional Secretary (TE)

Member

Ministry of HRD, Shastri Bhawan
New Delhi

<p>Commissioner & Secretary to the Govt. of Assam Higher Education (Technical) Department Dispur, Guwahati – 781 006</p>	<p>Member Nominee from Govt. of Assam</p>
<p>Shri Neel Prakash Chhetri Proprietor, SIBIN Group Gangtok, Sikkim-737 101</p>	<p>Member Nominee from North Eastern Region</p>
<p>Prof. Tamal Banerjee (from 01.01.2022) Dept. of Chemical Engineering IIT Guwahati 781039</p>	<p>Member Nominees of the Senate</p>
<p>Prof. Pranab Goswami Dept. of Biosciences and Bioengineering IIT Guwahati 781039 (upto 31.12.2022)</p>	<p>Member</p>
<p>Prof. Mohammad Jawed Department of Civil Engineering IIT Guwahati (from 01.01.2023)</p>	
<p>Prof. Ananthkrishnan Srinivasan (from 16.08.2021) Registrar (Interim), IIT Guwahati</p>	<p>Secretary (Ex-officio)</p>
<p>Mr. Pradeep Kr. Ray (from 21.04.2022 to 06.12.2022) Registrar IIT Guwahati</p>	
<p>Prof. G. Krishnamoorthy (from 06.12.2022) Registrar (In-charge), IIT Guwahati</p>	
<p>Prof. Sashindra Kumar Kakoty Deputy Director IIT Guwahati</p>	<p>Special Invitee</p>

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
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	Secretary (Ex-Officio)



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
(Till 20.12.2022)

Prof. P. K. Iyer

Officiating Director
Guwahati-781039

Member
(From 21.12.2022)

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. BIREN DAS

Registrar, Tezpur University, Napaam, Tezpur-784028

Member
(from 28.12.2021)

Registrar

Finance Committee
IIT Guwahati
Guwahati-781039

Secretary
(up to 16.08.2021)

BUILDING & WORKS COMMITTEE

The Director
IIT Guwahati

Chairman

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 2022 saw IIT Guwahati's twenty fourth batch of students taking their degrees in the month of June. 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 2022-23.

ACADEMIC ACTIVITIES

The Institute has 11 Academic Departments, 9 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 Drone Technology
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
Centre for Sustainable Water Research

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 Biosciences and Bioengineering (BSBE), Chemical Engineering (CL), Chemical Science and Technology (CST), Civil Engineering (CE), Computer Science and Engineering (CSE), Data Science and Artificial Intelligence (DSAI), Electronics and Communication Engineering (ECE), Electronics and Electrical Engineering (EEE), Energy Engineering, Engineering Physics (PH), Mathematics and Computing (MC) and Mechanical Engineering (ME);

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

Master of Technology (M.Tech) programmes in Computer Science and Engineering, Electronics and Electrical Engineering, Mechanical Engineering, Civil Engineering, Biotechnology, Bioengineering, Chemical Engineering, Data Science, International M.Tech. in Food Science and Technology (Joint Programme of IITG and Gifu University, Japan), Rural Technology and Robotics and Artificial Intelligence;

Master of Design (M.Des) programme in Design and Electronic Product Design;

Master of Science by Research [MS(R)] programme in Energy Sciences and Engineering, E-Mobility, Disaster Management and Risk Reduction and Polymer Science and Engineering;

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

Master of Arts (MA) programme in Development Studies (DS) and Liberal Arts;

Doctor of Philosophy (PhD) programmes in Biosciences and Bioengineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Design, Electronics and Electrical Engineering, Mechanical Engineering, Humanities and

Social Sciences, Mathematics, Chemistry, Physics, Energy Sciences and Engineering, Environment, Nanotechnology, Linguistic Science and Technology, Agro and Rural Technology, Disaster Management & Research (CDMR), Intelligent Cyber Physical Systems, Sustainable Polymers, Data Science and Artificial Intelligence, Indian Knowledge System and Health Sciences and Technology;

International Joint PhD Degree (JPD) Programme with Gifu University, Japan in Food Science and Technology;

International Joint PhD Degree (JPD) Programme with Gifu University, Japan in Integrated Mechanical Engineering;

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 2022-23 is 2183. Of these, 54.24 % are postgraduate students.

The detailed break up is –

Preparatory Programme: 21

Four-year B.Tech and B.Des: 3860

Batch	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME	DS	EN	Total
Fourth Year (2019 Batch)	61	85	74	111	48	56	102	61	51	69	108	0	0	826
Third Year (2020 Batch)	63	103	85	123	55	51	114	68	57	79	122	0	0	920
Second Year (2021 Batch)	74	106	94	125	59	60	114	68	61	80	115	22	0	978
First Year (2022 Batch)	82	100	90	125	59	53	114	68	60	79	120	33	16	999
From earlier batches														137
Total														3860

Two-year MSc: 314

Batch	CH	MC	PH	Total
Second Year (2021 Batch)	54	33	51	138
First Year (2022 Batch)	59	59	54	172
From earlier batches				4
Total				314

Two-year MA: 92

Batch	HS	Total
Second Year (2021 Batch)	43	43
First Year (2022 Batch)	46	46
From earlier batches		3
Total		92

Two-year M.Tech: 1109

Batch	BT	CE	CL	CS	EE	ME	RT	DS	FST	ICPS	Total
Second Year (2021 Batch)	47	108	59	64	78	94	11	20	5	16	502
First Year (2022 Batch)	43	131	71	68	100	126	10	22	5	20	596
From earlier batches											11
Total											1109

Two-year M.Des: 62

Batch	DD	Total
Second Year (2021 Batch)	29	29
First Year (2022 Batch)	33	33
Total		62

Two-year MS(R): 74

Batch	EN	EM	DM	SP	Total
Second Year (2021 Batch)	15	8	9	-	32
First Year (2022 Batch)	15	9	8	9	41
From earlier batches					1
Total					74

Dual Degree: 05	
(MTech + PhD) in CS	4
[MS(Eng.)+PhD] in EEE	1
Total	5

PhD:

BSBE	CE	CH	CL	CS	DD	EE	EN	EV	HS	MA	ME	NT	PH
42	46	51	13	6	9	34	8	14	10	23	22	6	24
RT	CLST	DS	IKS	SP	HT	CDMR	ICPS	SB					
6	2	7	5	3	6	5	7	10					

The academic session: 2022-2023 commenced from July 2022. 2183 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/School	BTech/ BDes	MSc/ MA	MTech/ MDes	MS(R)	PhD	Dual Degree
Biosciences and Bioengineering (BSBE)	82	-	43	-	42	-
Chemical Engineering (CL)	90	-	71	-	13	-
Chemistry (CH)	-	59	-	-	51	-
Chemical Science & Technology (CT)	59	-	-	-	-	-
Civil Engineering (CE)	100	-	131	-	46	-
Computer Science and Engineering (CS)	125	-	68	-	6	4
Design (DD)	53	-	33	-	9	-
Electronics and Electrical Engineering (EE)	182	-	100	-	34	1
Humanities and Social Sciences (HS)	-	-	-	-	10	-
Mathematics & Computing (MC)	79	59	-	-	23	-
Mechanical Engineering (ME)	120	-	126	-	22	-
Physics (PH)	60	54	-	-	24	-
Energy Science and Engineering (EN)	16	-	-	15	8	-
Environment (EV)	-	-	-	-	14	-
Nanotechnology (NT)	-	-	-	-	6	-
Agro and Rural Technology (RT)	-	-	10	-	6	-
Linguistic Science and Technology (LST)	-	-	-	-	2	-
Data Science (DS)	33	-	22	-	7	-
Food Science and Technology (FST)	-	-	5	-	-	-
E-Mobility (EM)	-	-	-	9	-	-

Department/Centre/School	BTech/ BDes	MSc/ MA	MTech/ MDes	MS(R)	PhD	Dual Degree
Intelligent Cyber Physical Systems (ICPS)	-	-	20	-	-	-
Disaster Management and Research	-	-	-	8	-	-
Indian Knowledge System	-	-	-	-	5	-
Health Science and Technology	-	-	-	-	6	-
Sustainable Polymer	-	-	-	9	3	-
Total	999	172	629	41	337	5

* BTech in Electronics and Communication Engineering: 114, and BTech in Electronics and Electrical Engineering: 68.

Twenty Fourth Convocation

A total of 1620 students received their degrees during the Twenty Fourth Convocation as per the following details:

Course	2022-23
BTech and BDes	697
MTech and MDes	469
MSc	148
MA	31
MS	19
Dual Degree (MTech+PhD)	3
PhD	253
Total	1620

Programme	Nos.
BTech/BDes	697
Biotechnology	44
Chemical Engineering	65
Chemical Science and Technology	41
Civil Engineering	78
Computer Science and Engineering	98
Design	35
Electronics and Communication Engineering	86

Electronics and Electrical Engineering	49
Engineering Physics	49
Mathematics and Computing	65
Mechanical Engineering	87
Total	697

MTech/MDes	469
Biotechnology	36
Chemical Engineering	54
Design	31
Civil Engineering	99
Computer Science and Engineering	71
Electronics and Electrical Engineering	65
Mechanical Engineering	88
Rural Technology	9
Data Science	15
Food Science and Technology	1
Total	469

MSc	148
Chemistry	60
Mathematics and Computing	45
Physics	43
Total	148
MA	31
Development Studies	31
Total	31
MS(R)	19
Centre for Energy	13
E-Mobility	6
Total	19

PhD**	256
Biotechnology	30
Chemical Engineering	21
Civil Engineering	21
Computer Science and Engineering	19
Design	7
Electronics and Communication Engineering	25 (+3 MS + PhD)
Humanities & Social Sciences	12
Physics	16
Mathematics and Computing	14
Mechanical Engineering	22
Rural Technology	3
Centre for Energy	9
Centre for the Environment	12
Centre for Nanotechnology	6
Total	256

MoE-NIRF INDIA RANKINGS

IIT Guwahati has retained the 7th rank among the best engineering institutions of the country in the 'India Rankings 2022' and achieved rank of 8th in the 'Overall' category this year (2022), 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 2022

Top 100 Globally

SDG 7 Affordable and Clean Energy (57th)

Top 200 Globally (First time IITG has been ranked)

SDG 15 Life on Land

Top 200 Globally

SDG 2 Zero Hunger

Top 400 Globally

SDG 8 Decent Work and Economic Growth

SDG 10 Reduced Inequalities

SDG 14 Life Bellow Water

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.

THE BOARD OF GOVERNORS

Prof. Mohammad Jawed, Department of Civil Engineering, IIT Guwahati joined the Board as Senate nominee in January 2023. Prof. Pranab Goswami, Dept. of Biosciences and Bioengineering, IIT Guwahati has completed his tenure as Senate nominee to the BoG in December 2022. On behalf of the Board, I welcome Prof. Jawed to the Board and thank Prof. Goswami for his valuable contributions.

SETTING UP OF NEW SCHOOL/CENTERS

Centre for Sustainable Water Research

The North-East of India is rich in water resources. Amid the plentiful availability of water, there are some states that are having scarcity of water. The Centre for Sustainable Water Research aims in bringing scientific tools to cater the sustainable use of water in the region as well as for the whole country. Modern research methodologies and techniques will be adopted by the Centre for PhD and online M.Tech programs. The courses offered by the Centre can cater the training needs of field engineers in the water sector.

Though the Centre is located in North-East of India, the state-of-art research techniques and courses will be useful nationally and internationally.

International collaborations with various water related universities are also aimed and also forging strong research and teaching relations with the South East Asian countries. The centre will also work on various water and glacial related sponsored research projects and consultancy projects.

The centre will act as the nodal section from IIT Guwahati to host activities related to:

- Brahmaputra River
- Australia India Water Centre
- Jal Jeevan Mission Chair Professor

Centre for Sustainable Polymers

The Centre will strive to provide quality graduate-level education and multidisciplinary research in the field of sustainable polymers, and to become an internationally recognized hub for the development of innovative low-cost sustainable polymer-based technologies and products for engineering, commodity and biomedical applications.

RESEARCH AND DEVELOPMENT

The other component of our 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 Defence Research and Development Organisation (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
1.	Research Collaboration Agreement between National University of Singapore (NUS) and Indian Institute of Technology Guwahati signed on 06.04.2022	The Parties hereto have entered into a Research Collaborative Agreement for the project entitled "Designing Incentives to Improve Tuberculosis Treatment Adherence in Resource Constrained Settings"
2.	Hiring of Services for Collaboration R&D with IIT Guwahati on "Effect of Hydrogen Blending in Natural Gas" signed on 20.04.2022	Contract for Hiring of Services for Collaboration R&D with IIT Guwahati on "Effect of Hydrogen Blending in Natural Gas"
3.	Memorandum of Agreement between DBT and IITG signed on 20.04.2022	This Memorandum of Agreement defines the role and responsibilities of the participating agencies, monitoring and other matters related to the "Development of diagnostic Kits for quick detection of CTV, HLB and Phytophthora rot diseases in Citrus of North East India"
4.	Memorandum of Agreement between DBT and IITG signed on 21.04.2022	This Memorandum of Agreement defines the role and responsibilities of the participating agencies, monitoring and other matters related to the "Development of sustainable agriculture practices for biotic and abiotic stress management in conventional and organic tea plantations"
5.	Agreement between Ritimo Network and Vasundhara Jairath signed on 02.05.2021	To result in the publication of a dossier on Land and Development : trends in Assam
6.	Memorandum of Agreement between DBT and IITG signed on 23.05.2022	This Memorandum of Agreement defines the role and responsibilities of the participating agencies, monitoring and other matters related to the "Design and Development of Biogas Driven Hybrid Solar Dryer for North Eastern Climate Condition"
7.	Research proposal and grant between DBT and IIT Guwahati signed on 30.05.2022	This Memorandum of Agreement defines the role and responsibilities of the participating agencies, monitoring and other matters related to the "Development of diagnostic Kits for quick detection of CTV, HLB and Phytophthora rot diseases in Citrus of North East India"

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 Centre (TIC) and other societies of the Institute.

TRANSFER OF TECHNOLOGY

During the period of 6th June, 2022 – 19th May, 2023, total 02 numbers of technology transfer has been registered.

Sl. No.	Department	Name of Technology	Principal Inventor
01	Chemical Engg.	System and method for activity Identification and Problem Prediction during Oil and Gas Well Drilling.	Dr. Senthilmurugan S.
02	Physics	Free space optical communication system, apparatus and a method thereof	Prof. Bosanta R. Baruah

PATENT APPLICATIONS:

During the period under report, II&SI received total 36 new patent applications and overall, a total of 51 patents were published.

INDIAN PATENT (Granted):

- "Process for the Preparation of Polymer Composite based Cancellous Screws and Pins", 401811, dt. 21-07-2022, Vimal Katiyar, Arbind Prasad, Mamilla Ravi Sankar, Siddharth Mohan Bhasney
- "Self-Aspirated pressurized methanol Cookstove with a Porous Radiant Burner", 399210, dt. 15-06-2022, P. Muthukumar, Pratibha Maurya
- "System and Process for Hydrogen Separation through Metal Hybrid Reactors", 403389, dt. 11-08-2022, P. Muthukumar, Alok Kumar
- "Pentadentate Chelate-based Contrast Agent and a Method for Producing the Same", 407867, dt. 28-09-2022, Chandan Mukherjee, Mahmuda Khannam

- "System, Apparatus and Method for Monitoring of Surface Profile and Thickness Measurement in Thin Films", 403113, dt. 05-08-2022, Bosanta Ranjan Boruah
- "Sachet / Pouch Cutting and Squeezing Apparatus", 415999, dt. 29-12-2022, Guedeep Singh, Abhishek Singh, Sougata Karmakar
- "Peptide-based Water Insoluble Molecular Hydrogel", 417150, dt. 09-01-2023, Debapratim Das, Nilotpal Singha
- "Injection Mouldable Polymeric Composite based Passive Polycentric Knee Joint", 431546, dt. 11-05-2023, S. Arun, S. Kanagaraj
- "An Apparatus for Analysing Breakdown and Pre-Breakdown Phenomena in Liquid-Dielectrics", 432202, dt. 18-05-2023, S. K. Nayak, Ambuj Kumar, Niharika Baruah, Deepak Kanumuri
- "Process for Preparing Nanochitosan aided Starch and Guar gum Biocomposites based Edible Packaging Material", 429655, dt. 21-04-2023, Vimal Katiyar, Tabli Ghosh
- "Stereocomplex Terpolymers and Composites of PLA and PCL, and A Method of Preparation Thereof", 428330, dt. 05-04-2023, Vimal Katiyar, Neha Manojkumar Mulchandani, Yoshiharu Kimura, Shinichi Sakurai, Kazunari Masutani
- "A Chitosan based De-Oiled Green Algae Extract Additivated Edible Packaging Formulation", 420191, dt. 02-02-2023, Vimal Katiyar, Kona Mondal
- "Method of Utilizing CO₂ based Monomer and Polymerization Thereof", 420783, dt. 07-02-2023, Vimal Katiyar, Neha Manojkumar Mulchandani, Yoshiharu Kimura, Shinichi Sakurai, Kazunari Masutani
- "Metal Free Prodigiosin Catalyst for Lactide Polymerization", 419571, dt. 30-01-2023, Vimal Katiyar, Chethana Mudenur, Amit Kumar

MoU and MoA:

A total number of 30 MoU and MoA-s 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	2022	MoU between IITG and Rites Ltd.	Dr. Arunasis Chakraborty, Civil Engg.
02	2022	MoU between IITG and Yes Bank Limited	Prof. G. Krishnamoorthy, Chemistry
03	2022	Research Agreement between TATA Steel & IIT Guwahati	Prof. S. Kanagaraj, Mechanical Engg.
04	2022	MoU Between IIT Guwahati and Assam Survey & Settlement Training Centre, Govt. of Assam	Prof. P.K. Iyer, Dean, PRBR
05	2022	MoU between IITG and TATA ELXI Ltd. (TE)	Dr. Praveen Kumar, Electronics & Electrical Engg.
06	2022	MoU between IITG and Govt. of Andhra Pradesh, Water Resource Department (National Hydrology Project)	Prof. Subasisha Dutta, Civil Engg.
07	2022	MoU between IITG and Arunachal Pradesh State Council for Science & Technology, Itanagar	Dr. Pankaj Kalita, Mechanical Engg.
08	2022	MoU between IIT Guwahati and Eastern Railway	Dr. Anjan Dutta, Civil Engg.
09	2022	MoU (License Agreement) between IITG and Ratna Nidhi Charitable Trust, Mumbai	Prof. S. Kanagaraj, Mechanical Engg.
10	2022	MoU between NWDA (National Water Development Agency) and IITG	Prof. Subashisa Dutta, Civil Engg.
11	2022	Agreement between N.F. Railways and IITG	Prof. T.V. Bharat, Dr. Arindam Dey, Civil Engg.
12	2022	Statement of Intent between IITG and The Automotive Research Association of India (ARAI)	Prof. T.G. Sitharam, Civil Engg.
13	2022	MoU Between OIL India Limited and IITG	Prof. Bishnupada Mandal, Chemical Engg.
14	2022	MoU between IITG and LearnHill Technologies Pvt. Ltd.	Prof. G. Krishnamoorthy, Chemistry
15	2022	MoU between IITG and ALSISAR IMPACT Social Ventures Foundation	Prof. Sanjukta Patra, Biosciences & Bioengineering
16	2022	MoU between IITG and Times Edutech and Events Ltd.	Dean, PRBR
17	2022	MoU between IITG & Brahmaputra Board, Guwahati	Prof. Arup Sarma, Civil Engg.
18	2022	MoU between IITG and Bureau of Energy Efficiency (BEE)	Dr. Sreenath J. G., Prof. Praveen Tripathy, Electronics & Electrical Engg.

19	2022	Research Agreement between IITG and Semiconductor Research Corporation	Dr. Chandan Karfa, CSE
20	2022	MoU between IITG and PGIMER (Post Graduate Institute of Medical Education and Research)	Prof. S. Kanagaraj, Mechanical Engg.
21	2022	MoU between IITG and TIDF-IITG	Dr. Chandan Kumar, Electronics & Electrical Engg.
22	2022	MoU between IITG and TIDF-IITG	Prof. Pankaj Biswas, Mechanical Engg.
23	2022	MoU between IITG and TIDF-IITG	Prof. D. Pamu, Physics
24	2022	Memorandum of Service Agreement between Eli Lilly Services India Pvt. Ltd.	Dr. Ashish Anand, Computer Science & Engg.
25	2022	MoU between IITG and North East Frontier Railway (NFR), Guwahati	Dr. Amit Shelke, Civil Engg.
26	2022	MoU between Transport Dept. & IITG	Dr. Akhilesh Kumar Maurya, Civil Engg.
27	2022	Research Agreement between TATA Steel and IITG	Prof. Swarup Bag, Mechanical Engg.
28	2022	MoU between IITG and Border Security Forces (BSF)	Prof. Roy Paily P., Electronics & Electrical Engg.
29	2022	Coontract Agreement between IITG and Aravali Power Company Pvt. Ltd.	Dr. Amit Shelke, Civil Engg.
30	2022	MoU between IITG and IIT Madras	Dr. Prakash Kotecha, Chemical Engg.

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:

- Double Beam UV-Visible Spectrophotometer (Solid & Liquid) Make: PerkinElmer, Model: Lambda 365+
- Fluorescence Spectrophotometer for Solid and Liquid samples with Phosphorescence Attachment Make: Horiba Instruments, Model: Fluoromax Plus
- Xilinx Zynq Ultrascale MPSoC Development Board
- Computing Node, Make: HPE Model: HPE Proliant DL560 Gen 10
- Complete Nuclear Magnetic Resonance experimental setup, Make: LD Didactic GmbH, Model: P.6.5.3.1
- CHNSO Analyser
- Digital High Pressure Pirani Gauge Control Unit Model-DHPG-222
- Ice Flaker Labman LMIF-30

ALUMNI AND EXTERNAL RELATIONS (AER)

MEMORANDUM OF UNDERSTANDING (MOUs)

The AER office currently handles MoUs for Academic and Research Collaborations with International academic institutions and organizations. At present there are 95 MoU active with institutions and organization from all over the world. During this coronavirus pandemic, IIT Guwahati have signed and renewed MoU with 15 International university/institutes/organizations. The following are the names:

- Institute of Technology Petronas SDN. BHD, Malaysia
- Saint Petersburg Electrotechnical University "LETI", Russia
- L N Gumilyov Eurasian National University, Kazakhstan
- Durham University, UK
- NTT AT, Japan
- Paristech, France
- Kanazawa University, Japan
- Dzonkha Development Council, Bhutan
- London South Bank University, London
- Faculty of Architecture and The Built Environment, TU DELFT, Netherlands
- University of Peradeniya, Sri Lanka
- Berlin School of Technology of the SRH Berlin University of Applied Sciences, Germany
- Max-Planck-Gesellschaft (MAX PLANCK SOCIETY/MAX PLANCK INSTITUTE), Germany
- Aalto University School of Business, Finland
- National Taiwan University of Science and Technology, Taiwan

ON GOING JOINT MASTERS' DEGREE /JOINT Ph.D/DUAL AWARD 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:

1. Joint Academic Program (M Tech) in Food Science and Technology with GIFU University of Japan as the partner
2. Joint PhD Program with GIFU University of Japan in Mechanical Engineering
3. Joint PhD Program in Bio Informatics with Heidelberg University of Germany, BSBE
4. Collaborative PhD Program with Curtin University of Australia in Civil Engineering
5. Collaborative PhD Program with National Institute of Material Science (NIMS) Japan.
6. Joint PhD supervision Program with Shantou University, China
7. Ph.D under Dual Award Program with Western Sydney University, Australia

NTT-AT Japan and IIT Guwahati has decided to strengthen the relationship to accumulate business experience for students and to expand human networks for the future. On 05th May, 2022 NTT-AT Japan and IIT Guwahati signed an MoU, the cooperation is expected to include:

- Exchange of information of the latest technologies
- Exploring the feasibility of joint R&D and
- Internship of IIT Guwahati students at NTT-AT.

The MoU signing ceremony was attended by a team for NTT Advanced Technology, Japan led by President & CEO Dr. George Kimura and Prof. T.G. Sitharam, Director and his team from IIT Guwahati.

Prof. T. G. Sitharam, Director, IIT Guwahati in his speech mentioned the collaboration between NTT-AT Japan and the Indian Institute of Technology Guwahati will accelerate industry-academia collaboration between IIT Guwahati and NTT-AT through information exchange, joint research and human resource exchanges concerning advanced technologies.

Dr. George Kimura, President & CEO, NTT Advanced Technology, Japan remarked that this agreement will help IIT Guwahati students deepen their understanding of NTT's business, fast-track technological development at NTT-AT and diversify corporate culture.

Visit of a delegation from ANU College of Science and the ANU College of Health & Medicine, Australia

The aim of this visit was to give both institutions an opportunity to learn more about each other and explore partnerships across research and education.

A delegation consisted of - Prof Sasha Mikheyev, Associate Dean (International), ANU College of Science, Prof Chennupati Jagadish, Distinguished Professor, ANU Research School of Physics, ANU College of Science. Prof Jagadish is also the incoming President of the Australian Academy of Science and Jay Poria, Head, International Relations and Partnerships, ANU College of Science and ANU College of Health and Medicine

The delegation visited IIT Guwahati on 4th May, 2022. Prof. Sasha delivered a talk on "East meets West: How globalization launched a honeybee disease epidemic" at IIT Guwahati on 5th May, 2022. Additionally, they showed their interest to partner with IIT Guwahati for the ANU Future Research Talent (FRT) program –a competitive and prestigious program that attracts the very best international students from selected high-quality partner Indian institutions and provides them exposure to ANU research across the science, health and medicine disciplines.

Virtual meeting with Australian Government designated Senior Trade and Investment Commissioner for education in South Asia

Dr. Monica Kennedy, Australian Government designated Senior Trade and Investment Commissioner for education in South Asia connected over video conferencing on 21.04.2022 to understand the existing academic and research partnership with the Australian universities. The high-level meeting with the higher management focussed to explore the common interest areas, available scopes in the market, project opportunities to develop partnership with Australian Universities and support from Austrade - South Asia, Australian Government.

The delegation from Australian Trade and Investment Commission (Austrade) included Dr. Monica Kennedy, Senior Trade and Investment Commissioner & Deputy Consul General and Arnab Das, Director Education and Mahnaaz Khan, Director Education.

Establishment Australia-India Water Centre

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 proposed activities within the MoU are to develop longer-term collaboration in water research, capacity building, and knowledge and technology transfer, particularly focusing on water and food security, safe drinking water supplies, river health, water-energy-food nexus, water for liveable cities and other related aspects of mutual benefits to Australia and India.

The MoU signed attempts to establish an understanding of cooperation for the Australia India Water Centre (AIWC) between the parties. The Australia India Water Centre will enable Australian and Indian partners to explore opportunities and create synergy for a longer-term collaboration in research and education between the two countries. In particular, the parties anticipate this will include collaboration in water research, a joint Master's level program in water futures, student and staff exchanges, workshops and conferences, and provide short-term training in the water sector to government agencies and other participants. Following are the partners:

Australia

1. Western Sydney University
2. Queensland University of Technology
3. Flinders University
4. The University of Melbourne
5. University of New South Wales
6. University of Wollongong

India

1. Indian Institute of Technology Guwahati
2. Banaras Hindu University, Varanasi
3. GB Pant University of Agriculture & Technology, Pantnagar
4. Indian Institute of Science, Bangalore
5. Indian Institute of Technology, Kharagpur
6. India Institute of Technology, Roorkee
7. Indian Institute of Information Technology Dharwad
8. Jawaharlal Nehru Technological University, Hyderabad
9. JSS Science and Technology University
10. Maharana Pratap University of Agriculture & Technology, Udaipur
11. National Institute of Technology Karnataka
12. National Institute of Hydrology, Roorkee
13. SV National Institute of Technology, Surat
14. University of Agricultural Sciences, Bangalore

As part of the collaboration, a specific Partnership Agreement for Dual Award and Higher Degree Research with Western Sydney University was signed on 22.11.2022 at New Delhi.

MoU signing ceremony between IITG & Dzonkha Development Council, Bhutan dtd. 26/10/2022

On October 26, 2022, the Centre for Linguistic Science and Technology (CLST) of IIT Guwahati initiated an MoU with the DDC (Dzongkha Development Commission), Bhutan aimed at collaboration in language technology development in Dzongkha, the national language of Bhutan. The meeting was chaired by Prof. Mihir Kumar Purkait, Dean of Alumni and External Relations, Prof. Rohit Sinha, Head, CLST and Prof. Priyankoo Sarmah, Department of HSS of IIT Guwahati.

Program begun with a brief introduction by Prof. Rohit Sinha, Head, CLST followed by remarks of Dean AER then the signing of MoU.

The following members from DDC officiated the MoU signing:

1. Namgay Thinley, Officiating Secretary, DDC.
2. Ugyen Tenzin, Chief Research Officer, DDC.
3. Singye Dorji, Sr. Technical Associate, DDC.
4. Karma Gayley, Lecturer, CST.
5. Karma Wangchuk, Associate Lecturer, CST.
6. Yeshi Jamtsho, Associate Lecturer, CST.

Visit of a delegation of German universities, research institutions and funding organisations led by the DAAD and supported by the German Embassy/Consulate General

A delegation of German universities, research institutions and funding organisations led by the DAAD and supported by the German Embassy/Consulate General visited IIT Guwahati on 15.03.2023. The DAAD (German Academic Exchange Service) is an independent organisation supported by the German government to promote international exchange of students and scholars by the way of funding, networking and various other measures in field of internationalisation. The delegation had an interaction with a few faculty members regarding the developments and opportunities in higher education and research in Germany and to apprise them of cooperation possibilities with German institutions, scholarships and funding opportunities.

The delegation consisted of:

- Dr Vaibhav Agarwal, Deputy Director, German Research Foundation (DFG), New Delhi
- Anuroopa Dixit, Programme Officer, German Academic Exchange Service (DAAD) , New Delhi
- Aditi Gosavi, Senior Advisor – Communication, German Academic Exchange Service (DAAD), New Delhi

Visit of a delegation from Tsukuba University, Japan

A delegation from Tsukuba University, Japan visited IIT Guwahati on 23.03.2023 with the purpose to explore the possibility of a partnership with the Indian Institute of Technology Guwahati and build a strong relationship between the respective institutions. The delegation consisted of the following members from University of Tsukuba:

- Dr. Osamu Ohneda, Professor, Faculty of Medicine, Laboratory of Regenerative Medicine and Stem Cell Biology, University of Tsukuba
- Professor Sakurai Takeaki (Pure and Applied Sciences)
- Assistant Professor Mizuho Fukushige, Faculty of Medicine, University of Tsukuba

As part of the potential partnership, they mainly explored the possibility of using the "Sakura science" program to facilitate student exchanges based on each of the institute's mutual needs, specifically in terms of student mobility.

Visit of Dean, Alumni & External Relations, IIT Guwahati to Sherubtse College, Royal University of Bhutan, Bhutan on 15.03.2023

Prof. Mihir Kumar Purkait, Dean of Alumni and External Relations visited Sherubtse College from 17 - 18 March, 2023 on invitation of the college management. During the visit, Prof. Purkait met with the President, Deans, Heads of Departments and Center Coordinators to discuss on further strengthening the institutional collaborations which has been hampered by the pandemic. Sherubtse and IIT, Guwahati has signed a Memorandum of Understanding in 2019. Some of the activities carried out between the two institutes includes: students and faculty exchange programs, professional development for faculties, external examiners etc. At present, two faculties from Sherubtse College are undergoing PhD studies at IIT, Guwahati funded by RGOB. Going forward, the two institutes agreed to strengthen student internship programmes, access to central instrumentation facilities for research, joint research projects, and assist in upskilling the faculties of Data Science amongst others.

Dr. Mihir Kumar also delivered a talk to the third year students on "Opportunity for Higher studies in IIT, Guwahati".

Memorandum of Understanding signed with NTUST, Taiwan

IIT Guwahati signed MoU with National Taiwan University of Science & Technology, Taiwan yesterday. The MoU was signed for the purpose of Research Collaboration, Student & Faculty Exchange.

Prof. Jeng Ywan Jeng (Faculty Coordinator, NTUST), Distinguished Professor, National Taiwan University of Science and Technology, Taiwan, Dr. George J Gau, CEO Mesoview, Taiwan, Prof. Mihir Kumar Purkait, Dean, AER, IIT Guwahati, Prof. Sougata Karmakar, Head, Dept. of Design, IIT Guwahati and Dr. Ajeet Kumar, Faculty Coordinator, IIT Guwahati were present during the occasion.



THE FOLLOWING ARE THE LIST OF FULL TIME/EXCHANGE FOREIGN STUDENT REGISTERED IN IIT GUWAHATI IN 2022-23 (INBOUND):

The year 2022-23 saw a steep drop in students' mobility, all over the world, due to the Pandemic. There were some 11 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.	ABINASH KUMAR RAY	NEPAL	M.Tech	CSE
2.	MIHRETAB MADAMO	Ethiopia	Ph.D	Civil Engineering
3.	SATYENDU NANDY	BANGLADESH	M.Tech	BSBE
4.	MARIO VALENTINUS POLUAKAN	INDONESIAN	Ph.D	HSS
5.	ASHAGRIE MEKURIAW KEMIE	Ethiopia	Ph.D	EEE
6.	ADINO WORKU AYELE	Ethiopia	Ph.D	EEE
7.	Felix Leon Giglberger	GERMANY	B.Tech.	Civil
8.	Paul Ole pasch	GERMANY	B.Tech.	Mechanical
9.	Jorge Fernandez Maldonado	SPAIN	B.Tech.	Mechanical
10.	Irene Pascual Heranz Bronchalo	SPAIN	B.Tech.	Mechanical
11.	DAVID DALLAL	PORTUGAL	Ph.D (Part time studentship)	Design

*32 nos. of students from Hanyang University, Erica, South Korea visited for Winter School, 2023 from 18 January, 2023 – 28 February, 2023.

SEMESTER EXCHANGE / RESEARCH INTERNSHIPS WITH PARTNER UNIVERSITIES (OUTBOUND):

IIT Guwahati has signed MoU for Collaborative Programme with various Universities/ Institutes across the world. Even during the pandemic, students from IIT Guwahati were selected for exchange/research internship with prestigious International University/Institute. As many as 39 students were selected for such programme.

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 25 faculty members.

REWIND (Certificate distribution Ceremony) FOR THE CLASS OF 2020 AND 2021.

On December 12, 2022, the Institute, in collaboration with Alumni & External Relations and SAIL (Students Alumni Interaction Linkage), held a Graduation Ceremony for the batch of 2020 and 2021

The ceremony began with the Institute Anthem, followed by the formal opening of the ceremony with the lighting of the lamp and the invocation song.

The event was chaired by Prof. T.G. Sitharam, Director, IIT Guwahati, Prof. Shashindra Kakoty, Deputy Director); Prof G. Krishnamoorthy, Registrar-in-charge; Prof. K.V. Krishna, Dean of Academic Affairs; Prof. Anamika Barua, Dean of Students' Affairs; Prof. Hemangee K Kapoor, Associate Dean of AER and the Heads of Department, Head of Academic Centre, Head of Schools.

Prof. Mihir Kumar Purkait, Dean of AER, briefed the audience on the programme, which was followed by the Director's address. The Dean of Academic Affairs delivered the keynote address at the Certificate Distribution ceremony. The graduates were presented with certificates by the Director and Deputy Director. During the degree handover session, photographs were taken.

Medals were presented to the winners by the Registrar-in-Charge, followed by a photo session.

ALUMNI AWARD CEREMONY

As soon as the Certificate Distribution ceremony concluded, the Director announced the winners of the Alumni Award 2022.

Winner for 2022 were

In Young Alumni Achiever Award category:

- i. Ms. Richa Singh, Co-Founder and CEO, YourDOST
- ii. Dr. Deepjyoti Deka, Senior Scientist, Los Alamos National Laboratory, USA

In Distinguished Alumni Award category:

- i. Prof. Vishal Monga, Professor, School of Electrical Engineering and Computer Science, Pennsylvania State University, USA
- ii. Prof. Jitesh H. Panchal, Professor of Mechanical Engineering, Purdue University, West Lafayette, IN

All of the winners were unable to attend the event, but they sent their recorded addresses, which were played after their names were announced. Dr. Deepjyoti Deka and Prof. Jitesh H Panchal were in attendance to accept their awards from the Director. Awards were presented to them which consists of a Fulaam Gamosa, Edi Chador, a plaque and a certificate. They were accompanied by their families to the event. The winners also shared their memories and experiences with their Alma Mater.

IIT GUWAHATI ALUMNI ASSOCIATION (IITGAA)

All new office bearers of the IIT Guwahati Alumni Association were welcomed and addressed by the Institute. The IITGAA team was represented by Mr. Hridesh Kumar Shrotriya, Vice President, and Mr. Neeraj Kumar, Executive Member. Director congratulated them with a fulaam gamosa.

Ms. Khushi Karnani, General Secretary of SAIL, addressed the audience and expressed her appreciation. Prof. Hemangee K Kapoor, Associate Dean of AER, delivered the vote of thanks, and the National Anthem was played.

INFRASTRUCTURE DEVELOPMENT IN THE INSTITUTE

The following are ongoing projects in the Campus:

1. Expansion of Academic Complex Phase-VI:

All the structural work of the building has been completed except the roof of B-block which is a CGI sheet roofing. 90% of plastering work, POP, flooring and internal electrification has been completed. The Air conditioning work, Ceiling work, external plastering work, door and window fixing work and site development works are going on. The building is expected to be completed by 31.07.2023.

2. 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 85%. The schedule date of completion of the towers is September 2023. Work of one tower has been completed and under occupation since December 2022. Work of another tower is expected to be completed in April 2023. On the remaining two towers finishing works are in progress. It is expected to be ready by September 2023.

3. 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 ₹7500.00 lakhs for the construction of the Research Park at IITG. The building was planned with total built up area of 19663.00 sqm consisting of one Research Block of G+ 9 floors and an Office block of G+7 floors.

With the allocated found works of construction of Research Park upto G+8 storey and office block upto G+7 storey has been competed with complete external finishes. However, internal finishing of G+5 storey in half part of the Research Block and only ground floor of the office block has been completed. The work has been completed in December 2022. Few companies including one from healthcare

sector M/s Karkinos Hearth care have started their office and laboratory in the building.

4. Economically weaker section Students' Hostel:

As the nos. of Girls' students are increasing, the Institute decided to construct a 500 seater Girls' students, later renamed as Economically Weaker Section hostel. After inviting tender, the work was allotted at ` 38,97,97,997.00 and construction work has been started from January 2022. The Hostel is G +3 building consisting of two blocks namely Block A consisting of 250 double seater room, Office, warden room, Visitors room etc. and Block B is consisting of Dining Hall, Kitchen, pantry, Food Court, Reading room, Games Room, Activity room etc. Considering urgency, it is proposed to hand over 134 rooms by July 2023 and whole hostel is expected to be completed by January 2024.

5. 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 11/ 0.433 KV 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.

6. 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 (1350TR capacity) is an energy efficient AC system installed in buildings like NEW SAC, new guest house, Research building, Research Park 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 as per the new guidelines.

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.

7. 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 completed on 20th May 2022 and was inaugurated by Hon'ble President of India on 13.10.2022. Since then Centre is running successfully.

8. SAMEER Building:

The draft MoU received from the Society for Applied Microwave Electronics and Research(SAMEER) is under the finalization state from the Institute.

The design, drawing and estimate of the SAMEER building was approved by 91st meeting of B&WC held on 18.07.2022. The same was sent for Administrative approval to SAMEER. However, they requested to modify the earlier conceptual design and drawing. Accordingly, Architect has been intimated to modify the conceptual drawing and SAMEER has also approved the modified drawing. Now the Architect is ordered to submit the design drawing and estimate of the new assignment. The same will be placed in the coming B&WC for approval to execute the work.

9. Bio Science & Bio Engineering (BSBE) Building:

The proposed BSBE building is G+5 storied of area 12,500 sqm of value ` 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. The work was allotted after tendering. After completion of initial pile load test the work was started by the contractor in February 2023. However, at present site hindrance arisen due to the underneath isolated rock boulders at 4.5 m causing difficulty is piling work. Now, proposal for redesigning of the building as G+9 storey as under consideration.

10. Core Laboratory for 1st yearities:

This work will be of value ` 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

The work has been allotted after tendering with scheduled time for completion of 18 months. The contractor has started the piling work for the building. Due to

proximity to existing Academic Complex the work could be executed at night shift only to minimize disturbance in Academic / Research activities.

11. International students' Hostel:

This hostel is of G+2 of an approximate area of 3310 sqm and value is ` 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 work has been awarded to M/s Ganapati Construction Company, Guwahati-781001 vide LOI no. IITG/IPM/CAP/FY22-23/LOI/16 dated 09.12.2022. The work is now on progress and 70% of foundation work has been completed.

12. Extension of Mechanical Department:

With the approval from competent authority, the work was allotted to M/S TRICON, Guwahati- 781028 after evaluation of tenders. The contractor has started the work from November'2022. Structural work of one floor is completed and in the other floor about 30% completed. Brickwork in one floor is completed. Scheduled date of completion for the work is April'2024.

13. 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. The schedule date of completion is 11.09.2023.

Work of New SAC building is in progress and effort is being made to complete the work by July 2023.

For the work of classroom complex, MOU has been signed between IITG APWD (B&NH) to complete the finishing work including augmentation HVAC, Electrical and Audio Visual system.

14. 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

Selection of Architect for the project has been completed and the conceptual drawing has been submitted by the consultant and is under finalization by the stockholders It is planned to start the construction work by October 2023.

STUDENTS ACTIVITIES

Students' Affairs umbrellas several subdivisions that deal with student extracurricular activities, including technical, sports and cultural boards, and subdivisions like the Welfare Board and the Hostel Affairs Board that ensure the overall well-being and holistic development of a student. While academics make up a crucial part of a student's college life, several other integral factors contribute to a student's success and well-being. These subdivisions of Students' Affairs ensure that no stone is left unturned in this aspect and that a student's life outside academics is as fulfilling, enriching and comfortable as possible. Some of the major Cultural events held in the reporting year are:

ALCHERINGA '23

Alcheringa, the annual cultural festival of IIT Guwahati, began in 1996 and is held over three days and four nights. The theme for this edition was "Pledge to Persist," focusing on rebuilding the festival after a period of hybrid and online modes. Alcheringa aimed to revive the fest's enthusiasm, hype, and stature by reminiscing its pre-lockdown traditions.

During Alcheringa 2023, IIT Guwahati's cultural festival, social initiatives included promoting the culture of North East India, addressing social issues through the North East Social Summit, showcasing traditional practices in the North East Expo, promoting communal peace with the Aikyam campaign, addressing climate change through Project Prithvi, and engaging with underprivileged children through the Udaan initiative. These initiatives aimed to foster cultural appreciation, social innovation, environmental consciousness, and inclusive development.

Alcheringa 2023 featured various exciting events, including the popular Creators' Camp that promoted content creation and hosted notable panels. Flickeringa offered informal activities like break dance and photo booths, while Pronites showcased diverse performances.

SPIC MACAY

SPIC MACAY stands for the Society for the Promotion of Indian Classical Music and Culture Amongst Youth. It aims to promote Indian classical music, dance, and culture among the youth. This year, SPIC MACAY organizes events such as concerts, workshops, lectures, and demonstrations by renowned artists and experts. Through these activities, SPIC MACAY seeks to create awareness and appreciation for the rich heritage and traditions of Indian classical arts among young people, providing opportunities for students to learn and engage with Indian classical music and culture. The enchanting Indian music, dance, and arts festival, Virasat, commenced on February 16, 2023, captivating a multitude of enthusiasts over four days. The celebration began with a mesmerizing performance by Dr. Jayanthi Kumaresh, accompanied by Shri Kulur Jayachandra Rao on the Mridangam and Shri Pramath Kiran on the Morching. Dr. Kumaresh showcased her artistry through diverse compositions, including an invocation to Lord Shiva and captivating ragams. The audience was captivated by the virtuosity of the artists, and a lively interactive session deepened the connection. Pandit Vinayak Torvi, a veteran Hindustani vocalist, graced the second day, enthraling the audience with his mastery over Raga. On the penultimate day, Ms. Arushi Mudgal, a leading Odissi dancer, enchanted the crowd with her performance, accompanied by talented musicians and vocalists. The festival concluded with a breathtaking Purulia Chhau nritya performance and an enthralling

display of the Vallabhatta Kalari Kerala martial arts. The artists were felicitated, and the memories of Virasat 2023 will endure forever.

FACULTY AND STAFF

The regular faculty strength at the end of March 2023 was 436, with strength of Visiting/ Honorary faculty being 70+. The number of non-teaching staff at the end of March 2022 was 717.

INSTITUTE EXPENDITURE

The details of expenditure including utilization of unspent balance & Internal Resources on Capital Account during the year 2022-23 (provisional) are as follow (in crores):

Revenue expenditure	: ₹398.73 crore
Capital expenditure	: ₹ 69.83 crore
R&D & II&SI	: ₹176.33 crore
Total Expenditure	: ₹644.89 crore

CAMPUS PLACEMENT

The placement scenario of IIT Guwahati for the year 2022-23 has been impressive so far. A total of 246 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 campus placement in the year 2022-23 is 1426 students.

Academic Programme	No. of students placed	% of students placed
B.Tech and B.Des	634	82.44
M.Tech and M.Des	341	71.04
M.Sc.(Phy., Chem.,Mathematics)	62	58.49
M.A.	35	85.37
MSR (Energy + Emobility)	12	40.00
Overall placement of all programs	1084	76.02

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 the Environment
Centre for Indian Knowledge Systems
Centre for Nanotechnology
Centre for Sustainable Polymers

EXTRAMURAL CENTERES

Central Instruments Facility
Lakshminath Bezbaroa Central Library
Centre for Career Development

SCHOOLS

School of Agro and Rural Technology
School of Buisness
School of Energy Science and Engineering
School of Health Science and Technology

Biosciences and Bioengineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 2002

ACADEMIC PROGRAMMES OFFERED: B. Tech., M. Tech., Ph.D.

LABORATORY FACILITIES:

MAB (Mechanistic Approaches to Biology) Laboratory (Prof. 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 vigour for improved plant yield, (iii) Triploid plant production to develop seedless variety, (iv) Somatic embryogenesis for synthetic seed production, (v) Protoplast isolation and regeneration for single cell cloning and isolation of mutants, (vi) Cytological and Histological studies of in vitro raised cultures to understand their ploidy, development and origin (vii) Cell biomass production in shake-flask for screening, characterization and quantification of medicinally and commercially useful plant metabolites and their scale-up in photo-bioreactors

Biophysical Chemistry Laboratory (Prof. 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 (Prof. 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: The laboratory focuses towards delineating the interconnected molecular pathways involving EMT and MDR as a potential therapeutic strategy to obliterate aggressive malignancies. We have ventured into activated signaling pathways, such as the Wnt and Notch signaling pathways and are exploring the use of gene therapy, protein therapy, SMIs, exosomes and membrane-derived nanovesicles as candidate therapeutic molecules that could be applied to target these pathways, along with the combination of rational therapeutic modalities. The lab has also set up infrastructure facilities for interdisciplinary collaborative research in the field of nanoscience and nanotechnology supported by extramural funding at IIT Guwahati. The major area is to develop new nanoparticles, nanocomposites and nanocarriers and evaluate their antimicrobial and anticancer activities

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 (Prof. 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 (Prof. 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 (Prof. 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: The research group is primarily focused on exploring the chemistry-biology interface and develop rationally designed synthetic amphiphiles and small molecule ligands as antibacterial. The group's Research is based on an interdisciplinary approach and a major endeavor is to generate antibacterial-loaded biocompatible nanocarriers having therapeutic prospects against drug-resistant pathogenic bacteria.

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 biomolecular interactions using computational methods (Molecular Dynamics Simulations, Electronic Structure Calculations etc). We are interested in understanding the speed and accuracy in biological processes. Current projects include studies of antimicrobial-peptide: membrane interactions, drug discovery against *Mycobacterium tuberculosis*, the accuracy of CRISPR-Cas9 editing, transcription factors, Quorum sensing inhibitors or *S. mutans* etc.

Bio Process Analytical Technology (BioPAT) Laboratory (Prof. 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 (Prof. 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 several computational courses of UG and PG classes such Bioinformatics, Computational Biology, Quantitative Biology, Biological Data analysis etc.

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:

- Gel doc System; Make: Amersham; Model: Image Quant 500
- Water Purification system; Make: Thermo Fisher Scientific; Model: Barnstead™ Smart2Pure™
- Laser Projector; Make: Optoma Corporation; Model: Optoma ZW350
- Laptop PC; Make: Dell; Model: Vostro 3515 Laptop
- Rotary Evaporator; Make: Allied Scientific; Model: ASP-PBU6D (R160)
- Rotary Evaporator; Make: Allied Scientific; Model: ASP-PBU6D (R160)
- Frost Free Refrigerator; Make: Samsung; Model: RS72R5011SL
- Sonicator; Make: PCI Analytics Pvt. Ltd.; Model: PKS-750F
- Shaking incubator; Make: Scigenics; Model: Orbitek-LE (Part no: LE-TT-D)
- Analytical HPLC; Make: Shimadzu; Model: LC-20AD
- Multimode Microplate reader; Make: Thermo Fisher Scientific; Model: Varioskan™ LUX
- -80 Ultra Low Temperature Freezer; Make: Haier Biomedical; Model: DW-86L486E
- Muffle furnace; Make: AntsInnovations; Model: ANTS-1200 MF 4.51
- Laminar Hood; Make: ICT; Model: HSNC-9801
- pH Meter; Make: Mettler-Toledo; Model: FP20
- pH Meter; Make: Mettler-Toledo; Model: FP20
- 3-D Printer; Make: Adroitec; Model: 4DS Smart One
- LED Displays; Make: Panasonic; Model: LH-65AN6ND
- LED Displays; Make: Panasonic; Model: LH-65AN6ND
- Digital Podium; Make: Globus; Model: GEL 203
- Prof. Arun Goyal: Real-Time PCR systems, Refrigerated centrifuge and -80 °C freezer.
- Prof. Manish Kumar: Tecan Infinite M Plex
- Dr. Shirisha Nagotu: Fluorescent plate reader – Tecan Infinite M Nano Plus
- Prof Lingaraj Sahoo: Gel Documentation System, Leaf Spectrophotometer, Real Time PCR
- Prof. Senthilkumar Sivaprakasam: Laminar Air Flow system, -20 degree freezer

- Dr. Lalit Mohan Pandey: FLUOstar Omega multiplate reader, Spinning Drop Tensiometer
- Prof. Biman B. Mandal: Zeiss AxioObserver Apotome 3 Microscope

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:

Prof. Utpal Bora:

- Kabiraj, D., Chetia, H., Nath, A., Sharma, P., Mosahari, P. V., Singh, D., Dutta, P., Neog, K. and Bora, U. (2022) Mitogenome-wise codon usage pattern from comparative analysis of the first mitogenome of *Blepharipa* sp. (*Muga* uzifly) with other Oestroid flies. *Scientific Reports* 12, 7028. <https://doi.org/10.1038/s41598-022-10547-8>
- Kalita, J. J., Sharma, P. and Bora, U. (2023). Recent developments in application of nucleic acid aptamer in food safety. *Food Control* 145, 109406. <https://doi.org/10.1016/j.foodcont.2022.109406>.

- Das, A. K., Kalita, J. J., Borah, M., Bora, S., Sharma, M., Saharia D., Sarma, K. K., Das, D. & Bora, U (2023). Papaya latex mediated synthesis of prism-shaped proteolytic gold nanozymes. [Accepted in March, 2023 to be published in Scientific Reports]

Prof. Rakhi Chaturvedi:

- Pandey D M, **Chaturvedi R.**, & Singh A K 2023. Developing Stress Resilient Crops, Improving Agri-Food Industry and Healthcare Products. J. Biotechnol., S0168-1656 (DOI: <https://doi.org/10.1016/j.jbiotec.2023.01.001>) [Publisher: Elsevier].
- Bajpai, R. and **Chaturvedi R.***. 2022. In vitro production of doubled haploid plants in *Camellia* spp. and assessment of homozygosity using microsatellite markers. J. Biotech. 361: 89-98. (DOI:10.1016/j.jbiotec.2022.11.019) [Publisher: Elsevier].
- Adak R, Pachauri K K, **Chaturvedi R.***. (October 2022), Indigenous Bioresources of NER, YOJANA-Our Ecosystem (A development monthly), Page No: 33-36.
- Srivastava V. and **Chaturvedi R.***. 2022. An interdisciplinary approach towards sustainable and higher steviol glycoside production from in vitro cultures of *Stevia rebaudiana*. J. Biotech. 358: 76-91. (DOI: 10.1016/j.jbiotec.2022.08.018) [Publisher: Elsevier].

Prof. Arun Goyal:

- Multifunctionality and mechanism of processivity of family GH5 endoglucanase, RfGH5_4 from *Ruminococcus flavefaciens* on lignocellulosic polymers.
- Rhamnogalacturonan acetyltransferase (*CtPae12B*), a family 12 carbohydrate esterase from *Clostridium thermocellum* with broad substrate specificity and its thermotolerance & pH stability.
- Computational design and structure dynamics analysis of bi-functional chimera of endoxylanase from *Clostridium thermocellum* and xylosidase from *Bacteroides ovatus*.
- Molecular dynamics based structural insights of the first putative endoglucanase, PsGH5FL of glycoside hydrolase family 5 from *Pseudopedobacter saltans*.
- Role of associated carbohydrate binding modules, CBM3A and CBM3B in stability and orchestrating the catalysis by an β -1,4 endoglucanase, ArGH9C-CBM3A-CBM3B from *Acetivibrio thermocellus* ATCC 27405

Prof. Pranab Goswami:

- Biosensors & Biofuel cell lab: A new paper-based microfluidic device (μ PAD) enzymatic biosensor for methanol detection on a combined silk fibroin film-paper platform has been developed. The silk-fibroin film acted as enzyme stabilizing material and optical signal transducer. The advantage of the device comprises improved shelf-life of the enzymes, sharp color change as a response signal for methanol, and reduced coffee-ring effect on the detection zone. The work has been published in: Biosensors and Bioelectronics: X (2022) Doi.org/10.1016/j.biosx.2022.100147

Dr. Navin Gupta:

- Initial results on Integration of camera data with brain signals on a smartphone achieved by Neural Engineering lab. Work presented in two reputed conferences below
- D. Hazarika, S. Chanda and C. N. Gupta, "Smartphone-Based Natural Environment Electroencephalogram Experimentation-Opportunities and Challenges," *2022 IEEE-EMBS Conference on Biomedical Engineering and Sciences (IECBES)*, Kuala Lumpur, Malaysia, 2022, pp. 370-375, doi: 10.1109/IECBES54088.2022.10079412.
- D.Hazarika, S.Madhavan and C.N.Gupta, "CameraEEG: Synchronized Recording of Video with Electroencephalogram data on an Android App for Neuroergonomics Applications," 4th IEEE Conference on Architecture, Construction and Environment, Dec 2022, Taiwan [In Press].
- Initial results on brain connectivity of subgroups for parkinsons patients from structural MRI achieved.
Work accepted/under review with journals of repute as below
- T.Samantaray, J.Saini, C.N.Gupta, "Subgrouping and structural brain connectivity of Parkinson's disease – past studies and future directions," *Neuroscience Informatics*, vol.2, issue 4,2022.
- T.Samantaray, J.Saini, C.N.Gupta, "Brain Connectivity of Parkinson Subgroups using Structural MRI," (Under Review with *Frontiers in Human Neuroscience*)

Prof. Manish Kumar:

- Experimentally redefined the repeat-spacer composition of type I-B CRISPR loci in *Leptospira interrogans* serovar Lai
- Deciphered the functional PAM sequence for DNA interference by type I-B CRISPR-Cas system of *Leptospira*
- Reported the structural and functional characterization of Cas2c protein encoded from an array lacking CRISPR-Cas locus in *Leptospira*

Prof. Sachin Kumar:

- Buragohain L, Barman NN, Sen S, Bharali A, Dutta B, Choudhury B, Suresh KP, Gaurav S, Kumar R, Ali S, Kumar S, Malik YS [2023] Transmission of African Swine Fever Virus to the Wild Boars of Northeast India, *Veterinary Quarterly*.
- Singh K, Mehta D, Dumka S, Singh AK, Kumar S* [2023] Quasi Species nature of RNA viruses: lessons from the past. *Vaccines*.11(2), 308
- Vashi Y, Nehru G, Kumar S* [2022] Perturbation of Glycolysis by Niclosamide Inhibits Newcastle Disease Virus Replication. *SSRN*
- Shokeen K, Kumar S* [2022] Newcastle disease virus elevates its replication by instigating oxidative stress-driven Sirtuin 7 production. *bioRxiv*.

- Neog S, Kumar S, Trivedi V [2022] Isolation and characterization of NDV from biological fluids through column chromatography. *Biomed Chromatogr.*
- Gupta A, Gawandi S, Vandna, Yadav I, Mohan Hari, Desai VG, Kumar S* [2022] Analysis of fluoro based pyrazole analogues as a potential therapeutics candidate against Japanese encephalitis virus infection. *Virus Res.*
- Chowdhury P, Bhattacharya S, Gogoi B, Veeranna PV, Kumar S* [2022] An update on complications associated with SARS-CoV-2 infection and COVID-19 vaccination. *Vaccines*.10(10), 1639
- Buragohain L, Dutta R, Bharali A, Sen S, Barman N, Borah P, Saikia D, Kumar S, Malik Y, Pawar S, Bora D, Gogoi S, Aasdev A [2022] Draft genome sequence analysis of the genotype II African swine fever virus from India. *Microbiology Resource Announcements.*
- Imdhiyas M, Sen S, Barman NN, Buragohain L, Malik YS, Kumar S* [2022] Computational analysis of immunogenic epitopes in the p30 and p54 proteins of African swine fever virus. *Journal of Biomolecular Structure & Dynamics.*
- Shokeen K, Pandey S, Shah M, Kumar S* [2022] Insight towards the effect of the multi basic cleavage site of SARS-CoV-2 spike protein on cellular proteases. *Virus Res.* 318, 198845

Dr. Shirisha Nagotu:

- Variable effects of two new mutations of α -synuclein on protein aggregation and cellular effects have been reported
- A role for peroxisome dynamics in both replicative and chronological ageing of yeast cells was reported
- The role of the various domains of the peroxisomal protein Pex30 in its function has been unraveled.

Prof. Aiyagari Ramesh:

- A membrane-targeting quinoxaline-based ligand was developed that could enhance the activity of ciprofloxacin in combinatorial treatment and hinder bone cell infection by Methicillin-resistant *Staphylococcus aureus* (MRSA).

Dr. Lalit Mohan Pandey:

- Combatting Therapeutic-Protein Aggregation featured in *Genetic Engineering and Biotechnology News (GEN)*
- Development of low-cost sterilization box using a combination of heat and ultraviolet/infrared light irradiation for the prevention of COVID-19. These works have been published in media by PTI, Delhi and got wide coverage in more than 65 news apart from social media platforms. This was also highlighted in *Current Science Reports*.
- Design of Self-antibacterial and Biocompatible Titanium Surfaces for Biomedical Applications was featured in *Pharma Focus Asia*.

Prof. Siddhartha Sankar Ghosh:

- Plaboni Sen, Suchandra Roy Acharyya, Arisha Arora, Siddhartha Sankar Ghosh (2023). An in-silico approach to understand the potential role of Wnt inhibitory factor-1 (WIF-1) in the inhibition of the Wnt signalling pathway. *Journal of Biomolecular Structure and Dynamics*, <https://doi.org/10.1080/07391102.2023.2192810>
- Plaboni Sen, Thirukumaran Kandasamy, Siddhartha Sankar Ghosh (2023). Multi-targeting TACE/ADAM17 and gamma-secretase of notch signalling pathway in TNBC via drug repurposing approach using Lomitapide. *Cellular Signalling*, 102, 110529.
- Muktashree Saha, Siddhartha Sankar Ghosh (2023). Engineered Hybrid Nanosystem for Homologous Targeting of EMT Induced Triple Negative Breast Cancer Cells. *ACS Applied Bio Materials*, 6, 2, 681–693
- Debashree Debasmita, Siddhartha Sankar Ghosh, Arun Chattopadhyay (2023). Living Gut Bacteria Functionalized with Gold Nanoclusters and Drug for Facile Cancer Theranostics. *ACS Applied Bio Materials*, 6, 2, 628–639
- Priyam Ghosh, Hirakjyoti Roy, Sayantani Mukhopadhyay, Subrata Mondal, Siddhartha Sankar Ghosh, Parameswar Krishnan Iyer (2023). Analytical techniques in identifying and purifying the proteins. Book: *Lantibiotics as Alternative Therapeutics*, 473-489
- Karuna Mahato, Santa Mondal, Ahmad Ali, Prasanta Ray Bagdi, Abu T Khan, Neha Arora, Siddhartha Sankar Ghosh (2023). Unconventional sulfur transfer behaviour of 4-hydroxy-dithiocoumarin: an easy access to biologically potent 1, 2-dithiolane scaffolds. *New Journal of Chemistry*, 47, 1954-1961
- Plaboni Sen, Thirukumaran Kandasamy, Siddhartha Sankar Ghosh (2022). *In-silico* evidence of ADAM metalloproteinase pathology in cancer signaling networks. *Journal of Biomolecular Structure and Dynamics*, 40, 22, 11771-11786.
- Konika Choudhury, Arun Chattopadhyay, Siddhartha Sankar Ghosh (2022). Mannosylated Gold Nanoclusters Incorporated with a Repurposed Antihistamine Drug Promethazine for Antibacterial and Antibiofilm Applications. *ACS Applied Bio Materials*, 12, 5911–5923
- Niraj Kr Prasad, Amaresh Dalal, Siddhartha Ghosh (2022). Computational study on the breakup of FENE-P drop migrating through microconfinement with gradual entry and exit. *Bulletin of the American Physical Society*, 20–22, 2022
- Suchandra Roy Acharyya, Plaboni Sen, Thirukumaran Kandasamy, Siddhartha Sankar Ghosh. (2022). Dual therapeutic approach to modulate Glycogen Synthase kinase –3 beta (GSK-3B) and inhibitor of nuclear factor kappa kinase-beta (IKK-β) receptors by in silico designing of inhibitors. *Journal of Molecular Graphics and Modelling*, 115, 108225
- Thirukumaran Kandasamy, Plaboni Sen, Siddhartha Sankar Ghosh (2022). Multi-targeted Drug Repurposing Approach for Breast Cancer via Integrated Functional Network Analysis. *Molecular Informatics*, 41 (8), 2100300
- Suchandra Roy Acharyya, Plaboni Sen, Thirukumaran Kandasamy, Siddhartha Sankar Ghosh (2022). Designing of disruptor molecules to restrain the protein–protein interaction network of VANG1/SCRIB/NOS1AP using fragment-based drug discovery techniques. *Molecular Diversity*, 1-22

- Anitha T Simon, Arun Chattopadhyay, Siddhartha Sankar Ghosh (2022). *In Vitro* Therapeutic Attributes of Luminescent Hydroxyapatite Nanoparticles in Codelivery Module. *ACS Applied Bio Materials*, 5 (6), 2741-2753
- Debashree Debasmita, Siddhartha Sankar Ghosh, and Arun Chattopadhyay (2022). Hierarchical Passage of Gold Nanoclusters in Living Bacteria. *ACS Applied Bio Materials*, 5 (6), 2543-2548
- Santa Mondal, Shilpi Sarkar, Siddhartha S Ghosh, Abu Taleb Khan (2022). Regioselective Ring-Opening of Epoxide and N-Tosylaziridine with 4-Hydroxydithiocoumarin: Key Precursors for 2,3-Dihydro-1,4-oxathiin and 2,3-Dihydro-1,4-thiazine Derivatives. *European Journal of Organic Chemistry*, (18), e202200355
- Niraj Kr Prasad, Rajib Shome, Gautam Biswas, Siddhartha Sankar Ghosh, Amaresh Dalal (2022). Transport Behavior of Commercial Anticancer Drug Protein-Bound Paclitaxel (Paclitaxel) in a Micron-Sized Channel. *Langmuir*, 38 (6), 2014-2025.
- Subhasis Dey, Plaboni Sen, Anjali Patel, Biswa Mohan Prusty, Siddhartha Sankar Ghosh, Debasis Manna (2022). A photo-responsive fluorescent amphiphile for target-specific and image-guided drug delivery applications. *Organic & Biomolecular Chemistry*, 20 (39), 7803-7813
- Subhra Kanti Roy, Anisha Purkait, Rajib Shome, Saurav Das, Debapratim Das, Siddhartha Sankar Ghosh and Chandan K. Jana (2022). Proline selective labeling via on-site construction of naphthoxazole (NapOx). *Chemical Communications*, 58 (39), 5909-5912

Prof. Biman B. Mandal:

- Swatilekha Hazra, Souradeep Dey, Biman B. Mandal, and Charanya Ramachandran. "In Vitro Profiling of the Extracellular Matrix and Integrins Expressed by Human Corneal Endothelial Cells Cultured on Silk Fibroin-Based Matrices." *ACS Biomaterials Science & Engineering*, 2023.
- Chitra Jaiswal, Tarishi Gupta, Praveen Kumar Jadi, Joseph Christakiran Moses, Biman B Mandal. Injectable anti-cancer drug loaded silk-based hydrogel for the prevention of cancer recurrence and post-lumpectomy tissue regeneration aiding triple-negative breast cancer therapy. *Biomaterials Advances*, 2023.
- G Janani, Li Zhang, Stephen F Badylak, Biman B Mandal. Silk fibroin bioscaffold from *Bombyx mori* and *Antheraea assamensis* elicits a distinct host response and macrophage activation paradigm in vivo and in vitro. *Biomaterials Advances*, 2023.
- Yogendra Pratap Singh, Joseph Christakiran Moses, Ashutosh Bandyopadhyay, Biman B Mandal. 3D Bioprinted Silk-Based In Vitro Osteochondral Model for Osteoarthritis therapeutics. *Advanced Healthcare Materials*, 2022.
- Kazuharu Arakawa, Nobuaki Kono, Ali D Malay, Ayaka Tateishi, Nao Ifuku, Hiroyasu Masunaga, Ryota Sato, Kousuke Tsuchiya, Rintaro Ohtoshi, Daniel Pedrazzoli, Asaka Shinohara, Yusuke Ito, Hiroyuki Nakamura, Akio Tanikawa, Yuya Suzuki, Takeaki Ichikawa, Shohei Fujita, Masayuki Fujiwara, Masaru Tomita, Sean J Blamires, Jo-Ann Chuah, Hamish Craig, Choon P Foong, Gabriele Greco, Juan Guan, Chris Holland, David L Kaplan, Kumar Sudesh, Biman B Mandal, Y Norma-Rashid, Nur A Oktaviani, Rucsanda C Preda, Nicola M

Pugno, Rangam Rajkhowa, Xiaoqin Wang, Kenjiro Yazawa, Zhaozhu Zheng, Keiji Numata. 1000 spider silkomes: Linking sequences to silk physical properties. *Science Advances*, 2022 DOI: 10.1126/sciadv.abo6043 IF 14.136

- Souradeep Dey, Chitra Jaiswal, Sayanti Shome, Bibrita Bhar, Ashutosh Bandyopadhyay, Kodieswaran Manikumar, Rajat Dadheech, Biman B Mandal. Photocrosslinkable Silk-Based Biomaterials for Regenerative Medicine and Healthcare Applications. *Regenerative Engineering and Translational Medicine*, 2022 DOI: 10.1007/s40883-022-00277-8 IF 2.68
- Biman B Mandal, Chitta R Patra, Subhas C Kundu. Biomedical materials research in India. *Biomedical Materials*, 2022 DOI: 10.1088/1748-605X/ac8902 IF 4.103
- Rashmi Ramakrishnan, Dimple Chouhan, Harikrishnan Vijayakumar Sreelatha, Sabareeswaran Arumugam, Biman B Mandal, and Lissy K Krishnan. Silk Fibroin-Based Bioengineered Scaffold for Enabling Hemostasis and Skin Regeneration of Critical-Size Full-Thickness Heat-Induced Burn Wounds. *ACS Biomaterials Science & Engineering*, 2022 DOI: 10.1021/acsbomaterials.2c00328 IF 5.39
- Saptarshi Biswas, Bibhas K Bhunia, G Janani, and Biman B Mandal. Silk Fibroin Based Formulations as Potential Hemostatic Agents. *ACS Biomaterials Science & Engineering*, 2022; 2654–2663. DOI: 10.1021/acsbomaterials.2c00170 IF 5.39
- Satyajit Mahata, Sandeep Kumar, Souradeep Dey, Biman B Mandal, and Vadivelu Manivannan. A probe with hydrazinecarbothioamide and 1, 8-naphthalimide groups for “turn-on” fluorescence detection of Hg²⁺ and Ag⁺ ions and live-cell imaging studies. *Inorganica Chimica Acta*, 2022. DOI: 10.1016/j.ica.2022.120876 IF 3.18 [03: citations]
- Arnab Chakraborty, Chitra Jaiswal, Atikur Hassan, Saurabh Kumar, Khushwant Singh, Biman B Mandal, and Neeladri Das. Tunable and improved antiproliferative activity of Pt (II)–based organometallics bearing alkynyls and 1, 2, 3-triazole moieties. *Applied Organometallic Chemistry*, 2022. DOI: 10.1002/aoc.6711 IF 4.55
- Satyajit Mahata, Souradeep Dey, Biman B Mandal, and Vadivelu Manivannan. 3-(2-Hydroxyphenyl)imidazo [5, 1-a] isoquinoline as Cu (II) sensor, its Cu (II) complex for selective detection of CN[–] ion and biological compatibility. *Journal of Photochemistry and Photobiology A: Chemistry*, 2022; 113795. DOI: 10.1016/j.jphotochem.2022.113795 IF 5.14
- Balaji Mahendiran, Shalini Muthusamy, G Janani, Biman B Mandal, Selvakumar Rajendran, Gopal Shankar Krishnakumar. Surface Modification of Decellularized Natural Cellulose Scaffolds with Organosilanes for Bone Tissue Regeneration. *ACS Biomaterials Science & Engineering*, 2022; 8, 5, 2000-2015. DOI: 10.1021/acsbomaterials.1c01502 IF 5.39
- Guru Janani, Li Zhang, Stephen F Badylak, and Biman B Mandal. Host response and macrophage activation profile towards mulberry and non-mulberry silk. *Tissue Engineering Part A*, 2022; 28, S125-S125. IF 4.08
- Ashutosh Bandyopadhyay, Biman B Mandal, and Nandana Bhardwaj. 3D bioprinting of photocrosslinkable silk methacrylate (SilMA)-polyethylene glycol diacrylate (PEGDA) bioink for cartilage tissue engineering. *Journal of Biomedical Materials Research Part A*, 2022; 110, 4, 884-898. DOI: 10.1002/jbm.a.37336 IF 4.85
- Bibrita Bhar, Bijayashree Chakraborty, Samit K. Nandi, and Biman B. Mandal. Silk-based phyto-hydrogel formulation expedites key events of wound healing in full-thickness skin defect

model. International Journal of Biological Macromolecules, 2022; 623-637. DOI: 10.1016/j.ijbiomac.2022.01.142 IF 8.02

- Guru Janani, Biman B Mandal. A perfusion bioreactor culture of silk liver ECM blend scaffolds facilitating functional polarity and maturation in primary hepatocytes. Tissue Engineering Part A, 2022; 4,1, s140-s141 IF 4.08
- Araghi Bhattacharya, Satyajit Mahata, Ashutosh Bandyopadhyay, and Biman B Mandal, Vadivelu Manivannan. Application of 2, 4, 5-tris (2-pyridyl) imidazole as 'turn-off' fluorescence sensor for Cu (II) and Hg (II) ions and in vitro cell imaging. Luminescence 2022; 3,22 DOI: 10.1002/bio.4232 IF 2.61

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL

Sl. No.	Name of Faculty	Name of Conference/ Workshop	Place	Date	International/ National
1	Prof. B. Anand	11th RNA group meeting	NCCS, Pune	1-3.12.2022	National
2	Prof. Utpal Bora	CME on Targeted Drug Delivery and Nanotechnology	Lakhimpur Medical College and Hospital	22.11.2022	National
3	Prof. Utpal Bora	ISARCON 2022: 33rd Annual Conference of Indian Society for Atherosclerosis Research	AIIMS Guwahati	11.11.2022	National
4	Prof. Rakhi Chaturvedi	108 th Indian Science Congress (ISC)	RTM Nagpur University, Nagpur, Maharashtra, India	03-07.01.2023	International
5	Prof. Rakhi Chaturvedi	International Conference on Modernization of Traditional Indian Medicine: Public Health & Industrial Perspectives	University of Patanjali, Haridwar, Uttarakhand, India	01-04.08.2022	International
6	Prof. Rakhi Chaturvedi	Lecture series on "Technological interventions to standardize the indigenous system of medicine in India" (AYURTECH-2022)	Indian Institute of Technology Madras, Chennai, Tamil Nadu, India	20-25.05.2022	National
7	Dr.Cota Navin Gupta	IEEE Symposium Series on Computational Intelligence, 2022	Singapore	2022	International
8	Prof. Manish Kumar	12th International Leptospirosis Society Conference 2022	Bangkok, Thailand	13-16.11.2022	International
9	Prof. Manish Kumar	International Symposium on "Zoonotic and Transboundary Diseases: Breaking the Chain through Multidisciplinary Approach and XVIII th annual conference of IAVPHS	ICAR Research complex for NEH region, Meghalaya, India	1-2.12.2022	International
10	Prof. Ajaikumar B Kunnumakkara	Agri-Food-Aqua Summit 2022	Bangkok, Thailand	28-29.07.2022	International
11	Prof. Ajaikumar B Kunnumakkara	Fifth International Conference on Nutraceuticals and Chronic Diseases	Delhi University	7-9.10.2022	International
12	Dr. Shirisha Nagotu	12 th International conference on yeast biology: Fundamentals to applications of yeast and fungi	IISER Mohali, Mohali	10-13.03.2023	International
13	Dr. Shirisha Nagotu	BSBB 2022 conference	IIT Guwahati, Guwahati	7-11.12.2022	International

14	Dr. Shirisha Nagotu	20th Biennial meeting of Association of Gerontology (India)	Banaras Hindu University, Varanasi	5-7.11.2022	National
15	Dr. Shirisha Nagotu	The nexus between peroxisome abundance and ageing in <i>Saccharomyces cerevisiae</i> at 44th All India Cell Biology Conference	University of Kashmir, Srinagar	02-04.09.2022	National
16	Prof. Kannan Pakshirajan	North East Research Conclave 2022	IIT Guwahati, Assam	20-22.05.2022	National
17	Prof. Kannan Pakshirajan	3rd International Conference on Bioprocess for Sustainable Environment and Energy (ICBSEE-India-2022)	NIT Rourkela, Odisha	20-24.06.2022	International
18	Prof. Kannan Pakshirajan	Two Days National Conference on Recent Advances in Mechanical and Petrochemical Engineering (RAMPE 22)	Mahendra Institute of Engineering and Technology, Namakkal, Tamil Nadu	01-02.09.2022	National
19	Prof. Kannan Pakshirajan	8th International Conference on Research Frontiers in Chalcogen Cycle Science & Technology	University of Galway, Ireland	17-18.11.2022	International
20	Prof. Aiyagari Ramesh	“In Vitro Models of Drug Discovery”	National Institute of Pharmaceutical Education and Research (NIPER), Guwahati	07.01.2023	National
21	Prof. Aiyagari Ramesh	Synthetic Antibacterials and the Nano-Bio Platform as Potential Therapeutics Against Drug-Resistant Pathogenic Bacteria	National Institute of Pharmaceutical Education and Research (NIPER), Guwahati	07.01.2023	National
22	Prof. Vibin Ramakrishnan	IDAR 2022, 5th international conference of D-amino acid research.	Urbana, Illinois, USA	27.07.2022	International
23	Prof. Vibin Ramakrishnan	ICRACBS 2022: International conference on “Recent Advances in Chemical and Biological Sciences	NBMSC, Bordi, Maharashtra, India	26.09.2022	International
24	Prof. Vibin Ramakrishnan	TIFAC-NIPERG-DSIR joint workshop on "Techno-commercial Assessment of TRL 6 and above Technologies.	NIPER, Guwahati	04.11.2022	National
25	Prof. Vibin Ramakrishnan	ATAL (AICTE Training and Learning Academy) FDP on the topic “Current Era of Artificial Intelligence in Biological Sciences”	AITH, Kanpur	13.02.2023	National
26	Prof. Latha Rangan	92nd NASI Annual Session	Allahabad	04-06.12.2022	National
27	Prof. Lingaraj Sahoo	1 st GILP JD International Symposium 2023	Gifu University, Japan	09.03.2023	International
28	Prof. Senthilkumar Sivaprakasam	The 15 th Asian Congress on Biotechnology in conjunction with The 7 th International Symposium on Biomedical Engineering	Bali, Indonesia	02-06.10.2022	International (Presented online)

29	Prof. Senthilkumar Sivaprakasam	International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy	IIT Guwahati	07-11.12.2022	International
30	Prof. Senthilkumar Sivaprakasam	Centre of Excellence Biopharmaceutical Technology course series	IIT Delhi	12-15.12.2022	International
31	Prof. Senthilkumar Sivaprakasam	8 th International Bioprocessing India Conference - Recent Advancements & Applications in Bioprocessing for Biosimilars, Vaccines, and Bioenergy	National Chemical Laboratory (NCL), Pune	16-18.12.2022	International
32	Dr. Kusum K. Singh	Regulatory and Noncoding RNAs	Cold Spring Harbor Laboratory (online)	17-21.05.2022	International
33	Dr. Kusum K. Singh	The Complex Life of RNA	EMBO-EMBL Symposium (online)	12-15.10.2022	International
34	Dr. Kusum K. Singh	11 th RNA Group Meeting	NCCS Pune	01-03.12.2022	National
35	Prof. R. Swaminathan	13th National Workshop on Fluorescence and Raman Spectroscopy	IISER, Thiruvananthapuram, Kerala, India	06-11.01.2023	National
36	Prof. R. Swaminathan	IC3EM 2022 5th International Caparica Conference on Chromogenic and Emissive Materials	Caparica, Portugal	03-07.07.2022	International
37	Prof Vishal Trivedi	International Conference on "Innovations in Chemical, Biological, and Pharmaceutical Sciences	Institute of Pharmaceutical Research, GLA University, Mathura, UP, India.	18-19.11.2022	International
38	Prof Vishal Trivedi	International Conference on Recent Innovations in Biotechnological, Chemical and Environmental Sciences	Mohanlal Sukhadia University, Udaipur-313001, Raj. (INDIA)	15-16.03.2023	International
39	Dr. Anil Mukund Limaye	5 th International Conference on Nutraceuticals and Chronic Diseases	New Delhi, India	07-09.10.2022	International
40	Dr. Anil Mukund Limaye	International conference on Biomedical and Clinical Research	Dharwad, Karnataka, India	21-22.11.2022	International
41	Dr. Anil Mukund Limaye	42 nd Annual Conference of the Indian Association of Cancer Research	Mumbai, India	12-16.01.2023	National
42	Dr. Anil Mukund Limaye	International Bioresource Conclave and Ethnopharmacology Congress	Imphal, Manipur, India	24-26.02.2023	International
43	Dr. L. M. Pandey	Biomaterials, Regenerative Medicine And Devices (BIO-Remedi 2022)	IIT Guwahati, India	15-18.12.2022	International
44	Dr. L. M. Pandey	Condensed Matter Days, 2022 (CMDAYS-22)	NIT Nagaland, India	14-16.12.2022	National
45	Dr. L. M. Pandey	Biotechnology for Sustainable Bioresources and Bioeconomy, (BSBB-2022)	IIT Guwahati, India	07-11.12.2022	International

46	Dr. L. M. Pandey	North-East Research Conclave: Sustainable Science and Technology (NERC-2022)	IIT Guwahati, India	20-22.05.2022	National
47	Prof Sanjukta Patra	62nd Annual International Conference of the Association of Microbiologists of India (AMI). Microbes and Society: Current Trends and Future Prospects (MSCTFP-2022).	University of Mysuru, Karnataka, India	21-23.09.2022	International
48	Prof Sanjukta Patra	Green energy and sustainable environment technology	KIIT, Orissa	15-16.09.2022	International
49	Prof Sanjukta Patra	“Export Worthy Natural packaging of Natural, Organic and Geographical Indication (GI) Agro products”	Assam Administrative Staff College Guwahati	30.06.2022	National
50	Prof Sanjukta Patra	Gurukul in Emerging areas in modern biology and medicine	Tezpur University, Assam	02-03.03.2023	National

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	Disparate Dual Nucleases exhibit functional redundancy during CRISPR RNA Biogenesis	ICGEB	New Delhi	23 November 2022
2	Prof. Utpal Bora	Bio-nanotechnology and its application in crop improvement.	Assam Agriculture University	Jorhat	15.12.2022
3	Prof. Utpal Bora	Robotics in Medicine.	Chaygaon College	Kamrup	11.01.2023
4	Dr. Souptick Chanda	Femoroacetabular Impingement (FAI): To Automate a Process of Manual Diagnosis	IACS Kolkata	Kolkata	23.03.23
5	Dr. Souptick Chanda	Application of Biomechanics in Biomaterials / Implants: Opportunities and Challenges	Karpaga Vinayaga College of Engineering and Technology, Chengalpattu	(Online)	28.04.22
6	Prof. Rakhi Chaturvedi	Talk on Sustainability of Bioresources using Plant Tissue Culture Techniques	Department of Botany, MMV, Banaras Hindu University	Varanasi, UP, India	February 15-18, 2023
7	Prof. Rakhi Chaturvedi	Nodal segment culture for clonal propagation and large scale multiplication of elite plants. Steps involved in Plant Tissue Culture.	Poona College of Pharmacy, Bharati Vidyapeeth (Deemed to be University)	Pune, Maharashtra, India	November 23, 2022
8	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the Application of Plant Tissue Culture Techniques	UGSAS, Gifu University	Yanagido, Gifu, Japan	November 09, 2022

9	Prof. Rakhi Chaturvedi	Plant Tissue Culture Techniques and Sustainable Production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Guru Ghasidas Vishwavidyalaya,	Bilaspur, Chhattisgarh, India	August 25, 2022
10	Prof. Rakhi Chaturvedi	Refresher Course on Biodiversity and Conservation (Inter-Disciplinary)	North-Eastern Hill University (NEHU),	Shillong, Meghalaya, India	August 17, 2022
11	Prof. Rakhi Chaturvedi	Sustainable production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Indian Institute of Technology Madras	Chennai, Tamil Nadu, India	June 20-25, 2022
12	Prof. Rakhi Chaturvedi	Sustainability, Atmanirbhar Bharat (Self Reliant India) & 75 years of Azadi ka Amrit Mahotsav	MSME Chamber of Commerce and Industry of India, National Productivity Council NPC & Services Export Promotion Council SEPC	Vigyan Bhavan, New Delhi, India	April 25 - 28, 2022
13	Prof. Rakhi Chaturvedi	Talk on Sustainability of Bioresources using Plant Tissue Culture Techniques	Department of Botany, MMV, Banaras Hindu University	Varanasi, UP, India	February 15-18, 2023
14	Prof. Nitin Chaudhary	Invited Lecture in loving memory of Dr. Ashish Kumar Singh	IIT-BHU	Delivered online	April 27, 2022
15	Prof. Pranab Goswami	Biosensors and biofuelcell for waste water treatment	NATIONAL RESEARCH CENTRE	Al-Buhouth St.Dokki, Cairo-Egypt	18.12.2022
16	Dr.Cota Navin Gupta	Invited Talk on Brain Computer Interfaces.	IIIT Guwahati,	Assam	March 2023
17	Dr.Cota Navin Gupta	Invited Talk on Neural Engineering	BIT MESRA	Jharkand	Sept 2022
18	Prof. Shankar Prasad Kanaujia	Identification and characterization of translation initiation factors in archaea.	National Conference on Emerging trends in Bioinformatics for Agriculture, Food and Health	Jacob Institute of Biotechnology and Bioengineering, Sam Higginbottom University of Agriculture, Technology and Sciences	March 15-16, 2023
19	Prof. Manish Kumar	Advanced disease control tools to secure animal and public health in a changing world	ICAR Research complex for NEH region, Meghalaya, India	ICAR research complex, Umiam, Meghalaya, India	Mar 28-29, 2023
20	Dr. Shirisha Nagotu	Cellular ageing: deciphering the role of peroxisomes in	IISER Mohali	Mohali, Punjab	11/3/23

		yeast at the 12 th International conference on yeast biology: Fundamentals to applications of yeast and fungi			
21	Dr. Shirisha Nagotu	The nexus between peroxisomes and cellular ageing at BSBB 2022 conference	IIT Guwahati	Guwahati, Assam, India	11/12/22
22	Dr. Shirisha Nagotu	The nexus between peroxisomes and cellular ageing at 20th Biennial meeting of Association of Gerontology (India)	Department of Zoology, Institute of Science, Banaras Hindu University,	Varanasi, UP, India	6/11/22
23	Dr. Shirisha Nagotu	Organelles and Inter-organelle communication: deciphering the cellular cause of Parkinson's disease	SDM College of Medical Sciences and Hospital	Dharwad, Karnataka, India	29-9-2022
24	Dr. Shirisha Nagotu	The nexus between peroxisome abundance and ageing in <i>Saccharomyces cerevisiae</i> at 44th All India Cell Biology Conference	Department of Biochemistry, University of Kashmir	Srinagar, Kashmir, India	3-9-22
25	Prof. Kannan Pakshirajan	Biological treatment, toxicity removal and value addition to refinery wastewater using the hydrocarbonoclastic oleaginous bacterium <i>Rhodococcus opacus</i>	Manipal Academy of Higher Education	Manipal, Karnataka, India	November 12, 2022
26	Prof. Kannan Pakshirajan	A biorefinery approach toward biofuels and value-added products from biomass gasification waste	Gandhi Institute For Technology	Bhubaneswar Odisha, India	November 14-19, 2022
27	Prof. Vibin Ramakrishnan	Chromatography	IIT Guwahati	Guwahati	March 23, 2023
28	Prof. Vibin Ramakrishnan	Molecular Dynamic Simulations	IIT Guwahati	Guwahati	March 2, 2023
29	Prof. Latha Rangan	Biological Science Presidential Lecture.	NASI, Allahabad	Allahabad	6 Dec 2022
30	Prof. Lingaraj Sahoo	Climate resilient technology for low input agriculture in India	Gifu University	Japan	9 th March, 2023
31	Dr Selvaraju Narayanasamy	Biodiversity VT'22 Ghurupreya R, Vishnu Priyan and Selvaraju Narayanasamy "Removal of pharmaceutical drugs from water by tailored nano-polysaccharide: Adsorption mechanism and Toxicity assessment."	Department of Biotechnology, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai & Society of chemical & synthetic Biology	Chennai, India	June 10-11, 2022
32	Dr Selvaraju Narayanasamy	National Conference on Innovative Trends in Biotechnology	Department of Biotechnology, Vel Tech High Tech Dr.	Chennai, India	August 5-6, 2022

		Ghurupreya R, Vishnu Priyan and Selvaraju Narayanasamy “Adsorptive removal of Ibuprofen and Sulfamethoxazole by Corn Starch Nanoparticles: Isotherm, Kinetics and Thermodynamics study.”	Rangarajan Dr. Sakunthala Engineering College, Chennai, India		
33	Dr Selvaraju Narayanasamy	International conference on Emerging Trends in Biosciences and Chemical Technology Vishnu Priyan and Selvaraju Narayanasamy “Sequestration of Endocrine disruptor Bisphenol A from water by modified Hydrophobic Chitosan and its ecotoxicological assessment via Phyto and Fish Toxicity studies.”	Shri Mata Vaishno Devi University, Katra, Jammu, India	Jammu, India	December 03-05, 2022
34	Dr Selvaraju Narayanasamy	An International Conference on ADVANCES IN SMART MATERIALS, CHEMICAL & BIOCHEMICAL ENGINEERING (CHEMSMART-22) Ajit Kumar and Selvaraju Narayanasamy “Remediation of contaminant from water by plastic-based adsorbent: A trash to cash approach.”	Department of Chemical Engineering, National Institute of Technology, Rourkela	Rourkela, India	December 16-18, 2022
35	Dr Selvaraju Narayanasamy	An International Conference on ADVANCES IN SMART MATERIALS, CHEMICAL & BIOCHEMICAL ENGINEERING (CHEMSMART-22) Ghurupreya R, Vishnu Priyan and Selvaraju Narayanasamy “Sequestration of Basic Fuchsin from water using Oxidant modified Biomass: Mechanism and Toxicity assessment”	Department of Chemical Engineering, National Institute of Technology, Rourkela	Rourkela, India	December 16-18, 2022
36	Dr Selvaraju Narayanasamy	International e-Symposium on Materials Development and Scale-up for Membrane Separation, Sensing, Energy and Biological Applications (MDS-MSEB) Ajit Kumar and Selvaraju Narayanasamy “Fabrication of	Department of Chemical Engineering, SRM Institute of Science and Technology, Kattankulathur	Kattankulathur, India	January 24-25, 2023

		Magnetic Acid-Activated Carbon for The Remediation of Antibiotics from Water Solution”			
37	Dr Selvaraju Narayanasamy	DST Sponsored Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI) on "Challenges and Opportunities in Water, Sanitation & Hygiene (WASH)"	Department of Bioengineering, National Institute of Technology, Agartala, Tripura, India	Agartala, India	January 23-29, 2023
38	Dr Selvaraju Narayanasamy	Machine learning and its applications in Environmental Issues	Centre for Clean Environment, Vellore Institute of Technology, Vellore, India	Vellore, India	February 24-25, 2023
39	Dr. Kusum K. Singh	Post-transcriptional gene regulations by RNPS1 in cervical cancer cells	National Centre for cell Science	Pune	01 st December 2022
40	Prof. R. Swaminathan	Protein Charge Transfer Spectra: A novel spectral probe to track protein folding and aggregation	Department of Chemistry, IIT Bombay	Mumbai	5 Dec 2022
41	Prof. R. Swaminathan	Protein Charge Transfer Spectra: A novel spectral probe to track protein folding and aggregation	Department of Chemistry, IISER Mohali	Mohali	13 Aug 2022
42	Prof. R. Swaminathan	Protein Charge Transfer Spectra (ProCharTS): A novel label-free probe to track protein unfolding and aggregation	Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bengaluru	Bengaluru	30 Mar 2023
43	Prof Vishal Trivedi	Ayurveda and Cancer Drug Discovery.	Institute of Pharmaceutical Research, GLA University, Mathura, UP, India.	Mathura	Nov 18-19, 2022
44	Prof. Vishal Trivedi	Repurposing of Ayurvedic formulations for Cancer Drug Discovery.	Mohanlal Sukhadia University, Udaipur-313001, Raj. (INDIA)	Udaipur	March 15-16, 2023
45	Dr. Lalit M. Pandey	Nano Hydroxyapatite: A Potential Bioceramic for Bone Tissue Engineering	30th National Conference on Condensed Matter Physics 2022 (CMDAYS–22)	NIT Nagaland	December 14-16, 2022
46	Dr. Lalit M. Pandey	Biodegradation kinetics of binary mixture of Hexadecane and Phenanthrene by the bacterial microconsortium	International Conference on Biotechnology, Sustainable Bioresources and Bioeconomy (BSB2-2022)	IIT Guwahati	December 7-11, 2022

47	Dr. Lalit M. Pandey	Kinetics of Protein Aggregation	FDP and Symposium on Protein Biology & Proteomics	IIT Gandhinagar	November 12, 2022
48	Dr. Lalit M. Pandey	Design and development of multifunctional nanoassembly for Environmental and Biomedical Applications	TIFAC-NIPER-DSIR joint workshop on "Techno-commercial Assessment of TRL 6 5 and above Technologies"	NIPER, Guwahati	November 4, 2022
49	Dr. Lalit M. Pandey	Plant Ayurveda	FDP on Indian Knowledge System	Dibrugarh University Institute of Engineering and Technology	August 09, 2022
50	Dr. Lalit M. Pandey	Traditional and Modern Storage Practices for Food Grains	North-East Research Conclave: Sustainable Science and Technology (NERC-2022)	IIT Guwahati	May 20-22, 2022
51	Dr. Lalit M. Pandey	Distilling Science, Engineering and Technology from the Ancient Literature of Mahapuranas	North-East Research Conclave: Sustainable Science and Technology (NERC-2022)	IIT Guwahati	May 20-22, 2022
52	Prof Sanjukta Patra	Agriculture wastes into value added products	The Agricultural and Processed Food Products Export Development Authority	Assam Administrative Staff College Guwahati	30 th June, 2022
53	Prof Sanjukta Patra	Microbes in agro-waste utilization and fermentation technology	National Institute of Technology Rourkela, Orissa, India	Rourkela, Orissa, India	9 th -11 th December, 2022
54	Prof. Siddhartha Sankar Ghosh	Imminent Prospects of Nanotechnology in Cancer Theranostics	ICCAES 2022: International Conference on Chemical and Environmental Sciences 2022	Kolkata, India	December 16-18, 2022
55	Prof. Siddhartha Sankar Ghosh	Confocal Microscopy	INUP	IIT Guwahati	6 th April 2022

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANIZATIONS / INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
1	P.V. Shivaprasad	National Centre for Biological Sciences, TIFR, GKVK Campus, Bellary Road, Bangalore	Insights into the mechanisms that counter glycation-mediated damage implants.	28/03/2023
2	Prof. Umesh Varshney	J N Tata Chair Professor with the Department of Microbiology and Cell Biology, IISc	UdgX, an unconventional uracil DNA glycosylase that forms a stable complex with DNA upon uracil release	05/05/2022
3	Kohei Maruyama and four others	Tohoku University, Japan	Project Discussion	Dec 11-12, 2022
4	Khim Panthi	Tribhuvan University, Nepal	Indian Science Research fellowship	Nov 2022-March 2023

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. Sachin Kumar	Workshop on Diagnostic Approaches in Virology		13-15 th May 2022	National	30
2	Prof. Latha Rangan	BSBB 2022	DBT, DSIR	7-11 Dec 2022	International	544
3	Prof. Lingaraj Sahoo	Indo-Japan Bilateral Symposium (IJBS-2023) on Technologies for Bio Economic Development of NER".		March 03-04, 2023	International	150
4	Dr. Lalit M. Pandey	NPTEL MOOCS course on Biointerface Engineering	Ministry of Education, Govt. of India	Feb 20 to Mar 14, 2023	National	770
5	Prof. Biman B. Mandal	Pre-conference workshop Advances in 3D Printing and Bioprinting & Publishing, Scientific Writing and Communication	SERB, Department of Science and Technology, Govt. of India	14 th -15 th December 2022	International	65
6	Prof. Biman B. Mandal	International Conference on Biomaterials, Regenerative Medicine And Devices	SERB, Department of Science and Technology, Govt. of India	15 th -18 th December 2022	International	550

PATENTS:

- No. of Patents Applied with details: 01
- No. of Patents Granted with details: 07

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Prof. Pranab Goswami & Ankana Kakoti	DNA aptamers specifically binding to human heart type fatty acid binding protein (fabp3)	30/03/2023	1287/KOL/2015	Granted patent No. 427726
2	Prof. Pranab Goswami & Dr. Lightson Ng	Portable kit for onsite determination of formaldehyde in aqueous sample	19/05/2022	201831041908	Granted patent No. 397154
3	Prof. L Rangan, Prof. S Senthilkumar, S Shreekant, H. Boro, MK Gupta, Prof. R, Swaminathan	Device for evaporation and recovery of organic solvents using simple labwares	04/01/2023 Granted	Patent Grant No 416769	Patent is for a new process/device with regard to recovery of organic solvents and has 15 claims in granted patent
4	Dr. Selvaraju Narayanasamy and Tasrin Shahnaz	A method for preparing novel adsorbent for removing dyes from wastewater	16 th June, 2022 (Applied)	202231034656	
5	Prof. R. Swaminathan and Saumya Prasad	Transforming protein into a prime Number sequence: assigning unique prime integer to each amino acid	5 th May 2022 Granted	201831038890	Patent number 396261 Granted by The Patent Office, "Intellectual Property INDIA"
6	Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Prof. Siddhartha Sankar Ghosh	Device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/protein array based analyses	2022 Granted	US11213827B2	PCT/IN2016/000141
7	Biman B Mandal, Y.P. Singh, A. Bandyopadhyay, S. Mehrotra, J.C. Moses,	Development of silk based bioinks for 3D printing and uses thereof	Granted on: 21 st December 2022	201831038727	415089

	B.K. Bhunia, G. Janani, D. Chouhan				
8	Biman B Mandal and G. Janani	Urokinase production through fiber reinforced silk scaffold using high density perfusion culture	Granted on: 21 st December 2022	201831024035	415174

AWARDS AND HONOURS:

- Utpal Bora: Honorary Visiting Faculty; Nowgong College (Autonomous).
- Utpal Bora: External Expert Member; Assam Agricultural University.
- Utpal Bora: Advisory Committee; Agricultural Biotechnology.
- Souptick Chanda: SAS Best Academician Award (Biomedical) 2023; Scholars Academic and Scientific Society.
- Rakhi Chaturvedi: Women in STEM: Vanguard of India@75; Featured in a Compendium on at the first CII (Confederation of Indian Industry) “Women in STEM Summit” July 2022.
- Rakhi Chaturvedi: Distinguished Service Award; Society of In Vitro Biology (SIVB) during 2022 In Vitro Biology Meeting at San Diego, California, USA 2022.
- Sachin Kumar: IVS Fellowship Award; Indian Virological society (VIROCON-2022).
- Latha Rangan: Women Faculty Research and Innovation Award; IIT Guwahati.
- Vishal Trivedi: Best Researcher Award; Microbiologist Society of India.
- Biman B. Mandal: 75 under 50 Scientists Shaping Today’s India; DST/Vigyan Prasar in a book released by Hon. Science and Technology Minister, Govt of India.

STUDENTS’ ACHIEVEMENTS:

- Rohan Pal: Travel Award; EMBO; Travel grant to attend CEM3DIP.
- Jaideep Singh Bhardwaj: PMRF (SERB-IIRRADA); SERB, Govt. of India.
- Imnanaro: Assam Bio-Innovation Fellowship (ABF) Award; Assam Biotechnology Council (ABTC) under Department of Science, Technology and Climate Change, Govt. of Assam.
- Krishna Kant Pachauri, Rajendra Adak, Imnanaro and Arabindu Debbarma: NEWGEN IEDC PROJECT RECOMMENDATION FOR 2022-2023; IIT GUWAHATI.
- Parmeshwar Gavande: IITG-Student Travel Assistance Fund (STAF); IIT Guwahati.
- Parmeshwar Gavande: Best Flash Presentation & Poster Award; Biotech Research Society India.
- Parmeshwar Gavande: Young Researcher Award 2022; Institute of Scholars (InSc), Bangalore.
- Rwivoo Baruah: Nehru-Fulbright Postdoctoral Fellowship; Department of Food Science, Purdue University, USA.
- Angshu Dutta: Best Oral Presentation Award; National Seminar on Crystallography (NSC-49).
- Md. Saddam Hussain: Travel grant award; ICAR Research complex for NEH region, Meghalaya and IAVPHS, India.
- Saswat Hota: Travel grant award; ICAR Research complex for NEH region, Meghalaya and IAVPHS, India.

- Surbhi Kumari: Best poster presentation award; ICAR Research complex for NEH region, Meghalaya and IAVPHS, India.
- Rakesh Kumar: Travel grant award; International conference on coronaviruses: Past, present and future.
- Shinjini Bhattacharya: Travel grant award; International conference on coronaviruses: Past, present and future.
- Deepa Mehta: Best Poster presentation Award; Indian Virological society (VIROCON-2022).
- Kamal Shokeen: Best Oral presentation Award; Indian Virological society (VIROCON-2022).
- Vijay Singh Bohara: Best Poster presentation Award; Annual Conference of Indian Association of Veterinary Public Health Specialist (IAVPHS-2022).
- Nilave Ranjan Bora: 3rd position in Poster Presentation; Annual Conference of Indian Association of Veterinary Public Health Specialist (IAVPHS-2022).
- Sushil Kumar: 2nd position in best oral presentation; Annual Conference of Indian Association of Veterinary Public Health Specialist (IAVPHS-2022).
- Shaurya Dumka: Best Oral presentation Award; Association for the Advancement of Veterinary Research (IAAVR -2023).
- Anjali Gupta: Best poster presentation award; Association of microbiologist of India.
- Bimal K. Chetri: Best Paper Award; BIMSTEC.
- Senapati: Best Poster Award; NERC 2022.
- Rubeka I: Best Oral Paper; NERC 2022.
- Vishnu Priyan V: Best Poster; Shri Mata Vaishno Devi University, Katra, Jammu, India.
- Jothika J: Dr. V. N. Mishra Travel grant; Phenome research foundation and GRF, Varanasi, India.
- Manish Hardas Ghumnami: Best Flash presentation and Poster award; BSBB-2022, IIT Guwahati.
- Chinamaya Panda: PMRF; Ministry of Education, Govt. of India.
- Smrity Sonbhadra: PMRF; Ministry of Education, Govt. of India.
- Satakshi Hazara: Best Oral Presentation; 62nd Annual International Conference of the Association of Microbiologists of India (AMI). Microbes and Society: Current Trends and Future Prospects (MSCTFP-2022).
- Ngouenam Romial Joel: Best Oral Presentation; International Workshop On Key Enabling Technologies for Sustainable Agri-Food Chain.
- Arisha Arora: PMRF; Ministry of Education, Govt. of India.
- Sujisha S. Nambiar: PMRF; Ministry of Education, Govt. of India.
- Plaboni Sen: Ashima Chatterjee Memorial Award; 7th World Cancer Congress (Bangalore Healthcare summit).
- Ashutosh Bandyopadhyay: SERB Travel grant; Science and Engineering Research Board, Department of Science and Technology, Govt. of India.
- Ashutosh Bandyopadhyay: SBAOI Bajpai-Saha Student Award; Society for Biomaterials & Artificial Organs India (SBAOI).
- Ashutosh Bandyopadhyay: IOP Publishing Top Cited Paper Award; IOP Publishing.
- Ashutosh Bandyopadhyay: Wiley Top Downloaded Article; Wiley.
- Bibrita Bhar: Springer In Vitro models Best Oral Presentation Award; Springer.
- Chitra Jaiswal: Springer In Vitro models Best Poster Presentation Award; Springer.
- Sayanti Shome: ACS Poster Presentation Award; American Chemical Society (ACS).

- Bibrita Bhar: NEWGEN IEDC project grant; Industrial Interactions and Special Initiatives, IIT Guwahati.
- Kodieswaran M.: PMRF; Ministry of Education, Govt. of India.
- Kodieswaran M.: NEWGEN IEDC project grant; Industrial Interactions and Special Initiatives, IIT Guwahati.

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.	Bora Utpal	Institute of Genomics and Integrative Biology, Delhi	Professor	Biomedical Engineering, Biodiversity and Bio-entrepreneurship
3.	Bose Biplab	All India Institute of Medical Sciences	Associate Professor	Systems Biology, Cell signaling, Recombinant therapeutics
4.	Chanda Soutpick	Indian Institute of Technology Kharagpur, India	Assistant Professor	Biomechanics, implant design & optimization, surgical simulation, biomedical image processing
5.	Chaturvedi Rakhi	University of Delhi, India	Professor	Plant Tissue Culture & Secondary Metabolites Production
6.	Chaudhary Nitin	CSIR-Centre for the cellular and Molecular Biology, Hyderabad	Professor	Peptide self-assembly and amyloid aggregates, Peptide-membrane interactions Curvature inducing proteins
7.	Das Debasish	Indian Institute of Technology Bombay	Professor	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel
8.	Dasu V. Venkata	Indian Institute of Technology Madras	Professor	Bioprocess Development, Metabolic Engineering
9.	Ghosh Siddhartha S.	Indian Institute of Chemical Biology (IICB), Kolkata	Professor	Cancer Therapeutics, Nanobiotechnology, Molecular Pathways Involving Drug Resistance and EMT
10	Goswami Pranab	Gauhati University	Professor	Biosensors and Biofuel cells
11	Goyal Arun	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	Gupta Navin	Brain Computer Interfaces and	Assistant Professor	Imaging Genetics, Biomedical Signal/Image Processing, Multimodal

		Neural Engineering (BCI-NE) Group, University of Essex		Analysis, Computer Aided Diagnosis, Biomedical Instrumentation
13	Jaganathan Bithiah G.	Johann Wolfgang Goethe University, Frankfurt, Germany	Professor	Stem Cell Biology, Cancer signaling
14	Kanaujia Shankar Prasad	Indian Institute of Science Bangalore	Professor	Structural Biology and Bioinformatics Studies
15	Kumar Manish	University of Maryland, College Park, USA	Professor	Molecular interaction of host-pathogen-vector of infectious diseases (vector-borne diseases of zoonotic importance), Gene expression analysis of Spirochete, Leptospira interrogans and Borrelia burgdorferi, Development of a vaccine against outer membrane proteins of Leptospira interrogans and Borrelia burgdorferi
16	Kumar Sachin	University of Maryland, College Park, USA	Professor	Molecular biology of paramyxoviruses, flaviviruses
17	Kunnumakkara A. B.	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	Limaye Anil Mukund	Indian Institute of Science Bangalore	Associate Professor	Hormonal regulation of gene expression
19	Maiti Soumen Kumar	Indian Institute of Technology Bombay	Associate Professor	Bioprocess Engg, Biofuel
20	Mandal Biman B	Indian Institute of Technology Kharagpur	Professor	Regenerative Medicine, Biomaterials, Tissue Engineering, Stem Cells
21	Nagotu Shirisha	University of Groningen, Groningen, The Netherlands	Assistant Professor	Organelle biology and Cellular Ageing
22	Pakshirajan Kannan	Indian Institute of Technology Madras	Professor	Environmental Biotechnology
23	Pandey Lalit Mohan	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	Patra Sanjukta	Central Food Technological Research Institute, Mysore	Professor	Enzyme and Microbial Technology; Biosensors; Metagenomics; Environmental Biotechnology
25	Ramesh Aiyagari	CSIR-CFTRI, Mysuru (Degree	Professor	Antibacterials, Nanobiotechnology

		awarded by University of Mysore)		
26	Ramakrishnan Vibin	Indian Institute of Technology Bombay	Professor	Network medicine, Bio-Nano catalysis, Drug delivery vehicles
27	Rangan Latha	University of Madras	Professor	Applied Biodiversity
28	Sahoo Lingaraj	Maharshi Dayanand University, Rohtak, India	Professor	Genetic engineering and functional genomics of plants
29	Saini Gurvinder Kaur	Andhra University, Visakhapatnam	Professor	Fungal Biotechnology, Engineering entomopathogenic fungi
30	Satpati Priyadarshi	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	Selvaraju Narayanasamy	Indian Institute of Technology Madras, India	Associate Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering
32	Senthilkumar S	Central Leather Research Institute, Chennai	Professor	Bioprocess Analytical Technology (BioPAT), Metabolic Engineering
33	Singh Kusum K	Institute of Molecular Medicine, Heinrich-Heine University of Duesseldorf, Germany	Assistant Professor	Posttranscriptional gene regulations
34	Swaminathan Rajaram	Tata Institute of Fundamental Research, Mumbai	Professor	Proteins, Spectroscopy and Biochemistry
35	Tamuli Ranjan	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	Thummer Rajkumar P	University of Groningen, Groningen, The Netherlands	Assistant Professor	Stem Cell Engineering and Regenerative Medicine
37	Trivedi Vishal	Central Drug Research Institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum

Chemical Engineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 2002

ACADEMIC PROGRAMMES OFFERED:

- Bachelor of Technology (B. Tech)
 - Chemical Engineering
- Master of Technology (M. Tech)
 - Petroleum Science and Technology (PST)
 - Material Science and Technology (MST)
 - Computer Aided Process Engineering (CAPE)
 - Food Science and Technology (FST)
- Doctor of Philosophy (Ph. D)
-

NO. OF LABORATORIES WITH A BRIEF INTRODUCTION: (Total No: 9)

- **Undergraduate Laboratories (Total Number): 6**

Fluid Mechanics Lab

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 Lab

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 Lab

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 Lab

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 Lab

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 Lab

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

- **Postgraduate Laboratories (Total Numbers): 1**

Petroleum Lab

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 (Total Numbers): 2**

Analytical Lab

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, PPFD 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 the 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 polymer areas. Both experimental and computational laboratory has been set up under this project facility and significant high-end equipments have been purchased in the department.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED DURING:

- Rheometer, Make :- Haake, Model:- MARS iQ Air Modular Rheometer
- Laboratory water purification system, Make:- Merck Millipore, Model :- Elix® Essential 15 Kit IN & Synergy® Kit IN

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 Conf./Workshop	Place	Date	International/National
1	Anugrah Singh	International conference on green hydrogen for global decarbonization PDEU, Gandhinagar		17/03/2023	International
2	Chandan Das	Winter School 2022 Gifu University, Japan		12/12/2022-26/12/2022	International

3	Dipankar Bandyopadhyay	Atomic Force Microscopy (AFM), Centre for Nanotechnology, INUP – I2I Workshop	IIT Guwahati	Apr-22	International
4	Saurabh Dubey, Vinod B. Vanarse, Prathu Raja Parmar, Omkar S. Deshmukh, and Dipankar Bandyopadhyay	Thermal Gradient Mediated Instability in a Bilayer Flow over a Porous Medium, Proceedings of the 9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Roorkee, Roorkee-247667, Uttarakhand, India	14/12/2022-16/12/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Anugrah Singh	Rheology and microstructure of shear thickening suspensions, IIT Gandhinagar, Gandhinagar	IIT Gandhinagar, Gandhinagar	IIT Gandhinagar, Gandhinagar	20/03/2023
2	Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	CHEMCON-2022		Dec-22
3	Chandan Das	Process intensification and novel separation processes, Indian Institute of Chemical Engineers, Kolkata	Indian Institute of Chemical Engineers, Kolkata	Kolkata	14/04/2022
4	Tamal Banerjee	Continuum Solvation Models for Phase Equilibria, Undergraduate Lecture Series	Nirma University, Ahmedabad	Ahmedabad	29/04/2022

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANISATIONS / INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Date
1	IMDFST Students from Gifu University	Spring School 2023 Ministry of Education, Culture, Sports, Science and Technology, Japan	03/03/2023-14/03/2023

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	Chandan Das	Spring School 2023 Ministry of Education, Culture, Sports, Science and Technology, Japan		03/03/2023-14/03/2023	International	13
2	Anugrah Singh and Dr. Sumit Kumar	Workshop on Applied Statistical Modeling & Data Analytics for Petroleum Engineering & Related Applications in the Department of Chemical Engineering, IITG		22 /11/2022-24/11/2022	National	35
3	Anugrah Singh and Dr. Sumit Kumar	Symposium on energy transition: Concepts, opportunities, and challenge Department of Chemical Engineering, IITG		21/11/2022	National	40
4	Vimal Katiyar	Convenor, Taiwan-India 2022 Exchange Workshop and Symposium (TIEWS-2022), IIT Guwahati.		4/09/2022-6/09/2022	International	
5	Omkar Deshmukh	Workshop on Rheology of Polymers and Allied Materials Anton Paar		02/08/22	National	25

6	Vimal Katiyar	Convenor, North-East Research Conclave, Sustainable Science and Technology, IIT Guwahati. (A first-time mega event in the North-East States on such a massive scale, the recorded participant count was around 10,000+)		20/05/2022-22/05/2022	National	10000
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PATENTS:

- **No. of Patents Applied with details: 3**
- **No. of Patents Granted with details: 1**

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	H. D. Kawale and N. Kishore	A System For Modified Thermo-Chemical Conversion Of Waste Biomass To Stabilized Biofuels And Synthesis Gases	2023	File No. 202331029285	
2	N.R. Peela and B. Velaga	A one step process for preparing Levulinic acid from C5 furanic compounds	Date of Apply:16th June 2020 and Granted on 29th December 2022	Patent No.: 416062, Application No.: 202031025327	
3	Senthilmurugan Subbiah	A novel formulation for removing turmericstain from fabric	16th August 2022	Reference No.: 202231046586 , Temporary Application No.: TEMP/E-1/53156/2022-KOL	
4	Tamal Banerjee	Alumina based Deep Eutectic Solvent comprising Benzophenone and Biphenyl as Heat Transfer Media, Indian Patent Office	16th May 2022	Patent No. 202231022230	

AWARDS AND HONOURS

- Tamal Banerjee: Guest Editor for Special Issue on "Thermodynamics and Thermal Analysis of Deep Eutectic Solvents", Chemical Thermodynamics and Thermal Analysis; Elsevier, 2023.
- Tamal Banerjee: Guest Editor for Special Issue on "Ionic liquids and Deep Eutectic Solvents: two contrasting options or opposite sides of the same coin?", Frontiers in Chemistry 2022.
- Mikir Kumar Purkait: NASI-Reliance Industries Platinum Jubilee Awards – 2022; National Academy of Sciences (NASI), 2022.
- Subrata Kumar Majumder: Dr. A. V. Rama Rao Best Research Award 2022; Indian Institute of Chemical Engineers in CHECON 2022, Kanpur, India.
- Nanda Kishore: Associate Editor, Frontiers in Energy Research Journal (Bioenergy and Biofuels section), Frontiers Publications; Frontiers in Chemistry 2022.
- Nanda Kishore: Supervised M. Tech Thesis, Titled: Kinetics, Thermodynamics and Reaction Mechanism of Pyrolysis of Polyalthia Longifolium and Polypropylene Grocery Bags by Mr. APK Reddy, which got Ambuja's Young Researcher's Award for doing Post-Graduate Studies in India by Indian Institution of Chemical Engineers (IChE) for 2022.
- Nanda Kishore: Associate Editor, Energy Exploration and Exploitation Journal, SAGE Publications 2022.

STUDENTS ACHIEVEMENTS:

- Mahesh Nagargoje: Marie Curie Postdoctoral Fellowship 2023.
- Aparajita Roy: Best Poster Award; APA 2023 Conference.
- Dharendra Kumar Misra: Post-doctoral Fellowship offered jointly by the most prestigious national laboratories in the United States of America, namely Lawrence Berkeley National Laboratory (LBNL) and Sandia National Laboratories (SNL).
- Somen Mondal: Dr. A. V. Rama Rao Best PhD thesis Award 2022; Indian Institute of Chemical Engineers in CHECON 2022, Kanpur, India.
- Pillajetti Prem Sagar: Best Oral Presentation Award; CHEMCON 2022.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute /Org PhD degree received from	Designation	Areas of Interest
1	Anandalakshmi R.	IIT Madras	Associate Professor	Computational Heat Transfer and Fluid Flow, Process Modelling and Simulation, Solar Thermal Energy Conversion, Energy Efficient Design of Thermal Systems
2	Bandyopadhyay Dipankar	IIT Kanpur	Professor	Colloid and Interfacial Phenomena, Computational Fluid Dynamics, Micro and Nano Fluidics, Complex Flow and Fluids, Clean Energy– Fuel and Solar cells
3	Banerjee Tamal	IIT Kanpur	Professor	Phase equilibria of ionic liquids, Molecular simulations, Global optimisation, Statistical thermodynamics
4	Das Chandan	IIT Kharagpur	Professor	Wastewater Treatment, Bioremediation, Membrane based Separation Process
5	Dasmahapatra Ashok Kumar	IIT Bombay	Professor	Complex fluids, Phase transition in polymers (Nucleation, crystallization, collapse transition, etc.), Structure-property relations, Molecular simulations, Biological physics
6	De Mahuya	IIT Kanpur	Professor	Catalysis and reaction engineering, adsorption, hydrocarbon processing
7	Deshmukh Omkar Suresh	University of Twente, Netherlands	Assistant Professor	Colloids & Interfaces, Flow of Complex fluids, Polymer Dynamics, Glassy systems, Food oral processing, Food Physics, Bio-materials, Biophysics.
8	Ghosh Pallab	IIT Bombay	Professor	Interfacial phenomena, Interfacial reactions, Membrane separation, Randomised algorithms
9	Ghoshal Alope Kumar	IIT Kharagpur	Professor	Advanced Separation Technology, Modelling & Simulation, Environmental Pollution Control, Pyrolysis of waste plastics
10	Gooh Pattader Partho Sarathi	Lehigh University	Associate Professor	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter
11	Golder Animes Kr.	IIT Kharagpur	Professor	Electroremediation of water/wastewater, Physiochemical water/wastewater treatment techniques, Bioremediation, Electrochemical corrosion

12	Goud Vaibhav V.	IIT Kharagpur	Professor	Heterogeneous Reactions, Bio-energy and Green Engineering, Biolubricant, Utilisation of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
13	Gupta Raghvendra	The University of Sydney, Australia	Associate Professor	Biofluid Mechanics, Multiphase Flows, Microfluidics, Experimental and computational fluid dynamics
14	Kakati Abhijit	Indian Institute of Technology Madras	Assistant Professor	Rock-fluid interaction; Chemical enhanced oil recovery, Smart water flooding, Geo-storage of CO ₂
15	Katiyar Vimal	IIT Bombay	Professor	Synthetic and Natural Polymers, Polymer Processing, Biothermoset, Nanobiocomposite, Organic Solar Cells, Biodegradable Polymers, Energy
16	Kishore Nanda	IIT Kanpur	Professor	Biofuels, Computational Fluid Flow and Heat/Mass Transfer, Density Functional Theory, Non-Newtonian Fluids
17	Kotecha Prakash	IIT Bombay	Associate Professor	Optimization, Process Control, Artificial Intelligence, Planning and Scheduling
18	Kumar Amit	University of Delaware, USA	Associate Professor	Polymers and Polymer Nanocomposites, Molecular Modelling and Simulation, Gas Separation in Porous Materials
19	Kumar Sumit	ISM Dhanbad	Assistant Professor	Flow through porous media, Modelling and Simulation, Adsorption, Pyrolysis, EOR
20	Mandal Bishnnupada	IIT Kharagpur	Professor	Separations with chemical reaction, Molecular based membrane separation, Modelling and simulation of separation processes, Environmental pollution control
21	Mandal Tapas K	IIT Kharagpur	Professor	Multiphase flow & Measurement in multiphase flow, Bio-diesel
22	Mazumdar Subrata Kumar	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

23	Mohanty Kaustubha	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.
24	Moholkar Vijay S.	University of Twente, Netherlands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
25	Peela Nageswara Rao	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
26	Prabu Vairakannu	IIT Madras	Associate Professor	Clean Coal Technology, Combustion and Gasification, Reaction kinetics
27	Pugazhenti G.	IIT Kanpur	Professor	Membrane Separation, Polymer Nanocomposites, Nanomaterials, Catalysis & Refinery Processes
28	Purkait Mihir Kumar.	IIT Kharagpur	Professor	Membrane technology; Effluent treatment and waste management; Advanced separation processes; Catalysis; Nanoparticles and nanocomposites; Bio-diesel; Bio-products, vegetable and fruit juice processing; CO ₂ to products and liquid fuels.
29	Saha Prabirkumar	IIT Madras	Professor	Process Modelling, Optimisation and control, Membrane Based separation Process
30	Senthilmurugan S	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
31	Singh Anugrah	IISc Bangalore	Professor	Computational and Experimental Fluid Dynamics, Microfluidics/Nanofluidic, Material Processing, Flow through Porous Media
32	Tiwari Pankaj	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
33	Uppaluri Ramgopal V. S.	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
34	Venkatesh R. Prasanna	IIT Madras	Associate Professor	Electrochemistry, Chemical Mechanical Polishing (CMP), Post CMP cleaning, Refinery Processes

Chemistry

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1995**ACADEMIC PROGRAMMES OFFERED:**

- (i) B. Tech. Core (Theory and Laboratory) and Elective courses in Chemistry
- (ii) B. Tech. in Chemical Science & Technology
- (iii) M. Sc in Chemistry
- (iv) Ph. D

LABORATORY FACILITIES:

Sr. 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,	48	80 (average)	White board, computers, internet, phone, Fume hoods, Centralized AC

	CHEL –208, CHEL – 209, CHEL –301, CHEL –302, CHEL –303, CHEL – 304, CHEL – 305, CHEL – 306, CHEL –307, CHEL –308, CHEL – 309.			
06	Analytical equipment Lab I – VI	06	540	phone, computers, internet, AC
07	Computer Lab	02	80	phone, computers, internet, AC
08	Ultrapure (Milliipore) water Lab	01	50	AC

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

- Double Beam UV-Visible Spectrophotometer (Solid & Liquid) Make: PerkinElmer, Model: Lambda 365+
- Multichannel Electrochemical Workstation Make: Metrohm Autolab, Model: Autolab M204
- Fluorescence Spectrophotometer for Solid and Liquid samples with Phosphorescence Attachment Make: Horiba Instruments, Model: Fluoromax Plus

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, Drug Delivery, Open Microfluidics, Chemical Sensor, Organofluorine Chemistry, Development of Catalysts for Electrochemical CO₂ Reduction; Synthesis of MRI Contrast Agents; Homogeneous Bio-inspired Catalysis; Spintronic Materials for Artificial Intelligence 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.,.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Prof. Manabendra Ray	Modern trends in Inorganic Chemistry (MTIC)	Benaras Hindu University	15-17/12/2022	International
02	Prof. Chivukula Vasudeva Sastri	Modern Trends in Inorganic Chemistry	IIT Banaras Hindu University	15/12/2022 to 17/12/2022	International
03	Prof. Chandan Mukherjee	58th Annual Convention of Chemists (ACC-2021), & International Conference on Recent Trends in Chemical Sciences (RTCS-2021)	IIT Guwahati (Online)	21/12/2022-24/12/2021	International
04	Prof. Subhendu Sekhar Bag	Recent Trends on Prospective Applications of Advanced Materials-2022 (RTPAAM-2022)	Fakir Mohan University, Balasore, Odisha	1/12/2022-2/12/2022	International
05	Dr. Debapratim Das	ICSM-2022	MNIT Jodhpur	11/12/2022-16/12/2022	International
06		MATCON	CUSAT Kochi	12/01/2023-14/01/2023	International

07	Dr. Manabendra Sarma	Advances in Sustainable Chemistry and Material Science-2022 (ASCMS-2022)	Bodoland University, Kokrajhar, India	29/04/2022 – 30/04/2022	National (Invited Talk)
08		Theoretical Chemistry Meeting: Structure and Dynamics-2022 (TCMSD-2022)	Indian Association for the Cultivation of Science (IACS), Kolkata, India	26/05/2022 – 29/05/2022	National (Invited Talk)
09		12th Triennial Congress of the World Association of Theoretical and Computational Chemists (WATOC) 2020	The University of British Columbia, Vancouver, Canada	03/07/2022 – 08/07/2022	International (Invited Talk)
10		Current Trends in Theoretical Chemistry – 2022 (CTTC-2022)	Bhabha Atomic Research Centre, Mumbai, India	22/09/2022 – 24/09/2022	National (Invited Talk)
11		Spectroscopy and Dynamics of Molecules and Clusters (SDMC) 2022	Malpe, Karnataka, India	10/11/2022 – 13/11/2022	National (Chair)
12		Recent Advances in Chemistry: Theoretical and Computational Aspects (RAC:TCA) 2022	National Institute of Technology Meghalaya (NIT), Shillong, India	18/11/2022 – 20/11/2022	National (Invited Talk)
13	Dr. Kingsuk Mahata	Emerging Trends in Chemical Sciences 2023	NEHU, Shillong	3/03/23 - 04/03/23	International
14	Prof. A. S. Achalkumar	29th National Conference on Liquid Crystals, 8-10 December 2022, Christ College, Bengaluru	Christ University, Bengaluru	8-10/12/2022	National
15	Dr. Krishna Pada Bhabak	Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	3/12/2022	International
16		Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	2/03/2023	International
17	Dr. Akshai Kumar A S	ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022	Virtual	21-24/08/2022	International
18		Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology	IIT Guwahati	5-6/09/2022	International
19		IN-YAS Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (IN-YAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi, September 16-18, 2022	MUMBAI	16-18/09/2022	National

20		DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022	Indian Institute of Technology Ropar	25/09/2022	National
21		International Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022	BHU	15-17/12/2022	International
22		Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023	Kaziranga	16-18/03/2023	International
23		National-level mentoring symposium 'Gurukul in emerging areas in modern biology and medicine'	Tezpur University	2-3/03/2023	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. T Punniyamurthy	Regioselective C-H Functionalization and Construction of Medically Important Heterocyclic Compounds, EDCS-23.	Kalyani University	Kalyani University, Kalyani	28-29/03/2023
02		Regioselective C-H Functionalization and Construction of Medically Important Heterocyclic Compounds, Indo-German Conference -Sustainable Chemistry 2023.	IIT Indore	Indore	22-23/02/2023
03		C-H Functionalization for the Synthesis of Medically Important Heterocyclic Scaffolds, SSES-2022	NEIST Jorhat	Jorhat	24-26/11/2022
04		Regioselective Functionalization and Synthesis of Medically Important Heterocyclic Scaffolds, Birth Centenary of Professor Gokulananda Mahapatra.	Ravenshaw University	Cuttack	22-24/05/2022
05	Prof. Manabendra Ray	Toxic metal removal using an engineered AFC polymer with chromate and mercury as probe	MTIC conf. in Benaras Hindu University	Varanasi	16/12/2022
06	Prof. Subhendu Sekhar Bag	Keynote Speaker/ Lecture: Designer Fluorescent Biomolecular Building Blocks	Fakir Mohan University, Balasore, Odisha	Balasore, Odisha	1/12/2022-2/12/2022

		Through Click Chemistry and Nanophotocatalyst for Chemical Biology Applications			
07	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
08	Debapratim Das	Creating Life-like Systems	MNIT	Jodhpur	14/12/ 2022
09		Creating Life-like Materials	CUSAT	Kochi	12/01/ 2023
10	Dr. Manabendra Sarma	Ability Enhancement Program on Software Application Training Program Lecture 01: Introduction to Computational Chemistry	Department of Chemistry, Ravenshaw University	Cuttack, India	18/04/2022
11		Ability Enhancement Program on Software Application Training Program Lecture 02: Numerical Methods in Computational Chemistry	Department of Chemistry, Ravenshaw University	Cuttack, India	18/04/2022
12		Ability Enhancement Program on Software Application Training Program Lecture 03: Electronic Structure Theory	Department of Chemistry, Ravenshaw University	Cuttack, India	19/04/2022
13		Ability Enhancement Program on Software Application Training Program Lecture 04: Application of Electronic Structure Theory	Department of Chemistry, Ravenshaw University	Cuttack, India	19/04/2022
14		Ability Enhancement Program on Software Application Training Program Lecture 05: Computational Chemistry: Theory I	Department of Chemistry, Ravenshaw University	Cuttack, India	20/04/2022
15		Ability Enhancement Program on Software Application Training Program Lecture 06: Computational Chemistry: Applications I	Department of Chemistry, Ravenshaw University	Cuttack, India	20/04/2022
16		Ability Enhancement Program on Software Application Training Program Lecture 07: Computational Chemistry: Theory II	Department of Chemistry, Ravenshaw University	Cuttack, India	21/04/2022
17		Ability Enhancement Program on Software Application Training Program Lecture 08: Computational Chemistry: Applications II	Department of Chemistry, Ravenshaw University	Cuttack, India	21/04/2022

18		Ability Enhancement Program on Software Application Training Program Lecture 09: Density Functional Theory	Department of Chemistry, Ravenshaw University	Cuttack, India	22/04/2022
19		Ability Enhancement Program on Software Application Training Program Lecture 10: Applications to Density Functional Theory	Department of Chemistry, Ravenshaw University	Cuttack, India	22/04/2022
20		Ability Enhancement Program on Software Application Training Program Lecture 13: Quantum Dynamics Theory	Department of Chemistry, Ravenshaw University	Cuttack, India	24/04/2022
21		Ability Enhancement Program on Software Application Training Program Lecture 14: Quantum Dynamics Application	Department of Chemistry, Ravenshaw University	Cuttack, India	24/04/2022
22		Refresher Course in Chemistry	UGC – Human Resource Development Centre, University of Hyderabad	Hyderabad, India (Online)	13/10/2022
23		Theoretical Chemistry: An Interplay between Structure and Dynamics	Department of Science & Humanities, National Institute of Technology (NIT) Nagaland	Nagaland, India	03/02/2023
24	Dr. Kingsuk Mahata	The Failures that Led to the Discovery of Aldrone Condensation	North-Eastern Hill University	Shillong	3/03/2023
25	Dr. Dipankar Srimani	Sustainable Transformations of Alcohols Using Acceptorless Dehydrogenation and Borrowing Hydrogen Catalysis, Conference :Recent Trends in Chemical Sciences (RCTS-2022)	IIT-ISM Dhanbad	Dhanbad	17/12/2022
26		Activation of Alcohols for Sustainable Catalytic Transformations, Conference :FICS 2022	IIT- Guwahati	Guwahati	04/12/2022
27	Dr. Krishna Pada Bhabak	Celebration of 75 th Foundation Day of CSIR-CLRI, Chennai	CSIR-CLRI, Chennai	Chennai	22/09/2022
28		Invited guest lecture	IIT Madras	Chennai	23/09/2022
29		Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	Guwahati	3/12/2022
30		Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	Shillong	2/03/2023
31	Dr. Akshai Kumar A S	“Cyclic Voltammetry“ INUP-i2i 2022 Offline Workshop Schedule 4-6 April 2022	IIT Guwahati	Guwahati	4-6 April 2022

32		<p>“Guerbet-Type and Related Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals.”</p> <p>ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022</p>	ACS National Meeting & Exposition	Virtual	August 21-24, 2022
33	Dr. Akshai Kumar A S	<p>“Activities at the Centre for Nanotechnology, IIT Guwahati</p> <p>” Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology, 5-6 September, 2022</p>	IIT Guwahati	Guwahati	5-6 September, 2022
34		<p>“Pincer Metal Catalyzed Synthesis of Fuel Chemicals”</p> <p>IIT Day Exclusive webinar series for IIT, 7-8 September, 2022</p>	Agilent	Virtual	7-8 September, 2022
35		<p>“The Theranostic and Optoelectronic Applications of Anthracene Derivatives”</p> <p>IN-YAS Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (IN-YAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi, September 16-18, 2022</p>	Indian National Young Academy of Sciences (IN-YAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi	Mumbai	September 16-18, 2022
36		<p>“Organometallic Catalysis Towards Green Hydrogen Generation”</p> <p>DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022</p>	Indian Institute of Technology Ropar	Ropar	September 25, 2022
37		<p>Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals”</p> <p>International</p>	Modern Trends in Inorganic Chemistry - XIX held at BHU	BHU	December 15-17, 2022

		Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022			
38		Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals” ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik, Editor-in-Chief, Organometallics, December 15, 2022	ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik	Virtual	December 15, 2022
39		Invited Lecture “Pincer-Metal Catalyzed Production of Hydrogen Biofuels and Specialty Chemicals” Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023	Chemistry Meet 2023, Kindling in Kaziranga	Kaziranga	March 16-18, 2023
40		Invited Lecture “The Theranostic and Optoelectronic Applications of Anthracene Derivatives” ‘Gurukul in emerging areas in modern biology and medicine’ on 2-3rd March 2023, Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Tezpur University	2-3 March 2023

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Prof. Michael Schmittel	University of Siegen, Germany	Multiple Self-sorting - A Key for Information Science and for Switchable Catalysis	28/02/2023
02	Dr. Ryan Alan Altman	Purdue University	-	21/07/2022

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. Subhendu Sekhar Bag	IndiGlobal Bharat Summit	IndiGlobal Media (Mandated by Govt. of Assa)	27/2/2023-28/2/2023	National	1400
02		G-20/Y-20	Govt. of India	6/2/2023-8/2/2023	International	1200
03		North East Research Conclave (NERC)-2022; Sustainable Science and Technology	Govt. of India & Govt. of Assam	20/5/2022-22/5/2022	National	10000
04	Dr. Akshai Kumar A S	Frontiers in Chemical Science 2022	SERB, Oil India, MERCK, Bruker, ChemDist Group of Companies	2/12/2022-04/12/2022	International	350

PATENTS:

No. of Patents Applied: 06

No. of Patents Granted: 02

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Prof. Arun Chattopadhyay, Prof. Anumita Paul, Dr.Srestha Basu, and Dr. Amaresh Kumar Sahoo	A Device for visual detection of bilirubin	21/03/2023	631/KOL/2015	Granted
02	Prof. Subhendu Sekhar Bag	Near Infrared (NIR-I) Perovskite-Quantum Dot (BagQD) As Fluorescent Sensor For Live-Cell Imaging and Photocatalytic Disinfection of Pathogenic Bacteria Without Regrowth.	30/3/2023	Indian Patent Application No.: E-2/85/2023/KOL/ Appl.202231021 372/CBR5127	Patent Filed (Complete Specification)
03		Smart Nanophotocatalyst for Azide-Alkyne Cycloaddition and Hetero-Selective Glaser Coupling Reactions.	21/2/2023	Indian Patent Application No.: E-2/42/2023/Kol/ Appl.	Patent Filed (Complete Specification)

				202231009433/ CBR2802	
04	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
05	Prof. Debapratim Das and Dr. Nilotpal Singha	Peptide-Based Water Insoluble Molecular Hydrogel	09/01/2023 (Granted)	Ind. Patent no. 417150	NA
06	Dr. Akshai Kumar A S	GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/02/2023	PCT/IB2023/05 1407	xxx
07		GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/04/2022	202231020801	Xxx
08		SYMMETRIC TETRAALKYNYLATED ANTHRACENES AND THE PROCESS FOR PREPARING THE SAME FOR SENSING AND OPTOELECTRONIC APPLICATIONS	03/08/2022	PCT/IB2022/05 7185	xxx

AWARDS AND HONOURS:

- T Punniyamurthy: FNA; Indian National Science Academy.
- Manabendra Ray: Maharaja Nripendra Narayan Memorial Prize; Acharya Brajendra Nath Seal College (Est 1888), Cooch Behar.
- Subhendu Sekhar Bag: INSA Teachers Award, INSA, New Delhi.
- Chivukula Vasudeva Sastri: International travel award for DALTON 2023; Warwick, United Kingdom.
- S. Achalkumar: Silver Medal (For year 2019); By Indian Liquid Crystal Society.

STUDENTS' ACHIEVEMENTS:

- Pallab Karjee: Best Poster Award; IIT Indore.
- Subhradeep Kar: Best Oral Presentation Award; IIT Guwahati.
- Riya Mallik: Young Scientist; Indian Chemical Society.

- Rabu Ranjan Changmai: Best Poster Award Current Trends in Theoretical Chemistry (CTTC-2022), September 22 – 24; Bhabha Atomic Research Centre (BARC), Mumbai.
- Shubham Kumar: Prime Minister's Research Fellows (PMRF), 2022 (Lateral Entry).
- Manash Pratim Sarmah: Prime Minister's Research Fellows (PMRF), 2022 (Lateral Entry).

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org 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)	Associate 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	Bhishma 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	<u>Chivukula V. Sastri</u>	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

Civil Engineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1998

ACADEMIC PROGRAMMES OFFERED:

The Department is currently having B.Tech, M.Tech and PhD Programmes. The Post Graduate (PG) includes the following specialization:

- Structural Engineering
- Water Resources Engineering and Management
- Geotechnical Engineering
- Environmental Engineering
- Transportation Systems Engineering
- Infrastructure Engineering & Management
- Earth System Science and Engineering

NO. OF LABORATORIES WITH BRIEF INTRODUCTION: 09

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 microbiology division with microbial research facilities to enrich, isolate, and identify noble bacterial species. The laboratory is equipped with the 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 behavior 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, biostabilization, 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 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. The 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
- nDimensional modelling of built facilities
- Risk analysis and assessment of infrastructure projects

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 Lab:

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, 500 LPM in Powerpack for MTS test system, Real Time Hybrid Simulation Facility for dynamic testing of structures, 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:

MIKE Model manager, 1D Pipeflow, 1D River, 2D Overland, Rainfall Runoff, Control Software;

Concrete Profometer

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, Light weight concrete (Foam concrete), Shrinkage behaviour and thermal performance of concrete, Sustainable materials in construction, Hydrological modeling, 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,

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: INTERNATIONAL, NATIONAL:

Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
Sharma, A., Choudhary, R., & Kumar, A.	“Stabilization of open graded asphalt friction course mixes with plant-based natural fibers” at the Second International Conference on Construction Materials and Structures (ICCMS-2022), during. This paper also received the best paper award.	organized in an online mode	13-19 December 2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
Choudhary, R.	Delivered Expert Talks on “Surface Dressing”, in the Webinar week on “New Technologies Adopted in PMGSY Roads”	National Rural Infrastructure Development Agency (NRIDA) for Engineers, Contractors, and Staff involved in PMGSY works in various State Rural Roads Development Agency (SRRDA).		22nd and 24th August 2022
Choudhary, R.	Delivered an Expert Talk on “Mechanized Surface Dressing and Its Construction for Rural Roads in India”, in the two-day workshop and review meeting (5 and 6th august 2022)	National Rural Infrastructure Development Agency (NRIDA) on PMGSY-III for all North-eastern states.	Guwahati, India.	5th and 6th August 2022
Kar, S.	Project Management using MS Project.	Training Program for Institute Engineers	IIT Jodhpur	18-19 March 2023
Kar, S.	Project management using MS Project and Primavera P6	Training Programme for the Engineers of SPCL, IIT Delhi	Online	23 Feb 2023
Kar, S.	Project Management using MS Project and Primavera P6	Training Program for the officials of Chitranjan Locomotive Works	Chitranjan	21-24 December 2022
Kar, S.	Earned Value Management Application in Projects and Resource Management, Tracking, and Report Generation in MS Project	IITD's Certificate Programme in Project Management	Online	16 October 2022
Kar, S.	Cost monitoring and Earned value analysis and Illustration of software in Project Management,	IITD's Certificate Programme in Project Management	Online	09 October 2022
Kar, S.	Fundamentals of PLS-SEM by using SmartPLS, Scholar and Faculty Development Program (SFDP)	National Institute of Construction Management and Research (NICMAR), Pune	Online	14 August 2022

VISITORS FROM OTHER INSTITUTES / UNIVERSITIES / ORGANISATIONS / INVITED LECTURES:

Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture
Prof. Sudhanshu Panda	Institute for Environmental Spatial Analysis University of North Georgia	Honorary Faculty
Dr. Tony Hadibarata	Department of Civil and Construction Engineering Curtin University Malaysia	Honorary Faculty
Prof. Vir Amarjit Singh	Department of Civil and Environmental Engineering University of Hawaii at Manoa	Honorary Faculty
Tribikram Kundu	Department Civil & Architectural Engineering & Mechanics University of Arizona	Honorary Faculty

AWARDS AND HONOURS:

- Dr. Arindam Dey: Member of the Expert Committee for Capacity Building and Training on Geospatial Science and Technologies (Summer-Winter School) of National Geospatial Program (NGP, erstwhile NRDMS) of DST-GOI from 2021 for 3 years.
- Prof. Rajan Choudhury: OUTSTANDING RESEARCHER IN TRANSPORTATION ENGINEERING
- Board of Management of the Venus International Foundation based on the VISTA 2022 Expert Committee Report and Apex Committee Recommendations, 2022.
- Dr. Indu Siva Ranjani Gandhi: MENTOR FOR PMRF STUDENT BODDEPALLI UDAY WHO CLEARED ROUNDS. TATA STEEL MATERIAL NEXT 4.0 COMPETITION
- Dr. Indu Siva Ranjani Gandhi: PRADHAN MANTRI AWAS YOJANA AWARD (FIRST PRIZE IN POSTER COMPETITION ON THEME OF " FUTURE OF AFFORDABLE HOUSING IN INDIA" ORGANIZED UNDER INDIAN URBAN HOUSING CONCLAVE 2022) Ministry of Housing and Urban Affairs at Ahmedabad
- Dr. Indu Siva Ranjani Gandhi: BEST PAPER AWARD FOR PAPER TITLED INFLUENCE OF VARIOUS ADMIXTURES ON ENERGY ABSORPTION CHARACTERISTICS OF FOAM CONCRETE MEASURED USING ONE DIMENSIONAL STRAIN ANALYSIS TEST Second International Conference on Construction Materials and Structures (ICCMS-2022)
- Dr. Indu Siva Ranjani Gandhi: NPTEL MOOCS COURSE RERUN 8 WEEKS ON CONSTRUCTION METHODS AND EQUIPMENT MANAGEMENT

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Barua, Gautam	Ph. D. from Indian Institute of Technology, Kharagpur	Professor	*Flow through porous media
02	Bharadwaj Neejyoti	Ph.D. - University of Missouri - Columbia	Assistant Professor	* Traffic safety. * Naturalistic Driving Study. * Traffic flow theory. * Econometric Modeling
03	Bharat, Venkata T.	Ph. D. Indian Institute of Science, Bangalore, India	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	Bharti, Rishikesh	Ph.D, Indian Institute of Technology Bombay, Mumbai.	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	Bhattacharjya, Rajib K.	Phd., Indian Institute of Technology Kanpur,	Professor	*Water Resources System Management *Genetic Algorithms *Artificial Neural Networks
06	Buragohain, Dharendra Nath	PhD, IIT Bombay	Emeritus Professor	*Structural Mechanics * Finite Element Methods *Numerical Methods *Computer aided analysis *Design and drafting *Development of software
07	Chakraborty, Arunasis	PhD - Trinity College, Dublin, Ireland	Professor	• Random Vibration & Wavelet Analysis • System Identification &

				Damage Detection • Uncertainty Quantification & Reliability Based Design
08	Chakraborty, Saswati	PhD IIT Bombay.	Professor	<ul style="list-style-type: none"> • Heavy metal removal by polymers • Aerobic granular reactors • Sequential treatment of industrial wastewater • Constructed wetland for wastewater treatment
09	Chakraborty Sayantan	Ph.D. - Indian Institute of Technology Bombay	Assistant Professor	<ul style="list-style-type: none"> *Shear zones and Fault zones *Evolution of Mountain Belts *Microstructures *Thermochronology
10	Choudhary, Rajan	Ph.D Indian Institute of Technology 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	Das, Sandip	Ph.D – Indian Institute of Technology Kanpur	Associate Professor	<ul style="list-style-type: none"> *Earthquake Engineering *Structural Dynamics *Random Vibration
12	Dasgupta, Kaustubh	Ph.D. Indian Institute of Technology Kanpur, India	Associate Professor	<ul style="list-style-type: none"> *Earthquake Engineering *Design of Reinforced Concrete Structures *Retrofitting of Structures
13	Dashora, Ajay	Ph. D, 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	Deb, Sajal Kanti	Ph. D. 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	Dey, Arindam	Ph. D. 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 *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	Dutta, Anjan	Ph.D – Indian Institute of Technology Delhi	Professor	<ul style="list-style-type: none"> *Finite Element Mesh Generation *Optimization *Control, Health Monitoring and Retrofitting of structures
17	Dutta, Subashisa	Ph.D. Indian Institute of Technology 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	Ghosh, Pranab Kumar	Ph.D – Indian Institute of Technology 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	Gokhale, Sharad B. (Head)	Ph.D. Indian Institute of Technology Delhi.	Professor	*Air Pollution and Environmental Noise
20	Hazra, Budhaditya	PhD - University of Waterloo, Canada	Associate Professor	*Deterministic and Stochastic Structural Dynamics *System Identification *Blind source separation *Time-frequency analysis *Vibration based condition monitoring
21	Jawed, Mohammad	• Ph D Indian Institute of Technology Kanpur	Professor	*Biological Processes *Anaerobic Wastewater Treatment *Heavy Metal Removal and Recovery *Water Treatment and Supply *Domestic & Industrial Wastewater Treatment
22	Johari Sparsh	Ph.D. - Indian Institute of Technology Delhi	Assistant Professor	*Construction Project Management *Workforce Management *Capacity Building *Skill Development Training *Construction Productivity *Project Performance *Construction Quality *Safety, and health
23	K., Ravi	Ph.D – Indian Institute of Science (IISc) Bangalore	Associate Professor	*Geo-environmental engineering *Geo-energy systems *Engineering behaviour of unsaturated soils *Research on hazardous waste management
24	Kalamdhar, Ajay	Ph.D. Indian Institute of Technology Roorkee, India	Professor	*Solid waste management *Mechanical composting and vermicomposting *Analysis of solid wastes
25	Kar Santu	Ph.D. - Indian Institute of Technology Delhi	Assistant Professor	*Construction Project Management *Material Management *Automation in Construction *Optimization in Construction Management *Sustainable Construction

				<ul style="list-style-type: none"> *Risk Management *Green and Affordable Housing *Construction Productivity
26	Kartha, Suresh A.	Ph.D from Indian Institute of Technology Kanpur	Professor	<ul style="list-style-type: none"> *Flow and transport through porous media *Heap leaching *Hydrology *Numerical modeling
27	Kaushik, Hemant B.	Ph.D Indian Institute of Technology Kanpur, India	Professor	<ul style="list-style-type: none"> *Earthquake Resistant Design *Nonlinear Behaviour of Structures *Retrofitting of Structures *Finite Element Modeling
28	Kumar, Abhishek	PhD Indian Institute of Science, Bangalore, India	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	Kumar, Bimlesh	PhD (Indian Institute of Science, Bangalore)	Professor	<ul style="list-style-type: none"> *Small scale studies of mixing tanks *Experimental Studies of Aeration Systems *Sediment Transport analysis *Pipeline analysis *CFD simulation *Surge analysis
30	Mahanta, Chandan	PhD (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	Mallikarjuna, Chunchu	Ph.D – Indian Institute of Technology Delhi	Professor	<ul style="list-style-type: none"> *Traffic flow theory and Modeling

				<ul style="list-style-type: none"> *Traffic data collection and analysis *Travel demand modeling
32	Maurya, Akhilesh K.	Ph.D. Indian Institute of Technology (IIT) Kanpur.	Professor	<ul style="list-style-type: none"> *Driver behaviour *Traffic flow theory and modeling *Traffic engineering
33	Mishra, Anil Kumar	Ph. D. - 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	Nair, Archana M.	Ph.D. 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	Oinam Romanbabu Meetei	Ph.D. - Indian Institute of Technology 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
36	Padmanabha Vivek	Ph.D. - Indian Institute of Science, 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. *Shock attenuation and compression phenomena in granular /porous materials *Dynamic fracture and fragmentation in rocks *Blast resistance and

				mitigation strategies on Geotechnical Structures
37	Pradhan, Bulu	Ph.D (Indian Institute of Technology Delhi, India)	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
38	Rajani, G. Indu Siva	Ph.D – Indian Institute of Technology 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
39	RB Sharmila	Ph.D. - Indian Institute of Technology Bombay	Assistant Professor	<ul style="list-style-type: none"> *Machine learning *Intelligent Transportation System *Driver behaviour studies *Traffic safety and sustainable transportation
40	Ryntathiang, Teiborlang, Lyngdoh	Ph.D – Indian Institute of Technology, Kharagpur	Professor	<ul style="list-style-type: none"> *Pavement Materials *Precast Concrete Block Pavement *Cast In-Situ Concrete Block Pavement
41	Sreeja, Pekkat	Ph. D. Indian Institute of Technology 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
42	Sarma, Arup Kumar	Ph.D. – Guwahati University	Professor	<ul style="list-style-type: none"> *Modeling & simulation in Free Surface Flow *Heuristic Method in Reservoir Optimization *GIS based Watershed Modeling
43	Sharma, Hrishikesh	Ph.D Zachry Department of Civil	Associate Professor	<ul style="list-style-type: none"> *Impact and Blast Resistant Design *Reliability Analysis and

		Engineering, Texas A&M University,		Performance Based Engineering *Design and Optimization of Protection Measures
44	Shelke, Amit Balasaheb.	Ph.D (The University of Arizona)	Associate Professor	*Ultrasonic wave propagation *Acoustic-Impact detection *Non-destructive testing
45	Singh, Arbind K.	Ph.D (IISc Bangalore)	Professor	*Information Technology in Construction Engineering *Object-Oriented Programming *Constitutive modeling
46	Singh, Baleshwar	Ph.D. Indian Institute of Technology Delhi	Professor	*Marine Geotechnology *Modelling of Onshore & Offshore Foundations *Soil Stabilization & Ground Modification *Pavement Subgrade & Site Characterization
47	Singh, K. Darunkumar	PhD Southampton University	Professor	*Structural Analysis and Design *Finite Element Method *Fracture and Fatigue Mechanics
48	Singh, Laishram Boeing.	Ph.D, Indian Institute of Technology Madras)	Professor	*Public Private Partnerships *Risk Management *Construction Management
49	Sitharam T. G. (Director of the Institute)	Ph.D. 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
50	Sreedeeep, Sekharan.	Ph. D. – 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

				<ul style="list-style-type: none"> *Waste containment studies *Landslides
51	Siddagangaiah, Anjan Kumar	Ph.D (Indian Institute of Technology Madras)	Associate Professor	<ul style="list-style-type: none"> *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
52	Taki Kaling	Ph.D. - Indian Institute of Technology 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.
53	Talukdar, Sudip	Ph.D – Indian Institute of Technology Kanpur	Professor	<ul style="list-style-type: none"> *Structural Dynamics *Bridge Engineering *Wind induced vibration & control *Non destructive techniques
54	Verma Abhishek	Ph.D – Indian Institute of Technology 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.

Computer Science and Engineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT/CENTRE: 1995

ACADEMIC PROGRAMMES OFFERED: B.Tech., M.Tech., Dual Degree (M.Tech. + Ph.D.), Ph.D.

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 equipment.

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 billions 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 Inovation 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 Center 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.

AVS (Automation, Verification, and Security) Laboratory:

This Lab is designated with research in the area of compiler security, hardware security, logic locking, formal verification, and high level synthesis.

This lab is facilitated with workstations.

AMaL Laboratory:

The lab focuses on applying Machine Learning algorithms for various real world problems. Primarily, it focuses on Natural Language Processing and Computational Biology.

The lab facilities include GPU workstations, NAS server and High-end computing.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

- HP EliteBook 830 G5 Laptop
- LaserJet Pro MFP M128fn
- 16 core AMD Ryzen Threadripper Workstation
- Xilinx Zynq Ultrascale MPSoC Development Board
- Aries Development Board with VEGA Processor

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

Area	Faculty Involved
Theoretical Computer Science	Purandar Bhaduri, Jatindra Kumar Deka, Diganta Goswami, R. Inkulu, Benny George K, Chandan Karfa, Sushanta Karmakar, Deepanjan Kesh, Pinaki Mitra, S. V. Rao
Computer Architecture and Embedded Systems	Sukanta Bhattacharjee, Jatindra Kumar Deka, John Jose, Hemangee K. Kapoor, Chandan Karfa, Sukumar Nandi, Aryabartta Sahu
Man-Machine Interfaces	Sukanta Bhattacharjee, Samit Bhattacharya, Pradip Kr. Das, Shivashankar B. Nair, V. Vijaya Saradhi

Area	Faculty Involved
Computer Systems	Diganta Goswami, John Jose, Sushanta Karmakar, Manas Khatua, Pinaki Mitra, Sukumar Nandi, Moumita Patra, S. V. Rao, Aryabartta Sahu, G. Sajith, Arijit Sur, Tamarapalli Venkatesh
Artificial Intelligence, Machine Learning and Data Mining	Ashish Anand, Amit Awekar, Rashmi Dutta Baruah, Manas Khatua, Sukumar Nandi, Moumita Patra, V. Vijaya Saradhi, Sanasam Ranbir Singh, Arijit Sur

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date D/M/Y	International/National
1	Dr. Samit Bhattacharya	International Symposium on Mixed and Augmented Reality	Singapore	19/10/2022	International
2	Dr. Samit Bhattacharya	ICT Analysis and Applications	Goa,India (Online)	06/11/2022	International
3	Hemangee K. Kapoor	International Conferennce on VLSI Design	Hyderabad, India	10/1/2023	International
4	Hemangee K. Kapoor	International Symposium on Quality Electronic Design	California, USA	9/4/2023	International
5	John Jose	International Conference on Very Large Scale Integration [VLSI-SoC-2022]	Patras, Greece	03/10/2022	International
6	John Jose	International Conferennce on VLSI Design	Hyderabad, India	10/1/2023	International

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date D/M/Y	International/National
7	John Jose	IEEE India Council Industrial Conclave	Chandigarh, India	11/11/2022	National
8	John Jose	IEEE Indicon	Kerala, India	27/11/2022	National
9	Hemangee K. Kapoor	International Conference on Very Large Scale Integration [VLSI-SoC-2022]	Patras, Greece	03/10/2022	International
10	Hemangee K. Kapoor	International Symposium on Low Power Electronics and Design (ISLPED) 2022, ACM.			
11	Moumita Patra	International Conference on COMMunication Systems & NETWORKS, COMSNETS	Banglore, India	03/01/2023	International
12	Moumita Patra	Consumer Communications and Networking Conference, CCNC	Las Vegas, USA	08/01/2023	International
13	Moumita Patra	International Conference on Network and Service Management	Thessaloniki, Greece	02/11/2022	International
14	Moumita Patra	IEEE International Conference on Communications, ICC 2022	Seoul, Korea	16/05/2022	International
15	Prof. Shivashankar B. Nair	1st International Conference on Sci/Tech & Engineering, NIT Manipur	NIT Manipur, India	17/02/2023	International

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date D/M/Y	International/National
16	Prof. Sukumar Nandi	International Conference on Recent Advances in Computer Science and Engineering	Jamia Millia Islamia, India	26-27 Nov 2022	International
17	Prof. Pradip K. Das	1st International Conference on Sci/Tech & Engineering, NIT Manipur	NIT Manipur, India	17/02/2023	International
18	Prof. Sushanta Karmakar	9th Annual International Conference on Algorithms and Discrete Applied Mathematics (CALDAM 2023) Feb 6-11, 2023 (international)			
19	Prof. Pradip K. Das	AAAI conference on Artificial intelligence	Washington DC, USA	Feb 7-14 2023	International
20	Prof. Pradip K. Das	26th International Conference Information Visualization (IV)	Vienna, Austria	19-22 July, 2022	International
21	Prof. Pradip K. Das	4th International Conference on Artificial Intelligence and Speech Technology (AIST)	Delhi, India	9-10 December 2022	International
22	Prof. Pradip K. Das	IEEE Region 10 Conference (TENCON)	Hong kong, China	1-4 November, 2022	International
23	Dr. Chandan Karfa	Embedded Systems Week (ESWEEK), 2022	Shanghai, China	7-14 October, 2022	International

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date D/M/Y	International/National
24	Dr. Chandan Karfa	Euromicro Conference on Digital Systems Design 2022 (DSD22)	Maspalomas, Gran Canaria, Spain	Aug. 31th – Sept. 2nd, 2022	International
25	Dr. Pinaki Mitra	2nd International Conference on Network Security and Blockchain Technology, ,2023	Vidyasagar University, India	March 25-26	National
26	Dr. Pinaki Mitra	International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2022)	Banaras Hindu University, India	22 december,2022	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Dr. Samit Bhattacharya	Extended Reality - Introduction	GMR Group	New Delhi	18-Apr-22
2	Dr. Samit Bhattacharya	Extended Reality - Interactions	GMR Group	New Delhi	11-May-22
3	Dr. Samit Bhattacharya	Extended Reality	Dept of Computer Science & Engineering, Institute of Technology, Nirma University	Ahmedabad, Gujarat (Online)	09-Jul-22
4	Dr. Samit Bhattacharya	Machine Learning in HCI	School of Computer Engineering, Kalinga Institute of Industrial Technology (KIIT)	Bhubaneswar	03-Sep-22
5	Dr. Samit Bhattacharya	Human-Computer Interaction: What, Why & How	St Anthony's College	Shillong, Meghalaya	09-Sep-22

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
6	Dr. Samit Bhattacharya	DevOPS: Evolution & Key Concepts	Department of Computer Engineering at Ramrao Adik Institute of Technology (RAIT)	Navi Mumbai (Online)	03-Jan-23
7	Dr. Samit Bhattacharya	Extended reality and Applications	Department of Computer Science and Engineering, Sri Krishna College of Technology	Coimbatore (Online)	01-Mar-23
8	Dr. John Jose	Smart and Secure Multi-Core Systems	University of Catania	Catania, Italy	07-Oct-22
9	Prof. Hemangee K. Kapoor	Emerging Memory technologies : Challenges and research directions	ACM W Cohort	IIT Jodhpur (Online)	2022
10	Prof. Shivashankar B. Nair	Nature Inspired AI	Gauhati University	Guwahati, India	03-Jan-23
11	Prof. Shivashankar B. Nair	Advances in AI	FDP on Blockchain, AI & IoT at IIIT&M	Gwalior, India	12-Jul-22
12	Prof. Shivashankar B. Nair	Time to Shed Blinkers	North East Research Conclave	IIT Guwahati, India	25-May-22
13	Prof Sukumar Nandi	Security in Machine Learning	International Conference on Recent Advances in Computer Science and Engineering	Jamia Millia Islamia, Jamia Nagar, New Delhi	26-27 Nov 2022
14	Prof. Hemangee K. Kapoor	What's Changed Post-Pandemic? A conversation with women in computing	ACM Panel discussion	Online (Available on youtube)	15 April, 2023
15	Prof. Hemangee K. Kapoor	Enhancing DEI at the ACM, some observations and way	CODS COMAD(IIT Bombay)	Online	January 4-7,2023

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
		forward			
16	Prof. Hemangee K. Kapoor	DEI activities at the ACM and how to make CS education more inclusive	ACM compute, 2022	Jaipur	November 9-11, 2022
17	Prof. Pradip K. Das	Guest of Honour - IT Fest: Asian Institute of Management and Technology, R.G Baruah Road, Bhaskar Nagar, Guwahati-781021	IT Fest: Asian Institute of Management and Technology	Guwahati, India	28th March 2023
18	Prof. Pradip K. Das	(Invited Talk) NIT Mizoram "AI in Computer Vision and Image Processing"	(Invited Talk) NIT Mizoram	NIT MIZORAM	27th July 2022
19	Dr. Chandan Karfa	Hardware Accelerator Design from C/C++ code with High Level Synthesis, One Day Workshop on Embedded Machine Learning on System-on-Chip	Tezpur University	Tezpur, Assam	20th December 2022
20	Prof. Ashish Anand	Language Models: Statistical to Neural Models	FDP on Recent Trends in AI and ML	NIT Nagaland	11th March, 2023
21	Prof. Ashish Anand	Mining and knowledge inference from biomedical texts	SERB Workshop on AI in Digital Healthcare	IIIT Una	3rd January, 2023
22	Prof. Ashish Anand	Natural Language Processing: Industrial Applications	Industrial AI in Industry 4.0	IIT Guwahati, India	15th November, 2022
23	Prof. Ashish Anand	Neural Models for NLP	Workshop on Deep Learning	Assam Engineering College	30th June, 2022

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
24	Prof. Ashish Anand	Language Models: Statistical to Neural Models	Short Term course on AI, ML Automation, Robotics, Future of Work and Humanity	Gauhati University	1st March, 2023
25	Dr. Pinaki Mitra	Digital Supply Chain	(Invited Talk) NIT Silchar	NIT Silchar	10/10/2022 to 21/10/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
1	Dr. Davide Patti	University of Catania, Italy.	International Workshop on Scaling Blockchains: From Bitcoin to the Lightning Network	23-Aug-2022

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED:

Sl. No.	Name of Faculty	Name of Sem./Wor./Con.	Funded By	Date	International/National	No. of participants
1	Dr. Samit Bhattacharya	2 months training & 2 months internship program for trainees from Bangladesh under the project of "Establishment of Bangladesh-Bharot Digital Service and Employment Training (BDSET) Center"	Bangladesh Hi-Tech Park Authority (BHTPA), Information and Communication Technology Division (ICTD), Ministry of Post, Telecommunications and Information Technology, Bangladesh.	21/06/2022	International	30

Sl. No.	Name of Faculty	Name of Sem./Wor./Con.	Funded By	Date	International/National	No. of participants
2	Dr. John Jose	International Workshop on Scaling Blockchains: From Bitcoin to the Lightning Network	SPARC Project 'Approximate Computing Techniques for Resource Constrained Edge Devices	23/08/2022	National	48
3	Prof Sukumar Nandi & Dr John Jose	"Secure Systems Engineering" at School of Engineering, CUSAT, Kochi	ISEA Project Phase II by MeitY	03/05/2022	National	41
4	Prof Sukumar Nandi & Dr John Jose	"Secure Systems Engineering" at JSS Academy of Technical Education, Bengaluru	ISEA Project Phase II by MeitY	02/06/2022	National	125
5	Prof Sukumar Nandi & Dr John Jose	"Secure Systems Engineering" at JSS Science and Technology University, Mysore	ISEA Project Phase II by MeitY	03/06/2022	National	55
6	Prof Sukumar Nandi & Dr John Jose	"System Security" at JNTU, Hyderabad	ISEA Project Phase II by MeitY	09/01/2023	National	72
7	Prof Sukumar Nandi & Dr John Jose	2 nd ISEA Virtual Presentation Conclave (IVPC-2022)	ISEA Project Phase II by MeitY	23/06/2022	National	62
8	V. Vijaya Saradhi and Amit Awekar	ATAL FDP on Applied Machine Learning	AICTE	19 to 30 Sep 2022	National	50

PATENTS:

Sl. No.	Name of Faculty and co researcher Prof./Dr. (Name) (Surname)	Name	Date Applied/Granted D/M/Y	Application No.
1	Prof. Shivashankar B. Nair, Dr. Shashi Shekhar Jha, Dr. W. Wilfred Godfrey	TASK EXECUTION BY A SET OF ASYNCHRONOUS	Granted 28/12/22	625/KOL/2012, Patent no. 415792

Sl. No.	Name of Faculty and co researcher Prof./Dr. (Name) (Surname)	Name	Date Applied/Granted D/M/Y	Application No.
		NODES		

AWARDS AND HONOURS:

- John Jose: Vice Chair-Industry Academia Collaboration; IEEE India Council.
- John Jose: Associate Editor - IEEE Embedded Systems Letters; IEEE Embedded Systems Letters.
- John Jose: TPC Co-chair; 15th International Workshop on NoC [NoCArc-2022].
- Sukumar Nandi: Fellow; Asia-Pacific Artificial Intelligence Association.
- Amit Awekar with student Anuj Khare: Best Research Paper Award; ACM India Joint International Conference on Data Science and Management of Data, 2023.

STUDENTS' ACHIEVEMENTS:

- Syam Sankar: The Prime Minister's Research Fellow (PMRF).
- Abhijit Das: Best Ph.D thesis in CSE; IIT Guwahati.
- Gayathri Rangu: Travel grant to attend the workshop - "Control of Autonomous Mobile Robots: from Theory to Practice", NIT Silchar; Science & Engineering Research Board (SERB).
- Menaxi J. Bagchi: Travel grant to attend Research Week with Google held from 29th to 31st January 2023; Google.
- Vanshali Sharma: Travel grant to attend AAAI 2023; AAAI.
- Vanshali Sharma: Travel grant to attend Research Week with Google 2023; Google.
- Thiyam susma Devi: Best Paper award; AIST-2021.
- Priyanka Panigrahi: Qualcomm Innovation Fellowship, 2022; Qualcomm India.
- Surajit Das: Intel Research Fellowship, 2022; Intel India.
- Arshdeep Kaur: Best M.Tech. thesis in CSE; IIT Guwahati.
- Praveen Karmakar, Subham Das, Marpina Bharani: 2nd Prize in Hello: CTF 2022; University of Florida, University of Texas A&M, University of Maryland.
- Anuj Khare: Best Research Paper Award; ACM India Joint International Conference on Data Science and Management of Data, 2023.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org Ph D degree received from	Designation	Areas of Interest
1	Ashish Anand	Nanyang Technological University, Singapore	Associate Professor	NLP, Clinical Text Mining, Machine Learning and its application in computational biology, Deep Learning
2	Amit Awekar		Associate Professor	Data Mining, Natural Language Processing
3	Rashmi Dutta Baruah	Lancaster University, United Kingdom	Assistant Professor	Evolving and Adaptive Intelligent Systems, Computational Intelligence, Learning from Data streams, Deep Learning, Explainable AI and Model Interpretability
4	Purandar Bhaduri	Washington State University, Pullman	Professor	Formal Verification of Reactive Systems, Automated Controller Synthesis, Logic and Semantics of Computation
5	Sukanta Bhattacharjee	ISI Kolkata	Assistant Professor	Design Automation Algorithms, Microfluidics, Security
6	Samit Bhattacharya	IIT Kharagpur	Associate Professor	Human Computer Interaction, User Modeling, Model Based Evaluation of Interactive Systems, Rehabilitation Engineering
7	Pradip Kr. Das	University of Delhi, New Delhi	Professor	Speech Processing, Man-Machine Intelligence Systems, Algorithms, Software Engineering, Smart Devices, Mobile Robotics
8	Jatindra Kumar Deka	IIT Kharagpur	Professor and Head	Formal Modelling and Verification, CAD for VLSI and Embedded Systems (Design, Testing)

Sl. No.	Name	Name of the University/Institute/Org Ph D degree received from	Designation	Areas of Interest
				and Verification)
9	Diganta Goswami	IIT Kharagpur	Professor	Distributed Systems, Software Engineering
10	R. Inkulu		Associate Professor	Algorithms
11	John Jose	IIT Madras	Associate Professor	Computer Architecture, On-chip Storage and Interconnects, Hardware/IoT Security, Disaggregated Systems, Edge Device Computing
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, High-level Synthesis, Electronic Design Automation, Hardware Security, Verification of Compiler Optimizations.
15	Sushanta Karmakar	IIT Kharagpur	Professor	Graph Algorithms, Distributed Optimization
16	Deepanjan Kesh	IIT Kanpur	Associate Professor	Data Structures and Algorithms
17	Manas Khatua	Indian Institute of Technology Kharagpur	Assistant Professor	Internet of Things, Wireless Networks, Sensor Networks, Network Security, Cloud and Edge Computing, Cyber Physical Systems

Sl. No.	Name	Name of the University/Institute/Org Ph D degree received from	Designation	Areas of Interest
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 Algorithms, Fuzzy Systems & Neural Networks
20	Sukumar Nandi		Professor	Computer Networks, Computer and Network Security, Data mining, Machine Learning, VLSI, Computer Architecture, Computational Linguistics
21	Moumita Patra	IIT Madras	Assistant Professor	Wireless networks, Internet of vehicles, IoT, 5G based communication, Network performance analysis
22	S. V. Rao		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

Sl. No.	Name	Name of the University/Institute/Org Ph D degree received from	Designation	Areas of Interest
				Theory
25	V. Vijaya Saradhi		Associate Professor	Machine Learning, Kernel Methods, Data Mining and their applications
26	Sanasam Ranbir Singh		Associate Professor	Open Source Intelligence (Social Media/Social Network Analysis), Information Retrieval, NLP
27	Arijit Sur	IIT Kharagpur	Professor	Computer Vision using Deep Learning: Machine learning, Adaptive video streaming, Media Forensics
28	T. Venkatesh	IIT Madras	Associate Professor	Network Protocols and Architectures, Cloud Data Centers, Multimedia Streaming

Design

The Department of Design (DoD), one of the eleven departments at IIT Guwahati, was set up with a vision to enkindle some of the brightest technical minds of the country with a passion for innovation in technology, driven by a firm understanding, appreciation and celebration of design. IIT Guwahati was the first Indian Institute of Technology to start the bachelor and the PhD programmes in Design in 1999 and 2001 respectively. The Department currently offers B.Des, two masters degrees (M.Des and M.Des in Electronic Product Design) and PhD in Design. The focus of these programmes is on the study, invention, and use of technologies for effective and enjoyable user experiences and on understanding the impact of technology on individuals, groups, and organizations. The Department promotes interdisciplinary research in engineering, design, behavioral and social sciences. It envisions to produce successful graduating students who will be capable of leading the changing scenarios of today and tomorrow through thought, innovation and values.

Academic Programmes Offered: B.Des, M.Des.(Regular), M.Des (EPD), Ph.D., Post-Doctoral

LABORATORY FACILITIES:

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. Two (02) faculty members (Prof. Dr. S. Karmakar, and Dr. U.R. Salve) and good number of 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.).

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 lab 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.

Usability Engineering and HCI Laboratory:

Major research areas include usability engineering, e-learning technologies, Information systems etc. This lab has produced over 100 bachelor thesis projects so far. This lab uses advanced technologies such as eye-tracking devices, observatories, biometric softwares et cetera.

Media Laboratory:

Multimedia and visual communication are integral streams of department of Design. Equipped with professional softwares like Final Cut Pro and advanced videography studios, New Media lab has witnessed many marvellous projects in the field of animation, multimedia and digital art.

Photography and Video studio

Ekalpa Laboratory:

An active contributor to design research community, E-kalpa lab is currently devoted to facilitate online design education to zealous Indian students. This laboratory is composed of wide range of facilities, from photography-videography studios to web-designing studios, clearly substantiating an eclectic approach to design education.

Embedded Interaction Laboratory:

Embedded Interaction Lab (EILab) specializes in gesture and tangible user interfaces, with research focus on design for development. Research at EILab has been published in reputed international conferences, journals, national news papers and appreciated with numerous awards. EILab has collaborated with various industries and research labs such as Nokia Research Center, Microsoft Research, IBM Research, Samsung Research and many more.

Visual Communication Studio (VC Studio)

VC Studio aims to be a centre for excellence in the field of visual communication design in Northeast region. It was started with the following objectives:

- Nurture innovation and creativity in the field of visual communication. • Create design awareness and enhance visual sensitivity towards visual culture in the Northeast.
- Develop a state of the art facility to support design and research in visual communication related fields.
- Cultivate visual research culture among students.
- Train and develop visual and visualization skills for better communication.

Nirmān Laboratory:

The Sanskrit word ‘nirmān’ stands for both; *creating*, constructing or making, i.e., the process; as well as for *creation*, the outcome of the process. It exemplifies the spirit of DoD, where design and design research go hand in hand. The lab exudes a culturally diverse, multi-disciplinary, inclusive approach and is involved in several collaborative projects nationally and internationally.

The lab is actively engaged in the areas of ; (i) Design Thinking, Design Methodology, Problem-based Learning and pedagogy; (ii) Creativity, cognition and Innovation studies; and (iii) Design for Environment, Sustainability, Smart cities and built-environment.

Product Design & Development Studio

Animation Research Laboratory:

Workshop/Design Laboratory

3 D Printing Laboratory

Master Craftsman Laboratory

Fine Mechanics and Product Development Laboratory

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Labs under MEITY sponsored - Electronic Product design:

1. Simulation Lab
2. Digital Manufacturing Lab
3. Electronic Product Prototyping Studio

Serial No.	List Equipment	Qty
1	Variable isolation transformer	2
2	Portable Digital Oscilloscopes	2
3	LCR meter	2
4	Soldering Station and Accessories	10
5	Portable Power Supply unit	4
6	ESD work mat	10
7	ESD tool kit	10
8	Digital Multimeters	10
9	Desktop Size Vinyl Cutting Plotter	1
10	Compressor	1
11	Rotary Tool with Attachment and Accessories	10
12	Resin Degassing Chamber	1
13	3D printer - SLA Large Volume	1
14	3D Printer - FDM Large Volume	1
15	3D printer - SLA Small Volume	2
16	Climate Controlled Filament Storage	2
17	VR and Motion Capture optimised Desktop Workstation	6
18	NAS Storage with SSD	1
19	Tablet PC	3

20	4K 65in LED TV	2
21	3 Axis CNC mill	1
22	Laser Cutting Machine	1
25	Oculus Quest 2	7
26	360 Camera	2
27	3Dconnexion SpaceMouse® Wireless	2

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof./ Dr. Santosh Jagtap	International Conference on Research into Design (ICoRD-23) – two papers published in the conference	Bangalore	9 to 11 January 2023	International
2	Dr. Shakuntala Acharya	International conference on Research into Design (ICoRD'23)	Bangalore	09 – 11/ 01 / 2023	International
3	Dr. Shakuntala Acharya	Workshop on ‘PBL Methodology’	Thimphu, Bhutan	08-09/ 08 / 2022	International
4	Dr. Shakuntala Acharya	Dissemination Workshop on ‘PBL In Nepal	Kathmandu	22- 24/ 08 / 2022	International
5	Prof. P.K Bora	Initiatives taken for industrial collaboration for practical exposure of the students.	Department of Design	14/02/2023	
6	Prof. P.K Bora	Workshop on VLSI & Exploring VLSI lab facilities.	Department of Design	28/10/2022	
7	Prof. Amarendra Kumar Das	International Sustainable Development Research Society (ISDRS 2022)	Stockholm	15- 17/06/2022	International
8	Prof. Amarendra Kumar Das	9th International Conference on Research into Design (ICoRD 2023)	Bengaluru	9- 11/01/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl.No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1.	Prof./ Dr. Sougata Karmakar	Online bridge course on 'Ergonomics/ Human Factors'	IIT Roorkee	Online	09/07/2022
2.	Prof./ Dr. Sougata Karmakar	'Ergonomics in Product Design and Innovation: Indian Perspective' during the	Amity University Uttar Pradesh,	Noida	04/08/2022
3.	Prof./Dr. Santosh Jagtap	Design for/with the Base of the Pyramid	Stockholm Environment Institute	Stockholm	14 March 2023

4.	Dr. Shakuntala Acharya	“Think Design!”	IITDM Kanchipuram	Online	28/02/2023
5.	Prof. Jeng Ywan Jeng,	Design and Additive Manufacturing	NTUST, Taiwan	EPD Classroom, department of Design, IITG	27/03/2023
6.	Prof. Shaik Rafi Ahamed	a) Introduction to Digital Circuits b) Designing Digital circuits with VHDL	IIT Guwahati	Department of Electronics and Electrical Engineering	28/10/2022
7.	Prof. Roy. P. Paily	Digital System Design	IIT Guwahati	Department of Electronics and Electrical Engineering	28/10/2022
8.	Prof. Gaurav Trivedi	Applications of Digital System Design	IIT Guwahati	Department of Electronics and Electrical Engineering	04/11/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
1.	Dr. Nico Tullie	Faculty of Architecture and Built Environment, TU Delft, The Netherlands	Student visit and joint project study, presentation of exhibition	06/02 – 19/02/2023
2.	Dr. Apurva Ganoo	Faculty of IDBM, Aalto School of Business, Aalto University Finland	Student visit and joint project study,	03/02 – 16/02/2023
3.	Mr. Gaurav Gupta	Deloitte India	Research and innovation scenario in Electronic Product Design	15/11/2022
4.	Mr. Kumar Ahir	Cisco	An interactive session with MDes Electronic Product Design students	14/02/2023

SEMINARS/WORKSHOPS/CONFERENCES/SHORT-TERM COURSES ORGANISED:

Sl. No.	Name of Faculty (Convener/ Co-ordinator, etc.)	Name of Sem./Wor./Con.	Funded By	Date	International/ National	No. of participants
1	Dr. Shakuntala Acharya	Research Workshop on ‘Problem based Learning’ At ICoRD’23	Erasmus+	11/01/2023	International	10

2	Prof./ Dr. Santosh Jagtap	A design workshop	Not funded	19-23 December 2022	National	18
3	Dr. Pratul Ch. Kalita	Executive Development Programme on “Design Thinking for Competitive Advantage”	Ministry of Electronics and Information Technology	10/03/2023 to 12/03/2023	National	14

PATENTS:

No. of Patents Applied: 08

No. of Patents Granted: 03

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
01	Dr. Sougata Karmakar, Mr Gurdeep Singh Mr. Abhishek Singh	Sachet / pouch cutting and squeezing apparatus.	Granted on 29/12/2022	415999
02	Dr. Sougata Karmakar, Mr Gurdeep Singh Mr. Abhishek Singh, Mr. Amandeep Verma, Mrs. Sangeeta Bhanja Chaudhuri	Hand-held apparatus for extracting contents of sachet / pouch.	US Patent, Granted on 03/05/2022	11319103
03	Dr. Sougata Karmakar, Mr Gurdeep Singh Mr. Abhishek Singh	Sachet/ pouch cutting and squeezing apparatus.	US Patent, Applied on 06/02/2023	18/020,030
04	Dr. Sougata Karmakar, Mr. Jitesh Singh Chauhan, Mr Gurdeep Singh Mr. Hijam Jiten Singh	Ergonomic floating device. [FER Reply Filed] Application Number: 202231058384, Members:	Applied on 12/10/2022	202231058384
05	Dr. Sougata Karmakar, Mr Gurdeep Singh Mr. Abhishek Singh	Sachet/ pouch cutting and squeezing apparatus.	Filed on 08/07/2022	PCT/IB2022/056316
06	Dr. Sougata Karmakar Mr Gurdeep Singh	Ergonomic Floor Cleaning Device.	Filed on 18/10/2022	372750-001, Class: 15-05
07	Dr. Sougata Karmakar, Mr. Jitesh Singh Chauhan Mr Gurdeep Singh	Ergonomic Thimble.	Granted on 18/10/2022	372749-001, Class: 15-03
08	Prof. Amarendra Kumar Das Dr. Manohar Mahato	Ergonomically designed semi-automatic Handloom	31/03/2021	202131015272

AWARDS AND HONOURS:

- Sougata Karmakar: Paper presentation grant; International Commission on Occupational Health (ICOH-2022)
- Santosh Jagtap: One of the top three most accessed articles in the open access category in the journal 'Research in Engineering Design'; Journal - Research in Engineering Design.
- Santosh Jagtap: One of the top five 'most read' and one of the top ten 'most cited' articles'; International Journal of Design Creativity and Innovation.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1	Dr. Sougata Karmakar	Bharathiar University	Professor	Virtual Simulation (CAD and Digital Human Modeling), Physical and Cognitive Ergonomics, Design and work environment, Design and Occupational Health
2	Prof. Amarendra Kumar Das	IIT Guwahati	Professor	Product Design, Product Design Engineering, Agritech, Space Design, Culturally sustainable design
3	Prof. Utpal Barua	IIT Guwahati	Professor	Basic Design, Graphic Design, Design Drawing and Visualization, Visual Design- Principles and Applications
4	Dr. Manoj Majhi	IIT Guwahati	Associate Professor	Animation, Special Effects, Cartooning, Research Interest, Animation Movie history, Creation of Traditional Animation
5	Dr. D.Udaya Kumar	IIT Bombay	Professor	Visual Communication, Graphic Design, Typography, Information Graphics, Architecture, Design Education and Research
6	Dr. Keyur Sorathia	IIT Guwahati	Associate Professor	Human Computer Interaction (HCI), Virtual Realit, Novel Interaction Methods
7	Dr. Mriganka Madhukailya	IIT Guwahati	Assistant Professor	New Media Studies, Communication Design, Design Fiction, Media Theory, Documentary Cinema, Innovation, Artificial Intelligence, Cybernetics History of Technology, Non western ontology, Philosophy of Technology, Ontological design, Speculative design
8	Shareka Iqbal	--	Assistant Professor	Architecture Design, CAD, Lighting Design, Parametric Modelling
9	Dr. Sharmistha Banarjee	IIT Guwahati	Assistant Professor	Industrial Design, Design for Sustainability, Bio-inspired Design, Medical Product Design
10	Dr. Abhishek Singh	IIT Guwahati	Assistant Professor	Automotive Design, Product Design, Graphic Design, Design Research

11	Dr. Pankaj Upadhyay	IIT Guwahati	Assistant Professor	Product Design, Industrial Design, Frugal Design and Innovation, Design for Social Innovation, Design for Sustainability, Design for Children, Inclusive Design, Digital Wellbeing, Embodiment Design.
12	Sheetal M.Gokhale	--	Assistant Professor	Film & Video, Story telling & Visual Scripting, Animation, Graphic Design
13	Dr. 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	Dr. Pratul Chandra Kalita	IIT Guwahati	Associate Professor	Design Management, Design Strategy, Design Methods, Systems Approach to Design, Design for Development, Experience Design
15	Dr. Supradip Das	IIT Guwahati	Assistant Professor	Origami inspired product Development, Toy for tomorrow, Paper craft, Transformable furniture, Structural packaging Design and Product development from aboriginal science and technology
16	Dr. Urmi Ravindra Salve	University of Calcutta	Assistant Professor	Human Factor Engineering, Occupational Ergonomics, Cognitive Ergonomics, Research Methodology <u>Implementation of Ergonomics in Manufacturing Industries</u>
17	Dr. <u>Debayan Dhar</u>	IIT Guwahati	Assistant Professor	Human Computer Interaction (HCI) Design, Instructional Design, User Experience Design, Psychological Studies in Design, Usability Engineering
18	Dr. Shakuntala Acharya	Indian Institute of Science, Bangalore	Assistant Professor	Sustainable Smart Cities; Design Methodology; Design Pedagogy
19	Dr. Ajeet Kumar	National Taiwan University of Science and Technology	Assistant Professor	Additive manufacturing (AM), Architected lattice structure, Advanced Product Design, Direct Digital Manufacturing , Biomimetic Design, DfAM
20	Dr. Santosh Jagtap	University of Cambridge, UK	Associate Professor	<ul style="list-style-type: none"> ▪ Codesign, cocreation ▪ Design creativity, innovation management ▪ Design for low-income, marginalized people (e.g., humanitarian design, frugal innovations, appropriate technology, etc.) ▪ Design for sustainability ▪ Design and culture ▪ Human centered design of emerging-technology-based products

				<ul style="list-style-type: none"> ▪ Makerspaces and society ▪ Product aesthetics, form design, etc. ▪ Product service systems ▪ Design theory and methodology, understanding and improving design processes in areas such as product/industrial design, visual communication, graphic design, etc.
22	Prabin Kumar Bora	IISc Bangalore	Professor (on Contract under MEITY)	Image Processing and Computer Vision

Electronic and Electrical Engineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1995

ACADEMIC PROGRAMMES OFFERED:

BTech Program:

- (i) Electronics and Communication Engineering
- (ii) Electronics and Electrical Engineering (started in July 2008)

M.Tech Program:

- (i) Communication Engineering
- (ii) Power Engineering
- (iii) RF and Photonics
- (iv) Signal Processing and Machine Learning
- (v) System, Control and Automation
- (vi) VLSI

MS (R) in E-Mobility: This programme is jointly administrated by Dept. of EEE and ME. Total intake 20. Out of 20, 10 seats for Industry Sponsored Candidates. Remaining 10 seats are for regular candidates. Out of 10 seats, 5 seats are for EEE Dept. and 5 seats for ME Dept. The regular candidates will be selected based on GATE score.

Interdisciplinary MTech Program:

An interdisciplinary masters' degree program in **Data Science** with intake of 20 is started in July 2019. This program is jointly administered by CSE, EEE and Math departments on yearly-rotation basis.

Dual Degree Program [MS (Engg) + PhD]:

Dual Degree Program [MS (Engg) +Ph.D] started in July 2015 with sanction intake of 19. The major areas of research are the same as those under the PhD Program.

PhD program

MAJOR AREAS OF RESEARCH:

Adaptive Signal Processing, Audio Signal Processing, Biomedical Instrumentation, Biomedical Signal Processing, Communication, Control Systems, Control Theory Applications, Digital Signal Processing, Electromagnetics, Finite-Precision Signal Processing, Fuzzy Logic, High-Speed VLSI Structures for Signal Processing & Communication, Image Processing, Sensors and instrumentation, Medical Image Processing, Microprocessors, Microstrip Antennas, Microwave Engineering, MOSFET Devices, Neural Networks, Non-Destructive Testing, Pattern Recognition, Power Systems; Power Electronics; Power electronics application in power system; Power Quality; Micro grid and renewable energy resources; Power distribution system planning and control; Electrical Machines; Control of Electrical Drives; Smart Grids and Electric Vehicles; High Voltage Engineering and Applied Electromagnetic, RF Circuits, Speech Processing, Statistical Signal Processing, Stochastic Systems, VLSI Technology, Wavelets, Wireless Communication, Optoelectronics, Photonics, Optical Communication, Optoelectronics, Photonics, Optical Communication, Computer Vision and Human Computer Interactions, Deep Learning, Broadcast Analytics, Surveillance Video Analytics, Language and Vision, Deep Fake Synthesis

PhD Programme under Interdisciplinary Category:

Interdisciplinary PhD has been introduced with other departments of IIT Guwahati from July 2020.

LABORATORY FACILITIES:

No. of Laboratories with brief introduction: Total No: 33

The Department of EEE has 33 laboratories which are equipped with state-of-the-art equipment and software. These laboratories are used for both instructional purposes and carrying out R&D activities in the various areas of interest. The list of laboratories presently functioning in the Department is as follows:

1.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.

2.Undergraduate Project Lab

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.

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

4.Communication Lab-I (R&D)

5.Communication Lab-II (R&D)

6.Communication Lab-III (R&D)

Research Scholars working in different areas related to communication engineering use these labs.

7.Control & Instrumentation Lab-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.

8.Control & Instrumentation Lab-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.

9. Electrical Machine Lab (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.

10. Electro-Medical & Speech Lab (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.

11. Electronic Circuit Lab- I (Instructional)

12. Electronic Circuit Lab-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.

13. Embedded System Lab (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.

14. EML: e-mobility lab: 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

15. High Frequency & Communication Lab (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.

16. HPC and FPGA Design Lab (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.

17. Image Processing and Computer Vision Lab (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

18. Post Graduate Project Lab

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.

19. Multimedia Analytics Lab (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.

20. Power & Control Lab-I (R&D)

21. Power & Control Lab-II (R&D)

Research and Development Activities related to Power & Control areas are conducted in this lab. Research Scholars, MTech/BTech students and Project Engineers working in these areas use this laboratory.

22. 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.

23. Power Electronics Lab (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.

24. Power System Lab (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.

25.Signal Informatics Lab (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.

26.Signal Processing Lab (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.

27.System Simulation Lab (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.

28.VLSI Lab-I (R&D)

29.VLSI Lab-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.

30.VLSI-ADSP & Communication Lab (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.

31.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.

32. 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.

33. Microelectronics Laboratory (Instructional)

This laboratory is providing hands on experience to the B.Tech. (ECE) students.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Sl. No.	Equipment and Facilities	Qty	Amount in Lakhs
1	DC Motor driven Alternator Set	01 no.	5.93
2	DI Water System	01 no.	3.60
3	Desktop PC: Lenovo Thinkcentre M80T, 21.5" FHD Monitor	48 nos.	37.92
4	Keithley Digital Multimeter with Scanning	32 nos.	22.27
5	40 KVA on line UPS	01 no.	7.60
6	Desktop PC: HP Elite Tower 600 G9, HP E22 G4 FHD Monitor	35 nos.	32.91
7	Keithley Digital Multimeter with Scanning	08 no.	6.04

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;

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/
INTERNATIONAL:**

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
1.	Dr. Chandan Kumar	IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG),	Kiel, Germany	26/06/2022-29/06/2022	International
2.	Dr. Sarvendranath Rimalapudi	Signal Processing and Communications Conference (SPCOM) 2022	IISc Bangalore	11/07/2022-15/07/2022	National
3.	Dr. Ankush Bag	Compound Semiconductor Weekend-2022,	KAUST, Saudi Arabia.	03/09/2022-04/09/2022	International
4.	Dr. Debabrata Sikdar	International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD)	Turin, Italy (Presented Online by co-author)	12/09/2022	International
5.	Dr. Debabrata Sikdar	The 2022 International Conference on Optical MEMS and Nanophotonics (IEEE OMN)	Israel (Virtual) (Presented Online by co-author)	12/09/2022	International
6.	Dr. Manish Bhatt	International Ultrasound Symposium (Virtual)	Venice, Italy	Sep/2022	International
7.	Dr. Debabrata Sikdar	Frontiers in Optics + Laser Science 2022 (FIO+LS)	New York, USA	17/10/2022	International
8.	Dr. Ravindra Kumar Jha	IEEE Sensors Conference	Dallas, Texas, USA	30/10/2022-02/11/2022	International
9.	Dr. Debabrata Sikdar	IEEE Silchar Subsection Conference (SILCON)	Silchar, India (Presented by co-author)	04/11/2022	National
10.	Dr. Debabrata Sikdar	IEEE Photonics Conference (IPC 2022)	Vancouver, Canada (Presented Online by co-author)	13/11/2022	International
11.	Dr. Debabrata Sikdar	IEEE Photonics Conference (IPC 2022)	Vancouver, Canada (Presented Online by co-author)	13/11/2022	International
12.	Prof. Somanath Majhi	4 th IFAC Workshop on Cyber-Physical Human Systems	Houston, USA	1/12/2022-2/12/2022	International
13.	Prof. Somanath Majhi	61 st IEEE Conf. on Decision and Control	Cancun, MEXICO	6/12/2022-9/12/2022	International
14.	Dr. Sanjib Ganguly	IEEE CALCON 2022	Kolkata	10/12/2022	National
15.	Dr. Ankush Bag	International Conference on Emerging Electronics (ICEE)	Bangalore, India	11/12/2022-14/12/2022	National
16.	Dr. Debabrata Sikdar	IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	Bangalore, India (Presented by co-author)	12/12/2022	National
17.	Dr. Chandan Kumar	IEEE Power Electronics, Drives and Energy Systems (PEDES) conference	Jaipur, India	14/12/2022-17/12/2022	National

18.	Dr Ravindra Kumar Jha	International Conference on Electronic and Photonic Integrated Circuits (EPIC-2022)	Amravati, Andhra Pradesh, India	15/12/2022-17/12/2022	International
19.	Dr Ravindra Kumar Jha	IEEE Applied Sensors Conference (APSCON-2023)	Bengaluru, Karnataka, India	23/01/2023-25/01/2023	International
20.	Dr. Manoj B. R.	29th National Conference on Communications	IIT Guwahati	23/02/2023-26/02/2023	National
21.	Dr. Salil Kashyap	National Conference on Communications 2023	IIT Guwahati	23/02/2023-26/02/2023	National
22.	Dr Sonali Chouhan	National Conference on Communications	IIT Guwahati	23/02/2023-26/02/2023	National
23.	Dr. Sarvendranath Rimalapudi	National Conference on Communications (NCC) 2023	IIT Guwahati	26/02/2023-28/02/2023	National
24.	Dr. Debabrata Sikdar	International Electrical Engineering Congress (iEECON 2023)	Thailand (Presented by co-author)	04/03/2023	International
25.	Dr Sonali Chouhan	IEEE Computing and Communication Workshop and Conference 2023	Virtual	8/03/2023-11/03/2023	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl.No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1.	Dr. Ravindra Kumar Jha	Electron Microscopy	INUP-i2i 2022 1st Offline Familiarization Workshop (Supported by: Ministry of Electronics and Information Technology (MeitY))	Centre for Nanotechnology (CNT), Indian Institute of Technology, Guwahati	04/04/2022-06/04/2022
2.	Prof. Harshal B. Nemade	Vector Network and Impedance Analyzers	Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	IIT Guwahati	06/04/2022
3.	Dr. Sudarshan Mukherjee	Cell-free Massive MIMO in Realistic LoS/NLoS Channel	Network Seminar Series, Center for Network Intelligence (CNI), IISc Bengaluru	Online	26/04/2022
4.	Prof. Roy Paily Palathinkal	Introduction to MEMS Actuators and Sensors	Faculty Development Program on Recent Developments on MEMS Sensors & Actuators,	Rajiv Gandhi University, Arunachal Pradesh (online)	02/05/2022
5.	Dr Manish Bhatt	Biomedical Imaging and AI applications therein (Virtual)	PIET Jaipur	Jaipur, Rajasthan	07/05/2022
6.	Prof. Roy Paily Palathinkal	The Progress of Nano-Electronic Devices	Electronics and Communication Engineering	Rajagiri School of Engineering &	25/05/2022

				Technology, Kochi (online)	
7.	Dr. Sudarshan Mukherjee	Edge Computing in IoT Infrastructure: How will it work with Massive MIMO?	IETE Zonal Seminar on Next Generation Wireless, IETE Guwahati Centre	IIT Guwahati	28/05/2022
8.	Prof. Roy Paily Palathinkal	Make Dreams True Through Technology	Technisium 2022	Siddaganga Institute of Technology Tumkur	04/06/2022
9.	Dr Manish Bhatt	Ultrasound Elastography for viscoelasticity characterization of soft tissues (Virtual)	IIT Kharagpur	Kharagpur, West Bengal	24/06/2022
10.	Dr. Manoj B. R.	Communication network components and technology selection (2G/3G/4G, RF/PLC, etc.) and its relevance with Smart Meter	National Power Training Institute, Guwahati, Ministry of Power, Govt. of India	Guwahati, India	17/06/2022
11.	Prof. Roy Paily Palathinkal	MEMS Device for Clinical Laboratory Applications	Accelerate Vigyan program Karyashala on Analog and Digital VLSI Design Flow and Embedded System Design	ECE Department of NIT Rourkela (Online)	07/07/2022
12.	Dr. Chayan Bhawal	Control: Kaal, Aaj aur Kaal	Department of Electrical and Instrumentation Engineering, Assam Engineering College	Guwahati	11-07-2022
13.	Dr. Manoj B. R.	Machine learning for IoT applications	ATME College of Engineering	Mysuru, India	14/07/2022
14.	Prof. Roy Paily Palathinkal	You can be behind every wish	Department of Electronics and Instrumentation Engineering	Annamalai University	15/07/2022
15.	Dr. Manoj B. R.	Machine learning & its applications	Visvesvaraya Technological University (VTU) Center for PG Studies	Mysuru, India	19/07/2022
16.	Dr. Salil Kashyap	Wireless Energy Transfer in Next-Generation IoT Networks	Workshop On Next-Generation Network Automation for Industrial IoT in Industry 5.0	IIIT Guwahati	22/07/2022
17.	Dr Manish Bhatt	Medical Image Reconstruction for Diagnostic Applications	NIT Silchar	Silchar, Assam	25/07/2022
18.	Dr. Sreenath J G	Distributed Architectures for Power System Monitoring Considering Cyber-Threats	NIT Delhi	Delhi	29/07/2022
19.	Dr. Ankush Bag	Ga2O3 Based Emerging Power and Opto-Electronic Devices	Compound Semiconductor Weekend-2022,	KAUST, Saudi Arabia.	03/09/2022-04/09/2022

20.	Dr. Manoj B. R.	Data Communications and Networking	Power & Electricity Department, Govt. of Mizoram	Hosted virtually from Aizawl, India	13/09/2022
21.	Ankush Bag	Power and Optoelectronics Devices	Semiconductor Technology and Applied Research Centre (STARC), Govt. of India	Bangalore, India	15/09/2022-17/09/2022
22.	Dr. Arun Tej Mallajosyula	Fundamentals of Deep Level Transient Spectroscopy	Semiconductor Technology and Applied Research Centre, DRDO	Bengaluru	15/09/2022-17/09/2022
23.	Dr. Arun Tej Mallajosyula	Introduction to Flexible ReRAMs	Semiconductor Technology and Applied Research Centre, DRDO	Bengaluru	15/09/2022-17/09/2022
24.	Dr. Ravindra Kumar Jha	Introduction to CMOS compatible Modern Sensors	Training program on MEMS and Related Subjects	Semiconductor or Technology and Applied Research Centre (STARC), Bengaluru India	15/09/2022-19/09/2022
25.	Dr. Ravindra Kumar Jha	Development of Micro-Sensors for Monitoring Environment Gases	Training program on MEMS and Related Subjects	Semiconductor or Technology and Applied Research Centre (STARC), Bengaluru India	15/09/2022-19/09/2022
26.	Dr. Tanmay Dutta	Nanofabrication-an overview and unconventional methodologies	MEMS and related subjects workshop 2022, DRDO Bangalore	Bangalore, India	15/09/2023
27.	Prof. Roy Paily Palathinkal	Introduction to MEMS Devices	Semiconductor Technology and Applied Research Centre (STARC) Training Program on MEMS	STARC Bangalore	16/09/2022
28.	Dr. Prithwjit Guha	Vision and Language	IIT Guwahati	Guwahati	16/09/2022
29.	Dr. Ravindra Kumar Jha	Introduction to CMOS compatible Resistive Gas Sensor	Faculty Development Programme by Academic Staff College in association with School of Electronics Engineering	Vellore Institute of Technology, Vellore, India	19/09/2022-23/09/2022

30.	Dr. Tanmay Dutta	Molecular Building Blocks for the Next Generation of Computing	IISC Bangalore	Bangalore	19/09/2022
31.	Dr. Tanmay Dutta	Ferrimagnets in a skyrmionic world	IEEE Magnetic society symposium 2022, Nanyang Technological University	Singapore	27/09/2022
32.	Dr. Manoj B. R.	Digital modulation schemes	G. H. Raisoni College of Engineering	Hosted virtually from Nagpur, India	01/10/2022
33.	Dr. Sonali Chouhan	Underwater Communication: Challenges and Opportunities	NIT Mizoram	Virtual	18/10/2022
34.	Dr. Manoj B. R.	Data Communications, Networking and Technologies	Department of Power, Govt. of Nagaland	Hosted virtually from Dimapur, India	19/10/2022
35.	Dr. Ravindra Kumar Jha	Introduction to CMOS compatible Resistive Gas Sens Introduction to CMOS compatible Resistive Gas Sensor	Workshop on Research Opportunities in "Semiconductor Materials and Devices (ROSMD-2022)"	Organized jointly by IITDM Kancheepuram, and SRM Institute of Science and Technology, Chennai.	19/10/2022-24/10/2022
36.	Dr. Ravindra Kumar Jha	Non-Dispersive infrared gas sensing technology	IEEE Sensors Conference	Dallas, Texas, USA	30/10/2022-02/11/2022
37.	Dr. Ravindra Kumar Jha	Ammonia Sensing Performance of RGO-Based Chemiresistive Gas Sensor Decorated With Exfoliated MoSe ₂ Nanosheets	IEEE Sensors Conference	Dallas, Texas, USA	30/10/2022-02/11/2022
38.	Dr. Manoj B. R.	Introduction to Communications and Networking	Department of Power and Electricity, Govt. of Mizoram	Hosted virtually from Aizawl, India	01/11/2022
39.	Dr. Prithwiji Guha	AI for Video Analytics	IIT Guwahati	Guwahati	18/11/2022
40.	Dr. Ravindra Kumar Jha	Current Challenges in the Development of Next Generation Gas Sensors	IEEE Sensors Student Chapter	IIT Indore	28/11/2022
41.	Dr. Sarvendranath Rimalapudi	Low Complexity Antenna Selection for an intelligent reflecting surface aided communication system	Centre for Networked Intelligence, IISc Bangalore.	IISc Bangalore	29/11/2022
42.	Dr. Sreenath J G	Power system monitoring considering PMU data in the presence of cyber-threats	NERLDC Shillong	Shillong, Meghalaya	02/12/2022
43.	Dr. Ravindra Kumar Jha	2D Materials Beyond Graphene for Gas Sensing Applications	Online Familiarization workshop on 2D semiconductor Nanodevices and Simulations, Sponsored by Ministry	Centre for Nanotechnology, IIT Guwahati,	08/12/2022-10/12/2022

			of Electronics and Information Technology (MeitY)		
44.	Ankush Bag	Device Engineering for Ga2O3 based High Performance Deep UV Detectors	International Conference on Emerging Electronics (ICEE)	Bangalore, India	11/12/2022-14/12/2022
45.	Prof. Shaik Rafi Ahmed	Recent Trends in Computer Science and Applications	Nagarjuna College of Engineering and Technology	Bengaluru	12/12/2022
46.	Dr. Ravindra Kumar Jha	Current Challenges in Solid State Sensors	International Conference on Electronic and Photonic Integrated Circuits (EPIC-2022)	Organized by ECE department, SRM Andhra Pradesh, in association with the Institute of Electronics and Telecommunication Engineers (IETE)	15/12/2022-17/12/2022
47.	Dr. Salil Kashyap	On the Feasibility of Wireless Energy Transfer Using Intelligent Reflecting Surface in Next Generation IoT Networks	Network Seminar Series, Centre for Networked Intelligence, IISc Bangalore	Online	20/12/2022
48.	Prof. Shaik Rafi Ahmed	One Day Workshop on Embedded Machine Learning on System-on-Chip	Tezpur University	Tezpur	21/12/2022
49.	Dr. Ravindra Kumar Jha	Ammonia Sensing Performance of RGO-Based Chemiresistive Gas Sensor Decorated With Exfoliated MoSe2 Nanosheets	IEEE Applied Sensors Conference (APSCON-2023)	Organized by IEEE Sensors Council, Hotel Conrad, Bengaluru	23/01/2023-25/01/2023
50.	Dr. Prithwjit Guha	TV Commercial Detection	Guwahati University	Guwahati	24/02/2023
51.	Dr. Prithwjit Guha	Visual Question Answering with Dual Attention and Question Categorization	Assam University, Silchar	Silchar	11/03/2023
52.	Dr. Chayan Bhawal	Mathematics for Radar and Electronic Defense	University of Capetown	Capetown, South Africa	13/03/2023-17/03/2023
53.	Dr. Sonali Chouhan	Machine Learning using FPGA: Power Optimization	Tezpur University	Tezpur University	20/03/2023
54.	Dr. Sarvendranath Rimalapudi	Introduction to Communication Systems Analog & Digital	Universality College of Engineering, Adikavi Nannaya University	Rajahmundry, Andhra Pradesh,	21/03/2023
55.	Dr. Sanjib Ganguly	Electrical Power Systems: Historical Developments and Different Research Directions	Northeastern regional load dispatch center (NERLDC)	Shillong	30/03/2023

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1.	Dr. Biswajit Ray	Department of Electrical and Computer Engineering, The University of Alabama in Huntsville, USA	Lecture Title: Rethinking data storage system design for cyber-security, extreme-reliability and edge-computing	16/05/2022	Invited by Dr. Anirban Dasgupta
2.	Prof. Aditya D. Mohite	Rice University, U.S.A.	Semiconductor Physics of Halide Perovskite for Clean Energy Applications	20/5/2022	Invited by Dr. Arun Tej Mallajosyula
3.	Prof. Aditya D. Mohite	Rice University, U.S.A.	The Rise of Halide Perovskites	21/5/2022	Invited by Dr. Arun Tej Mallajosyula
4.	Prof. Aditya D. Mohite	Rice University, U.S.A.	Publishing in High Impact Journals	22/5/2022	Invited by Dr. Arun Tej Mallajosyula
5.	Prof. Aditya D. Mohite	Rice University, U.S.A.	Different challenges experienced by researchers throughout their Ph.D.	23/5/2022	Invited by Dr. Arun Tej Mallajosyula
6.	Prof Rao Tummala	Georgia Tech	Integrated Microsystems Packaging	22/11/2022	In Association with CNT, and with other colleagues from EEE and CNT
7.	Prof. Frank Rhee	Hanyang University, South Korea	Collaboration	20/01/2023	Invited by Dr. Ankush Bag
8.	Prof. Apurba Laha	IIT Bombay	III-Nitride Nano-optoelectronics	22/03/2023	Invited by Dr. Ankush Bag
9.	Prof. Jeng-Ywan Jeng	National Taiwan University of Science and Technology, Taiwan	Collaboration	28/03/2023	Invited by Dr. Ankush Bag

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
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1.	Dr. Arun Tej Mallajosyula	INUP-i2i Offline Workshop on Nanoelectronics Fabrication & Characterization	MeitY	04/04/2022-06/04/2022	National	65
2.	Dr. Arun Tej Mallajosyula	INUP-i2i Hands-on Training on Fabrication & Characterization of Nanoelectronic Devices	MeitY	06/05/2022-16/05/2022	National	30
3.	Dr. Sreenath J G	WORKSHOP FOR DISCOMS OF NORTH EASTERN REGION INCLUDING SIKKIM FOR CONDUCT OF ENERGY AUDIT	Government - Bureau of Energy Efficiency	12/09/2022	National	35
4.	Dr. Prithwjit Guha & Dr. Gaurav Trivedi	High End Workshop on Fundamentals of Deep Learning	SERB, DST	12/09/2022-18/09/2022	National	50
5.	Dr. Arun Tej Mallajosyula	INUP-i2i Online familiarization workshop on 2D Semiconductor Nano devices & Simulations	MeitY	08/12/2022-10/12/2022	National	250
6.	Dr. Manoj B. R. (jointly with IIT Delhi and TimePro)	Certificate Programme in Machine Learning and Deep Learning	Hosted jointly by IIT Delhi and TimesPro	Dec 2022-Mar 2023 (Only on weekends)	National	50
7.	Dr. Arun Tej Mallajosyula	INUP-i2i Online familiarization workshop on Nanotransistors and Energy Device Technology	MeitY	21/02/2023-23/02/2023	National	250
8.	Prof. R. S. Kshetrimayum / Dr. A. Rajesh	National Conference on Communications 2023	DoT, Qualcomm, etc.	23/02/2023-26/02/2023	National	Approx. 350
9.	Dr Debabrata Sikdar	Workshop on “Ansys Optics & Photonics Simulation Session”	CADFEM India Ltd	31/03/2023	National	49

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
1.	Dr. Akshai Kumar Alape Seetharam, Prof. Roy Paily Palathinkal; Mr.	SYMMETRIC TETRAALKYNYLATE D ANTHRACENES	Indian Patent, Filling date: 04/04/2022	202131035020 A	Indian Patent filed

	THOMAS T DANIEL and Mr. KHADIMUL ISLAM	AND THE PROCESS FOR PREPARING THE SAME FOR SENSING AND OPTOELECTRONIC APPLICATIONS	Publication Date: 03/02/2023		
2.	Dr. Debabrata Sikdar and Ashish Kumar Chowdhary	A Passive Radiative Cooler System	27/07/2022	202231043104	Indian Patent filed
3.	Dr Ravindra kumar Jha, Debasree Burman; Sumita Santra; Ruma Ghosh; and Prasanta Kumar Guha	Humidity Sensor Based on Nano-Composite Sensing Layers and Method Of Fabrication Thereof	25/08/2022	201731010676	Indian Patent granted Patent No: 404523
4.	Dr. Debabrata Sikdar and Tanmay Bhowmik, Ashish Kumar Chowdhary	Frequency-scalable Polarization-insensitive Dual-mode Electro-Optic modulators	19/11/2022	202231066529	Indian Patent filed
5.	Dr. Sudarshan Mukherjee, Dr. Jemin Lee, Chanwon Park, and Hewon Cho	Apparatus and method of selecting active base station	29/11/2022	10-2022-0163388	Korean Patent Application

STUDENTS' ACHIEVEMENTS:

- Anandh N: Dr. Ramamoorthy best paper award in power electronics & drives"; 22nd National Power System Conference (NPSC) 2022.
- Arunima Dutta: Best paper award in 4th IEEE International Conference on Energy, Power and Environment 2022; NIT Meghalaya.
- Ashish K. Chowdhary: Best Student Poster award in CLEO-2021 conference; American Physics Society - Division of Laser Science (APS/DLS).
- Ashish K. Chowdhary: AWSAR (Augmenting Writing Skills for Articulating Research) Award 2021; DST, Govt. of India.
- Ashish K. Chowdhary: PhD Thesis Award; IIT Guwahati.
- Atanu Purkayastha: Best Poster PSIM-23 Conference, IIT Roorkee; Perovskite Society of India with American Chemical Society Applied Materials and Interfaces.
- Himangshu Jyoti Gogoi: Best Poster PSIM-23 Conference, IIT Roorkee; Perovskite Society of India with American Chemical Society Applied Materials and Interfaces.
- Jegyasu Gupta: Best Paper award in iEECON 2023; International Electrical Engineering Congress 2023.
- Tanmay Bhowmik: AWSAR (Augmenting Writing Skills for Articulating Research) Award 2022; DST, Govt. of India

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1.	Dr. Anirban Dasgupta	IIT Kharagpur	Assistant Professor	Machine Learning, Image Processing, Computer Vision, Signal Processing, Embedded Systems.
2.	Dr. Ankush Bag	IIT Kharagpur	Assistant Professor	Wide Bandgap Semiconductors, Power Semiconductor Devices, Deep UV Photodetector.
3.	Dr. Arun B Alosious	IIT Madras	Assistant Professor	Quantum computation, Quantum error correction, Coding theory.
4.	Dr. Arun Tej Mallajosyula	IIT Kanpur	Assistant Professor	Photovoltaics, Large Area Electronics, Organic and Organic-Inorganic Hybrid Semiconductor Devices and Layered 2D Materials
5.	Dr. 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.
6.	Dr. 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
7.	Dr. Chayan Bhawal	IIT Bombay	Assistant Professor	Optimal Control, DAE systems, Model Order reduction, Multi-agent systems, Chaos theory, Robust control
8.	Prof. Chitrlekha Mahanta	IIT Delhi	Professor	Control System Theory and Applications, Control of Nonlinear Uncertain Systems, Artificial Intelligence based Control, Identification and Control of Nonlinear Systems
9.	Dr. 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
10.	Dr. Gaurav Trivedi	IIT Bombay	Associate Professor	VLSI, HPC, Embedded Systems, IoT, Computer Architecture, Electronic System Design and Manufacturing (ESDM), Quantum Computing, Hardware Security

11.	Dr. Hanumant Singh Sekhawat	University of Twente, The Netherlands	Assistant Professor	System Theory, Applied Mathematics & Signal Processing
12.	Prof. 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
13.	Dr. 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
14.	Dr. Kalpana Dhaka	IIT Delhi	Associate Professor	Channel modeling and resource allocation for wireless relay systems, cooperative communications, multihop relaying, and multicasting in wireless networks.
15.	Dr. Kannan Karthik	University of Toronto	Associate Professor	Biometrics and Biometric counter-spoofing. Privacy preserving computation. Processing of signals and images in the encrypted domain. Secure key exchange in wireless networks.
16.	Dr. Kuntal Deka	IIT Guwahati	Assistant Professor	Communication, Error Correcting Codes and Information Theory.
17.	Dr. Mahima Arrawatia	IIT Bombay	Assistant Professor	Energy Harvesting, RF Circuit Design, Microstrip Antennas
18.	Prof. Manas Kamal Bhuyan	IIT Guwahati	Professor	Image and Video Processing, Computer Vision, Pattern Recognition and Human Computer Interactions (HCI)
19.	Dr. Manish Bhatt	IISc Bangalore	Assistant Professor	Signal Processing, Machine Learning, Medical Imaging
20.	Dr. Manoj B. R.	IIT Delhi	Assistant Professor	Wireless communications, Deep learning for wireless communications and signal processing, Adversarial machine learning, Joint sensing and communications, Buffer-aided relaying networks, Markov chains and their applications
21.	Dr. 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.
22.	Prof. Prabin Kumar Bora	IISc Bangalore	Professor	Image Processing and Computer Vision

23.	Prof. Prabir Barooah	University of California, Santa Barbara	Professor	Distributed control, optimization and coordination, with applications to power grid operation, green buildings, energy sustainability and energy resiliency.
24.	Prof. 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
25.	Dr. 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
26.	Dr. Prithwjit Guha	IIT Kanpur	Associate Professor	Computer Vision, Machine Learning, Deep Learning, Signal Processing
27.	Dr. Rajesh. Alentallil	IIT Kanpur	Associate Professor	Coding and Modulation Techniques
28.	Dr. 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
29.	Prof. Ratnajit Bhattacharjee	Jadavpur University	Professor	Electromagnetics, Microstrip Antennas, Microwave Engineering, Wireless Communication
30.	Dr. Ravindra Kr. 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.
31.	Dr. Ravindranath Adda	IIT Kanpur	Assistant Professor	Power Electronics, Distributed Generation and Power Quality

32.	Prof. Rakesh Singh Kshetrimayum	NTU Singapore	Professor	Electromagnetic Band Gap, Filters, Metamaterials, Computational Electromagnetics and Periodic Structures
33.	Dr. Ribhu	IIT Roorkee	Assistant Professor	Signal Processing for Wireless Communication, MIMO Systems, Adaptive and Statistical Signal Processing
34.	Dr. Rishikesh Dilip Kulkarni	Ecole Polytechnique Federale de Lausanne	Assistant Professor	Digital Holography, speckle metrology, interferometry, digital signal processing
35.	Prof. Rohit Sinha	IIT Kanpur	Professor	Speech and Audio Processing, Speech Recognition, Signal Processing
36.	Prof. Roy Paily Palathinkal	IIT Madras	Professor	Devices, VLSI and MEMS
37.	Dr. 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
38.	Prof. Samarendra Dandapat	IIT Kanpur	Professor	Signal Processing, Speech Processing, Biomedical Signal & Image Processing, Biomedical Instrumentation
39.	Dr. Sanjib Ganguly	IIT Kharagpur	Associate Professor	Power distribution system planning and optimization, Distributed generation, Custom power devices, Evolutionary algorithms, Multi-objective optimization
40.	Dr. Sarvendranath Rimalapudi	IISc Bangalore	Assistant Professor	Next-generation wireless communication systems. Intelligent reflecting surfaces, Machine learning for wireless communication. Distributed massive MIMO with cell-free networking. Spectrum sharing techniques. Low complexity multiple antenna diversity techniques
41.	Prof. Shaik Rafi Ahamed	IIT Kharagpur	Professor	Adaptive Signal Processing, Mobile Communications, VLSI Signal Processing, Biomedical Signal Processing
42.	Dr. Shabari Nath	University of Minnesota	Associate Professor	Power Electronics, Application of Power Electronics to Power Systems.
43.	Prof. Sisir Kumar Nayak	IISc Bangalore	Professor	Nanofluid for transformer, Metamaterial enhanced WPT, PV integration with grid
44.	Dr. Smarajit Das	IISc Bangalore	Assistant Professor	Information theory, Error correcting codes
45.	Prof. Somanath Majhi	University of Sussex, Brighton, UK	Professor	Relay Based Identification and Auto tuning, Control Systems, Control Theory Applications
46.	Dr. Sonali Chouhan	IIT Delhi	Associate Professor	Wireless Sensor Networks, Coding Theory, Wireless Communications
47.	Dr. 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
48.	Dr. Srinivasan Krishnaswamy	IIT Bombay	Associate Professor	Control Systems, Cryptography
49.	Dr. Sudarshan Mukherjee	IIT Delhi	Assistant Professor	Next generation Wireless Communications, specifically, edge computing, ultra-dense networks, signal processing for large scale antenna systems in doubly spread channels (i.e., cell-free/collocated massive MIMO systems, OTFS modulation etc.) etc.
50.	Dr. Suresh Sundaram	IISc Bangalore	Associate Professor	Pattern Recognition, Image / Video Processing and Computer Vision
51.	Dr. Tanmay Dutta	National University of Singapore	Assistant Professor	Semiconductor devices, Memory technologies, Spintronics, Magnetism, Quantum Materials
52.	Dr. Tony Jacob	IIT Kanpur	Associate Professor	Statistical Signal Processing and Information Theory

Humanities and Social Sciences

YEAR OF ESTABLISHMENT: 1998

ACADEMIC PROGRAMMES OFFERED:

M.A. in Development Studies, MA in Liberal Arts & Ph.D.

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-Khoden 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 Lab: This is for the compulsory audit course on English Language training in the Btech 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:

SI No.	Item name	Quantity	Price
01	Desktop	16	Rs 92800
02	Shredder Machine	1	Rs 128000
03	STATA	1	Rs 214000
04	SPSS	1	Rs 427308

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:

Graduate Research Meet 2023: 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 we had the eighth edition of GRM conducted by Dept. of Humanities and Social Sciences, IIT Guwahati on January 06 & 07 2023. The key note speaker was Prof. T. B Subbha, Former Vice Chancellr of Sikkim University. He delivered a lecture on the evolution of Social Sciences in the last four decades. Endnote was delivered by Dr. Chinmay Tumble from IIM Ahmedabad. His address tried to chart out the prospective future of Humanities and Social Sciences research.

We received 821 abstracts from research scholars from various universities across India and 94 abstracts were selected. A total of 24 panels dealt with all 11 disciplines of HSS offered by the department along with interdisciplinary topics like Gender, Health, North East and Culture, Labour and Environment. This year we have also instituted an award for the Best Paper in Philosophy along with a cash prize of Rupees 5000. A total of 67 student volunteers worked tirelessly with the organising committee to ensure the smooth conduct of the event.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Institute	Place	Start Date	End Date	International/National
01	Sambit Mallick	20th Annual STS Conference on Critical Issues in Science, Technology and Society Studies	IAS - STS	Graz, Austria, virtual	02-05-22	04-05-22	International
02	Sambit Mallick	Joint Annual Meeting of the Agriculture, Food, and Human Values Society and the Association for the Study of Food and Society on Cultivating Connections: Exploring Entry Points into Sustainable Food Systems	Athens, Georgia, USA	Athens, Georgia, USA, virtual	18-05-22	21-05-22	International
03	Ngamjahao Kipgen	Environmental Change and Socio-cultural Transformations in India	IIT Roorkee	Roorkee	22-09-22	23-09-22	International
04	Sambit Mallick	47th Annual Conference of the Society for Social Studies of Science (4S)	Universidad Iberoamericana Puebla	Cholula, Mexico	07-12-22	10-12-22	International

05	Sukanya Sharma	Dharani Sen Memorial lecture in the annual conference of the Indian Anthropological Society	Tripura University campus, Agartala	Tripura	22-11- 22	24-11- 22	National
06	Sambit Mallick	47th All India Sociological Conference	University of Science and Technology Meghalaya	Meghalaya	20-12- 22	22-12- 22	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Start Date	End Date
01	Bidisha Som	Neurodevelopmental Disorders and Society	O.P. Jindal University	Haryana	02-05-22	06-05-22
02	Sambit Mallick	Methods of Science	Gauhati University	Guwahati (virtual)	20-04-22	20-04-22
03	Sambit Mallick	Social Shaping of Technology	Gauhati University	Guwahati (virtual)	20-04-22	20-04-22
04	Sambit Mallick	Methods of Science	Gauhati University	Guwahati (virtual)	26-04-22	26-04-22
05	Pahi Saikia	NE insurgencies & other challenges	Assam Rifles-USI of India Joint Annual Seminar	Delhi	06-05-22	
06	Sambit Mallick	Focus Group Discussion	Cotton University	Guwahati	05-07-22	05-07-22
07	Mrinal Kanti Dutta	Data, Descriptive Statistics and Inferences in Empirical Research	Cotton University	Guwahati	05-07-22	05-07-22

08	Mrinal Kanti Dutta	Regional Disparity and the North East Economy: The Way Forward	Centre for Development Studies, Dept. of Economics, Rajiv Gandhi University	Rono Hills	17-05-22	17-05-22
09	Mrinal Kanti Dutta	How is the State of Indian Economy? A Look at the Current Growth Experience	HRDC Mizoram University	Aizawl (Virtual Mode)	06-06-22	06-06-22
10	Rajshree Bedamatta	Webinar on Functions of NSO and its Contributions to Independent India	National Statistics Office, Field Office Division, North East		27-05-22	27-05-22
11	Rajshree Bedamatta	Popular Lecture Series	Department of Statistics, Gauhati University		19-08-22	19-08-22
12	Rajshree Bedamatta	Institute Orientation Day Lecture	University of Science & Technology, Meghalaya	Baridua, Meghalaya	25-09-22	25-09-22
13	Sambit Mallick	Decolonizing Knowledge, Indigeneity and Development	North-Eastern Hill University	Shillong (virtual)	11-10-22	11-10-22
14	Sambit Mallick	Environment, Technology and Development	Maulana Azad National Urdu University	Hyderabad (virtual)	14-10-22	14-10-22
15	Sambit Mallick	Introduction to Research Methods	University of Science and Technology, Meghalaya	Meghalaya	27-10-22	27-10-22
16	Ngamjahao Kipgen	Webinar on Environmental Sociology	Department of Sociology, Miranda House, University of Delhi	Delhi University	07-11-22	07-11-22
17	Sambit Mallick	Contextualizing Modernity in Contemporary India	Jawaharlal Nehru University	New Delhi (virtual)	21-11-22	21-11-22

18	Sambit Mallick	Science, Technology and Society: The Evolution	RMK Engineering College	Thiruvallur	15-12-22	16-12-22
19	Sambit Mallick	Reconstructing the Self in the Age of Capitalist Technology	Galgotias University	Greater Noida, virtual	15-12-22	15-12-22
20	Sambit Mallick	Methods of Science	Aligarh Muslim University	Aligarh	26-12-22	26-12-22
21	Sambit Mallick	Ethos of Science and Challenges	Aligarh Muslim University	Aligarh	27-12-22	27-12-22
22	Sambit Mallick	Science, Technology and Society	Aligarh Muslim University	Aligarh	28-12-22	28-12-22
23	Sambit Mallick	Modernity in Contemporary India	Aligarh Muslim University	Aligarh	29-12-22	29-12-22
24	Sambit Mallick	Development Theory in Transition	Aligarh Muslim University	Aligarh	30-12-22	30-12-22
25	Sambit Mallick	Science, Technology and Sustainable Development	University of Allahabad	Allahabad, virtual	28-02-23	28-02-23
26	Mrinal Kanti Dutta	1st Bodoland International Knowledge Festival, 2023	Bodoland University, Kokrajhar	Kokrajhar	27-02-23	02-03-23
27	Mrinal Kanti Dutta	Valedictory address of the National Seminar on "The Indian Economy: Progress with Resilience since independence and confronting challenges for meeting the centurial aspiration"	Rangia College	Rangia	09-02-23	10-02-23
28	Rajshree Bedamatta	Online lecture exchange	Nagoya University Japan		11-01-23	11-01-23
29	Sambit Mallick	Social Construction of Technological Systems	Tata Institute of Social Sciences, Guwahati Campus	Guwahati	30-03-23	30-03-23

VISITORS FROM OTHER INSTITUTES/ UNIVERSITIES/ ORGANISATIONS/ INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Dr. Gorky Chakraborty	Institute of Development Studies Kolkata	Analysing Land, Conjuring Identities: Lessons from Northeast India	8 March 2022
02	Dr. Awanish Kumar	School of Social and Political Science, University of Edinburgh	Dignity and Freedom: Dr B R Ambedkar's Perspective on the Land Question in India	22 March 2022
03	Dr. Aashish Xaxa	IIT Gandhinagar	Transformations of Tribal Hinterlands into Urban Spaces in India's Fifth and Sixth Schedule Areas: Emerging issues and contestations	14 March 2023
04	Dr. Rahul A Sirohi	IIT Tirupati	Decolonising Development: Liberatory Epistemologies from India and Latin America	11 April 2023
05	Profs. Kimi King and James Meernik	The University of North Texas	An Examination of Factors Influencing Language Endangerment.	23rd March 2022
06	Prof. Prasanta Bandyopadhyay	Montana State University	Theseus' Ship, Buddhists' Vehicles, and Our Identity Crisis	19 April 2022
07	Dr. Arshiya Sethi	Dr. Arshiya Sethi, Post Doctoral Fulbright – Nehru Fellow from India, attached to the Department of Theatre Arts and Dance, at the University of Minnesota	Our Dance, in our Voice	5th January 2023
08	Prof. Prajval Shastri, Nandita Jayaraj, Upasana Bora Sinha, Dhriti Mahanta,	United Nations Global Women's Breakfast 2023 "Breaking Barriers in Science"	Prof. Prajval Shastri (Indian Institute of Astrophysics, Bengaluru),	14 February 2023

	Hemjyoti Medhi, Sumana Dutta, Sheetal Gokhale, Shakuntala Mahanta		<p>Nandita Jayaraj (Communications Consultant at the Azim Premji University), Upasana Bora Sinha (Faculty in the Department of Chemistry, Nagaland University),</p> <p>Dhriti Mahanta (Faculty in the Department of Chemistry, Gauhati University), Hemjyoti Medhi (Faculty in the Department of English, Tezpur University), Sumana Dutta (Faculty in the Department of Chemistry, at the Indian Institute of Technology Guwahati), Sheetal Gokhale (Faculty in the Department of Design, Indian Institute of Technology, Guwahati), Prof. Shakuntala Mahanta (Dept. of HSS, IIT Guwahati)</p>	
09	Akhilesh Kumar	Investigating the South Asian Palaeolithic: Case Studies from Tamil Nadu	Director of Sharma Centre for Heritage Education (IN)	17 February 2023
10	Rajiv Sikri	India@75: Videsh Niti Distinguished Lecture Series	Former India's Ambassador to Kazakhstan	21 April 2022

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
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01	Sambit Mallick	ISS Young Researchers' Workshop	Indian Institute of Technology Guwahati	18-12-22	19-12-22	National
02	Anamika Barua	Workshop on Climate Change Risk Assessment and Mapping at District and State Level in India Organised	IIT Guwahati, IIT Mandi and CSTEP, Bengaluru	24-03-23	26-03-23	National

STUDENTS' ACHIEVEMENTS:

- Bikash Das: 'Outstanding Research Paper in Social Sciences' Award at the 5th Regional Science and Technology Congress; Department of Science, Technology, and Biotechnology, Government of West Bengal.
- Tanushree Baruah: Best Paper Award; North Eastern Economic Association (NEEA).
- Alok Das: A Poetic Award; Selection of a Poem in an International Bengali Magazine; Amrit Sahitya Patrika, (Malda, West Bengal, India)

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Barua Anamika	University of Leeds, UK	Professor	Climate Change and Water security, Ecological Footprint, Virtual Water flows through trade, Water governance including transboundary water governance
02	Basu Debapriya	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	Bedamatta Rajshree	University of Calcutta	Associate Professor	Food security, Nutrition, and Public Health
04	Das Debarshi	Jawaharlal Nehru University	Associate Professor	Development Economics, Political Economy, Macroeconomics
05	Das Liza	<i>NULL</i>	Professor	Cultural Studies
06	Dutta Mrinal Kanti	Gauhati University	Professor & Head	Agricultural Economics, Environmental Economics, Regional Economic Development
07	Dutta Vipul	Kings College London	Assistant Professor	South Asian Diplomatic & Military History ; Indian Business History
08	Hussain Dilwar	IIT Kanpur	Associate Professor	Psychology of Trauma, Psychology of Well-being
09	Jairath Vasundhara	University of Delhi	Assistant Professor	Social Movements, Development and Displacement, Indigenous Politics, Latin America, Decolonisation of Knowledge
10	Jha Mithilesh Kumar	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	Kashyap Naveen	IIT Bombay	Associate Professor	Sleep and Information Processing, Human Memory
12	Keshavamurthy Kiran	University of California, Berkeley	Assistant Professor	Modern Indian Literatures
13	Kipgen Ngamjahao	Indian Institute of Technology Delhi	Associate Professor	Environmental sociology, political sociology, religion and cultural politics

14	Mahanta Amarjyoti	Jawaharlal Nehru University, Centre for Economic S...	Assistant Professor	Game Theory, Auction Theory, Industrial Organization
15	Mahanta Shakuntala	Utrecht University, The Netherlands	Professor	Theoretical Phonology, Acoustic Phonetics and perception, Information Structure, Tone and intonation
16	Mallick Sambit	University of Hyderabad	Professor	Sociology of Science and Technology; Historical Sociology; Philosophy of the Social Sciences
17	Parmar Daksha	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.
18	Prabhu Venkataraman		Professor	
19	Punekar Rohini Mokashi	Gujarat University	Professor	Translation, Postcolonial Studies, Culture Studies, Indian Writing in English and Modern British Literature.
20	Ray Sawmya	University of Hyderabad (Hyderabad Central University)	Professor	Gender Violence and Law, Sex Trafficking and Sex Work, Gender and Legal Pluralism, Caste in Urban Spaces.
21	Saikia Arupjyoti	University of Delhi	Professor	Economic, environmental and political history of modern Assam
22	Saikia Pahi	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.

23	Sarkar Agnirup	Durham University	Assistant Professor	Macroeconomics, Monetary Economics, Finance
24	Sarmah Priyankoo	University of Florida	Professor	Phonetics and phonology of vowels and tones, Tibeto-Burman languages, language technology development, speech perception, speech recognition
25	Sengupta Bodhisattva	McGill University	Associate Professor	Public Economics and Policy, Dynamic Economic Theory
26	Sharma Sukanya	Deccan College PG & Research Institute, Poona	Professor	Archaeology
27	Som Bidisha	Jawaharlal Nehru University, New Delhi	Associate Professor	language processing, culture and cognition, social linguistics.
28	Thomas John	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.
29	Tripathi Nachiketa	IIT Kanpur, India	Professor	Organizational Behaviour, HRM and Social Psychology
30	Kashyap Abhishek	IIT Bombay, India	Assistant Professor	Research Interests: Philosophy of Science, Philosophy of Physics, Bayesian Epistemology, Social Epistemology
31	Ranu Roychoudhuri	University of Chicago	Assistant Professor	South Asian art and visual culture; history of photography; global modernism; contemporary art; intellectual history of art; art historiography; postcolonial studies; print history

Mathematics

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1995

ACADEMIC PROGRAMMES OFFERED:

Bachelor of Technology in Mathematics & Computing [Four Year Programme]

Master of Science in Mathematics and Computing [Two Year Programme]

Doctor of Philosophy in Mathematics

Master of Technology in Data Science [Two Year Programme] Jointly offered with the Dept. of CSE and EEE

LABORATORY FACILITIES:

No. of Laboratories: 4

Maths E-block Laboratory : Seating capacity : $74+71 = 145$

Maths E1-block Laboratory : Seating capacity : 292

Two Research Scholars Laboratories: Total capacity : 100 (Located in E and E1 blocks)

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:

DELL P2422H IPS Monitor	08 Nos.	1,60,017.00
Upgradation of Lenovo Think Centre E73Z To Dell Optiplex 5000 Desktop PC	08 Nos.	5,91,160.00
Acer Veriton S2680G Desktop PC	07 Nos.	4,40,258.00
Buyback of EATON 3x30KVA Parallel UPS system To 30KVA UPS Power module for Orion MoD5T modular UPS	01 No.	2,30,058.00
Asus S501MD Desktop PC	10 Nos.	5,90,000.00
Acer S2690G Desktop PC	13 Nos.	7,61,017.00

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.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
1	Prof. Rupam Barman	International Conference on Special Functions and Applications (ICSFA-2022)	Mysore University	26/11/2022 to 28/11/2022	International
2	Prof. Ashok Singh Sairam	IEEE International Conference on Advanced Networks and Telecommunication System	IIT Gandhinaar	18/12/2022 to 21/12/2022	International
3	Prof. Siddhartha Pratim Chakrabarty	India Finance Conference 2022 (IFC-2022)	Indian Institute of Management Calcutta, Kolkata	18 th -21 st December 2022	International
4	Prof. Sukanta Pati	Conference in the memory of Profs. Arvind Lal, Pravir Dutt and Sudipta Dutta	IIT Kanpur	5/11/2022-- 7/11/2022	National
5	Prof. M. Guru Prem Prasad	37th Annual Conference of Ramanujan Mathematical Society	SSN College of Engineering, Chennai	December 06-8, 2022.	National
6	Prof. Natesan Srinivasan	INTERNATIONAL CONFERENCE ON EVOLUTION IN PURE AND APPLIED MATHEMATICS (ICE PAM- 2 0 2 2)	Akal University, Talwandi Sabo	16 – 18, November 2022	International

7	Prof. Natesan Srinivasan	2 nd International Conference on ESSENCE OF MATHEMATICS IN ENGINEERING APPLICATIONS (ICEMEA-2022)	KL University, Vaddeswarm, Guntur	9 – 10, December 2022	International
8	Prof. Natesan Srinivasan	International Conference of the Mathematical Society – Banaras Hindu University on Recent Trends in Mathematical and Computational Sciences (RTMCS)	Banaras Hindu University, Varansai	03/02/2023 – 05/02/2023	International
9	Prof. Natesan Srinivasan	National Conference On Applied Mathematics and Computing NCAMC2023	Dwaraka Doss Goverdhan Doss Vaishnav College, (Autonomous) Chennai 600 106	27-28, February 2023	National
10	Prof. Natesan Srinivasan	NATIONAL CONFERENCE ON APPLIED MATHEMATICS AND NUMERICS	Mar Ivanios College, Trivandrum	8 – 10, March 2023	National
11	Prof. Natesan Srinivasan	4th International Conference on Mathematical Techniques and Applications	SRM Institute of Science and Technology, Chennai	22-24, March 2023	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Prof. Rupam Barman	Delivered 6 lectures on Group Theory	Workshop on Group Theory, Kohima Science College	Kohima	6/10/2022 to 7/10/2022

2	Prof. Rupam Barman	Delivered 12 lectures on Field Theory at AFS-III	IIT Guwahati	Guwahati	20/06/2022 to 16/07/2022
3	Prof. Rupam Barman	Delivered 2 lectures on Number Theory at Refresher's Course	Gauhati University	Guwahati	20/02/2023
4	Prof. Rupam Barman	Ramanujan and the partition function	Pondicherry University	Pondicherry	22/12/2022
5	Prof. Rupam Barman	Distribution of primes	Arya Vidyapeeth College	Guwahati	14/03/2023
6	Prof. Rupam Barman	Ramanujan and the partition function (online)	Gujrat University	Gujrat	14/03/2023
7	Prof. Rajen Kumar Sinha	Wellposedness of Abstract Variational Problem for Heat Equation	Institute of Mathematics and Application	Bhubaneswar	27/05/2022
8	Prof. Rajen Kumar Sinha	Local a posteriori error estimates for boundary control problems governed by nonlinear parabolic equations	BML Munjal University	Gurgaon	06/09/2022
9	Prof. Rajen Kumar Sinha	Composite Finite Element Method for Parabolic Problems in Nonconvex Polygonal Domains	SSN College of Engineering	Chennai	08/12/2022
10	Prof. Siddhartha Pratim Chakrabarty	Mathematical Finance: History, Pedagogy and Opportunities	Cotton University (as a part of National Statistics Day 2022)	Guwahati	29 th June 2022
11	Prof. Siddhartha Pratim Chakrabarty	A three-stage stochastic model for Chronic Myeloid Leukemia: Origin, latency and detection	Amity University (as a part of International Conference on Advances in Biomathematics (ICABM-2022))	Lucknow (delivered online)	22 nd July 2022
12	Prof. Siddhartha Pratim Chakrabarty	Sustainable Finance: The Shifting Landscape and ESG Driven Investment	Indian Institute of Management Calcutta (as a part of the India Finance Conference (IFC-2022))	Kolkata	18 th December 2022

13	Prof. Siddhartha Pratim Chakrabarty	Algorithmic and High Frequency Trading	Tezpur University	Tezpur	11 th March 2023
14	Prof. Siddhartha Pratim Chakrabarty	Mathematical Finance: History, Pedagogy and Opportunities	Siksha Anushandhan (Deemed to be University)	'O' Bhubaneswar (delivered online)	17 th March 2023
15	Prof. Sukanta Pati	Some observations on algebraic connectivity of graphs	IIT Kanpur	IIT Kanpur	8/11/2022
16	Prof. Sukanta Pati	Nonnegative matrices	Pondicherry university	Pondicherry university	18/07/2022
17	Prof. Natesan Srinivasan	Numerical Methods for solving Differential Equations	Gauhati University	Guwahati	02/03/2023
18	Prof. Natesan Srinivasan	Delivered four lectures on Scientific Computing	Mizoram University	Aizawl	26/04/2023 – 02/05/2023
19	Prof. Natesan Srinivasan	Role on Numerical Analysis in Science and Technology	Gauhati University	Guwahati	28/05/2023
20	Prof. Natesan Srinivasan	Efficient Numerical Methods for Fractional Differential Equations	SASTRA DEEMED TO BE UNIVERSITY	Thanjavur (Online)	11/06/2022
21	Prof. Natesan Srinivasan	Analytical and Numerical Methods for Differential Equations	SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY	Chennai (Online)	14/07/2022
22	Prof. Natesan Srinivasan	Moving Mesh Methods for Burgers' and Navier-Stokes Equations	Bharathiar University	Coimbatore	13 – 15, September 2022
23	Prof. Natesan Srinivasan	Computational Finance – European Options	NIT Warangal	Warangal	11/11/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Dr. Biplab Paul	CMI	Research Collaboration	18/12/2022 to 25/12/2022	
2	Prof. B. Ramakrishnan	ISI North East Center	Research Collaboration	30/12/2022 to 1/01/2023	
3	Prof. Santanu Dutta	Tezpur University	Modeling Long Term Return Distribution and Nonparametric Market Risk Estimation	14 th March, 2023	
4	Prof. Michel Waldschmidt	faculty member at CNRS, University of Paris-Sud and University of Paris VI	On the abc Conjecture and some of its consequences	27 th February, 2023	
5	Dr. Prosenjit Roy	IIT Kanpur	Asymptotic Analysis of an eigenvalue problem on long cylinders	24 th January, 2023	
6	Dr. Sushil Singla	IISc Bangalore	INTERPOLATION POLYNOMIALS AND LINEAR ALGEBRA	12 th December, 2022	
7	Dr. Samya Kumar Ray	ISI Kolkata	ON THE COLUMN-ROW PROPERTY OF OPERATOR SPACES	18 th November, 2022	
8	Dr. Arunabha Majumdar	IIT Hyderabad	Adjustment for the uncertainty of predicted expression in transcriptome-wide association study (TWAS): A fusion of measurement error theory and bootstrapping	25 th October, 2022	
9	Prof. Ashish K. Srivastava	Saint Louis University, USA	Supersymmetric cluster algebras and the unity of mathematics	25 th July, 2022	
10	Srijan Sarkar	IISc Bangalore	Pure contractions on Hilbert spaces	20 th July, 2022	

11	Prof. Titrthankar Bhattacharyya	Jadavpur University	Nice ideals: applications and some observations	08 th April, 2022	
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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
1	Prof. Anupam Saikia and Prof. Rupam Barman	Annual Foundation School -III (AFS-III)	NCM	20/06/2022 to 16/07/2022	National	45
2	Prof. Rupam Barman	Workshop on Jacobi Forms	NCM	12/12/2022 to 24/12/2022	National	45

AWARDS AND HONOURS:

- Rupam Barman: A M Mathai Research Excellence Award; Society for Special Functions and Applications.
- Rupam Barman: Editor of Ramanujan Journal, Springer Nature

STUDENTS' ACHIEVEMENTS (1 APRIL 2022– 31 MARCH 2023)

- Ajit Singh: Fulbright-Nehru Post doctoral research award; US-IEF.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
01	Dr. Rafikul Alam	IIT Bombay	Professor	Numerical Functional Analysis, Numerical Linear Algebra
02	Dr. Rupam Barman	IIT Guwahati	Professor	Number Theory
03	Dr. Shreemayee Bora	IIT Guwahati	Professor	Eigenvalue Problems, Spectral Perturbation Theory

04	Dr. Swaroop Nandan Bora	Technical University of Nova Scotia (now called DalTech, Dalhousie University), Halifax, Nova Scotia, Canada.	Professor	Water Wave Mechanics, River Mechanics, Sloshing Dynamics, Flow through Porous Media, Differential Equation, Fractional Differential Equation
05	Dr. Siddhartha Pratim Chakrabarty	University of Illinois at Chicago, Chicago, USA	Professor	Mathematical Finance and Mathematical Biology
06	Dr. Durga Charan Dalal	IIT Kharagpur	Professor	Computational Fluid Dynamics, Two-phase Flows
07	Dr. Gautam Kumar Das	Indian Statistical Institute, Kolkata	Professor	Computational Geometry, Approximation Algorithms, Wireless Networks
08	Dr. Bhupen Deka	IIT Guwahati	Professor	Numerical Analysis, Finite Element Method, Interface Problems
09	Dr. Jiten Chandra Kalita	IIT Guwahati	Professor	Computational and Topological Fluid Dynamics, Numerical methods for Partial Differential Equations, Mathematical Biology
10	Dr. Kalpesh Kapoor	London South Bank University, U.K	Professor	Blockchain Science and Technology, Word Combinatorics
11	Dr. K V Krishna	IIT Delhi	Professor	General Algebra, Theoretical Computer Science
12	Dr. Partha Sarathi Mandal	Indian Statistical Institute (ISI), Kolkata (degree awarded by Jadavpur University), India	Professor	Distributed Algorithms for Swarm Robots Algorithmic aspects of Wireless Sensor Networks Approximation Algorithms for Sweep Coverage Localization, Secure localization Fault-Tolerant Distributed Algorithms Self-stabilization
13	Dr. Sukanta Pati	Indian Statistical Institute, Delhi	Professor	Spectral Graph Theory; Matrix Theory
14	Dr. M Guru Prem Prasad	IIT Kanpur	Professor	Complex Dynamics and Fractals
15	Dr. Anupam Saikia	University of Cambridge, UK	Professor	Number Theory

16	Dr. Ashok Singh Sairam	IIT Guwahati	Professor	Computer Networks and Network Security
17	Dr. Bhaba Kumar Sharma	University of Delhi	Professor	Combinatorial Matrix Theory (Graph Spectra, Matrix Completion Problems) Finite Fields and applications in Cryptography
18	Dr. N Selvaraju	IIT Madras	Professor	Queueing Theory, Financial Mathematics, Stochastic Modelling, Operations Research
19	Dr. Rajen Kumar Sinha	IIT Bombay	Professor	Numerical Analysis (Numerical Analysis of PDEs)
20	Dr. Natesan Srinivasan	Bharathidasan University	Professor	Numerical solution to Differential Equations, Numerical Homogenization
21	Dr. Bikash Bhattacharjya	IIT Kanpur	Associate Professor	Graph Theory
22	Dr. Arbin Kumar Dey	IIT Kanpur	Associate Professor	Distributions, models and Applications; Machine learning and Time Series Analysis ; Advanced Statistical Algorithms; System Biology, Biomedical Applications, Ensemble Learning
23	Dr. Pratyosh Kumar	IIT Kanpur	Associate Professor	Harmonic Analysis
24	Dr. Rajesh Srivastava	IIT Kanpur	Associate Professor	Harmonic Analysis
25	Dr. Jitendriya Swain	IIT Madras	Associate Professor	Harmonic Analysis
26	Dr. Sweta Tiwari	IIT Delhi	Associate Professor	Differential Equation
27	Dr. Vinay Wagh	University of Pune	Associate Professor	Algebraic Geometry
28	Dr. Sriparna Bandopadhyay	Indian Statistical Institute, Delhi	Assistant Professor	Linear Algebra, Matrices

29	Dr. Anjan Kumar Chakrabarty	IIT Kanpur	Assistant Professor	Functional Analysis
30	Dr. Arup Chattopadhyay	JNCASR Bangalore	Assistant Professor	Functional Analysis and Operator Theory
31	Dr. Sagarmoy Dutta	IIT Kanpur	Assistant Professor	Quantam Computing, Complexity Theory
32	Dr. Ayon Ganguly	IIT Kanpur	Assistant Professor	Life Time Data Analysis
33	Dr. Palash Ghosh	Indian Statistical Institute, Kolkata	Assistant Professor	Statistics and Biostatistics, Q-learning (Reinforcement Learning) and Dynamic Treatment Regime (DTR), Personalized Medicine, Ordinal Outcome and Ordinal Regression, Multi-Sample Likelihood, Case-Control Study, Design and Analysis of Clinical Trials, Analysis of Electronic Medical Records Data and Surveillance (COVID-19)
34	Dr. P A S Sree Krishna	University at Buffalo, The State University of New York, USA	Assistant Professor	low dimensional topology hyperbolic geometry hyperbolic manifolds
35	Dr. Chandan Pal	IIT Bombay	Assistant Professor	Stochastic Control Theory and Mathematical Finance
36	Dr. Satyajit Pramanik	IIT Ropar	Assistant Professor	Mathematical Modelling, Scientific Computing, Flow Through Porous Media
37	Dr. H Ramesh	IIT Madras	Assistant Professor	Formal Languages and Automata Theory, Unconventional Models of Computing (In particular Membrane Computing)
38	Dr. Shubhamay Saha	IISc Bangalore	Assistant Professor	Probability and Stochastic Process
39	Dr. K V Srikanth	University at Buffalo, The State University of New York, USA	Assistant Professor	Low Dimensional Topology
40	Dr. Syamashree Upadhyay	Chennai Mathematical Institute, Chennai	Assistant Professor	Algebraic Combinatorics

Mechanical Engineering

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1995

ACADEMIC PROGRAMMES OFFERED:

Bachelor of Technology (BTech) in

i. Mechanical Engineering
Master of Technology (MTech) in

- (1) Machine Design,
- (2) Fluid and Thermal Engineering,
- (3) Manufacturing Science and Engineering,
- (4) Computational Mechanics,
- (5) Aerodynamics and Propulsion

Doctor of Philosophy (PhD)

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 Labs: 19 Research Laboratory

- Dynamics and Vibration Laboratory
- AnuPravaha CFD Laboratory
- Biomedical Devices and Biomaterials Laboratory
- Biomimetics and Artificial Intelligence Laboratory
- CFD Laboratory
- Composite Structures and Fracture Mechanics Laboratory: 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 lab 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 lab.
- 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 AREAS OF RESEARCH AND DEVELOPMENT:

Groupwise Research Areas are

Fluids and Thermal Engineering	Machine Design Engineering	Manufacturing Engineering
<ul style="list-style-type: none"> • Computational Methods for Incompressible Flows • DNS and LES of Turbulence 	<ul style="list-style-type: none"> • Acoustics • Active Materials • Composites • Dynamics and Vibrations 	<ul style="list-style-type: none"> • Bio-MEMS • Casting • CAD/CAM/CIM • Coating • Composites • Computer Application in Metal Forming

<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Finite Element Method and Analysis • Fracture Mechanics and Design • Mechatronics • Robotics and Control • Micromechanics • Nanocomposites • Rolling Element Bearings Design and Analysis • Smart Structures • Tribology 	<ul style="list-style-type: none"> • 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
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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.	Ujjwal K. Saha	Drag-based Wind Turbines: An Overview	NIT Silchar	Silchar	November 25, 2022
2.	Ujjwal K. Saha	Craft of Thesis Writing	Tezpur University	Tezpur	December 26, 2022
3.	Shyamanta M Hazarika	Robotic Hardware	First Fellowship in Advanced Robotic and Innovative Surgery (FARIS); Second Fellowship Course in Robotic Surgery (FALS). IAGES.	Online Course	December 7, 2022
4.	Shyamanta M Hazarika	Influence of Affordance-driven Action Observation on Motor Imagery	XL Annual Meeting of Indian Academy of Neurosciences	NEHU, Shillong	December 9, 2022
5.	Pankaj Biswas	Some Advanced Research on Welding Technology	Golden Jubilee Celebration of Kolkata Branch of The Indian Institute of Welding by organizing "Weld	Indian Institute of Welding, Kolkata	March 11 & 12, 2023

			2023”, the Annual Seminar		
6.	Pankaj Biswas	Hybrid and Robotic Welding Processes	Two Weeks FDP on “Advanced Remanufacturing Technology” Sponsored by AICTE Training and Learning (ATAL) Academy		12th – 23rd December 2022,
7.	Pankaj Biswas	Some Advanced Research on Welding Technology (11th Dec)	One Week High End Workshop (KARYASHALA) on ‘Joining Techniques for Modern Transportation Sector’,	BIT Mesra, Ranchi	5th to 11th Dec, 2022
8.	Pankaj Biswas	Principle and Safety of Underwater Welding	5-day workshop on “Underwater Welding	IIT Guwahati	October 10, 2022 to October 14, 2022
9.	Pankaj Biswas	Thermo-mechanical Transient Elasto-plastic Analysis of Underwater welding fusion welding process by Commercially Available FE Package	5-day workshop on “Underwater Welding	IIT Guwahati	October 10, 2022 to October 14, 2023
10.	Pankaj Biswas	Residual Stress and Hydrogen Embrittlement in CSEF and Dissimilar Welds	ON-LINE COURSE (Via ZOOM) on Distortion Control in Ship Building	ASRANet Ltd. Sutton, Surrey, UK	24th - 25th August 2022
11.	Pankaj Biswas	Weld Induced Residual Stress Prediction by Thermo-mechanical Transient Elasto-plastic Analysis by Commercially Available FE Package	ON-LINE COURSE (Via ZOOM) on Distortion Control in Ship Building	ASRANet Ltd. Sutton, Surrey, UK	24th - 25th August 2023
12.	Pankaj Biswas	Residual Stresses in Engineering Components: Types, Causes, Effects and Estimation,	ON-LINE COURSE (Via ZOOM) on Distortion Control in Ship Building	ASRANet Ltd. Sutton, Surrey, UK	24th - 25th August 2024
13.	Pankaj Biswas	Advancement and Current Trends of Friction Stir Welding	Short Term Course (e-STC) on “Advances in Manufacturing Engineering and Materials	Department of Mechanical Engineering, IIT Indore.	4th - 9th April 2022

14.	R K Mittal	Dynamics of High speed micromachining Process	Machining instabilities and Preventive approaches for modern production industries	NIT Rourekla	30th September 2022
15.	R K Mittal	Micro manufacturing and its role in promoting sustainability	1st GILP JD International Symposium, Gifu University	Gifu University, Japan	9th March 2023
16.	Niranjan Sahoo	Mechanical Characterization of Innovative Energy Absorbing Materials under Impact Loading	8th Asian Conference on Mechanics of Functional Materials and Structures, Department of Mechanical Engineering, IIT Guwahati	IIT Guwahati	11-14 December 2022
17.	U.S. Dixit	Advanced Manufacturing: Research Opportunities	AICTE-QIP Short-Term Course on Advances in Manufacturing Engineering and Materials	IIT Indore	April 4-9, 2022
18.	U.S. Dixit	Evolution of Mechanical and Industrial Engineering	A group of Ph.D. students at IIT Delhi	IIT Delhi	April 13, 2022
19.	U.S. Dixit	Sustainability aspects of additive manufacturing	Karyashala entitled "High end workshop on 3D Printing, Nano-Tribology and Characterization of Materials"	NIT Srinagar	August 31, 2022
20.	U.S. Dixit	Modeling and optimization of laser based forming processes	International Conference on "Laser Assisted Material Processing (LAMP-2022)"	IIT Kharagpur	August 29-31, 2022
21.	U.S. Dixit	Sustainability aspects of additive manufacturing	faculty development program on "Advances in Material Processing and Additive Manufacturing" sponsored by E&ICT Academy	PDPM IIIDM Jabalpur	September 2, 2022
22.	U.S. Dixit	Design for Remanufacturing	International Workshop on	Ranchi	September 17, 2022

			'Remanufacturing Capability Building' at National Institute of Advanced Manufacturing Technology		
23.	U.S. Dixit	FEM application in welding	5-day course on "Underwater Welding" organized in IITG TIDF	Guwahati	October 12, 2022
24.	U.S. Dixit	A talk on Evaluation and Assessment in a FDP on "Blended Learning" organized by E&ICT Academy	E&ICT Academy	Indian Institute of Technology Guwahati	November 9, 2022
25.	U.S. Dixit	A talk on activities of Technology Innovation Hub	Technology Innovation Hub	Indian Institute of Technology Guwahati	December 8-10, 2022
26.	U.S. Dixit	Intelligent machining using sensors and data transfer system	AICTE Training and Learning (ATAL) Academy in hybrid mode	NIAMT, Ranchi	12th – 23rd December 2022
27.	U.S. Dixit	Using Mechanical Engineering for Societal Benefit	FDP on "Technology Transfer from Lab to Society"	Mizoram University	January 21, 2023
28.	U.S. Dixit	Lasers in Surface Engineering	one-week High End workshop titled Emerging trends in Material Science & Engineering for its Applications in Manufacturing Sector under Abhyaas (Karyashala) component of Accelerate Vigyan (AV) Scheme	SERB-DST	24th Jan 2023 to 30th Jan 2023
29.	U.S. Dixit	Modelling of Phase Transformation: Two Case Studies	one-week High End workshop titled Emerging trends in Material Science & Engineering for its Applications in Manufacturing Sector under Abhyaas (Karyashala)	SERB-DST	24th Jan 2023 to 30th Jan 2024

			component of Accelerate Vigyan (AV) Scheme		
30.	U.S. Dixit	A talk in the book discussion of the book entitled “Strength of Materials”	AICTE	AICTE	February 6, 2023
31.	U.S. Dixit	Lecture on Ramcharit Manas at Param Seva Sangh Ashram	North Guwahati	North Guwahati	February 13, 2023
32.	U.S. Dixit	Impact of 3D Printing in Education	1st International Conference on “Fourth Industrial Revolution and Higher Education 2023”	Dibrugarh University Institute of Engineering and Technology	24th February 2023
33.	U.S. Dixit	Lecture on National Science Day	Think India	NIT Nagaland	February 28, 2023
34.	U.S. Dixit	Lecture on National Science Day	Think India	NIT Arunachal Pradesh	February 28, 2023
35.	U.S. Dixit	AI in manufacturing in the era of Industry 4.0	4th Research Conclave	NIT Meghalaya	March 1, 2023
36.	U.S. Dixit	Modelling and Simulation of Manufacturing Processes	2nd International Conference on Mechanical Engineering and Emerging Technologies	Bapatla Engineering College	March 3-4, 2023
37.	U.S. Dixit	Orienting Manufacturing Education in the Era of Industry 4.0	7th International Conference on Production & Industrial Engineering (CPIE2023)	NIT Jalandhar	March 10-12, 2023
38.	U.S. Dixit	A holistic and multidisciplinary way of research as per Indian Philosophy	Outreach program entitled “Multidisciplinary Research for Sustainable Society” organized by Center for Multidisciplinary Research	Tezpur University	March 14, 2023
39.	U.S. Dixit	A lecture on Indian Knowledge Systems	Royal Global University	Royal Global University	March 22, 2023

40.	U.S. Dixit	Delivered a talk on Bhagat Singh in “Shaheed Diwas” function	Shaheed Diwas	National Law University and Judicial Academy (NLUJA)	March 23, 2023
41.	Amaresh Dalal	Migration of Hydrogel Drug Carriers Through Narrow Passages	International Conference in Fluid, Thermal and Energy Systems – 2022 (ICFTE’22)	NIT Calicut	June 09, 2022
42.	Amaresh Dalal	Analysis of Heat Transfer in Fin-Tube Heat Exchangers Using Winglet-Type Vortex Generators	ATAL-sponsored Two Week Faculty Development Program on "Thermal Characterization and Advanced Measurement Techniques"	NIT Srinagar	March 15, 2023
43.	Amaresh Dalal	"Development of Novel Continuous Microbial Fuel Cells with Improved Performance			
44.	"	"Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of			
45.	Sustainable Technology"	IIT Guwahati	September 5, 2022		
46.	Sachin Singh Gautam	Machine Learning in Computational Solid Mechanics – Review, Results, and Future	ACMFMS 2022	IIT Guwahati	December 13, 2022
47.	Pranab Kumar Mondal	Magnetic-Field Mediated On-Demand Droplet Splitting in Lab-on-a-Chip Devices	Recent Trends in Engineering and Technology 2022	GIET University, Gunupur, Odisha	April 11, 2022
48.	Pranab Kumar Mondal	On-chip fluidic functionalities: towards the development of microfluidic/bio-microfluidic systems	Technical University Darmstadt	Germany	June 7, 2022
49.	Pranab Kumar Mondal	Fluid Mechanics at Small Scale – A Numerical Perspective	Cooch Behar Panchanan Barma University	West Bengal	August 16-17, 2022

50.	Pranab Kumar Mondal	Microfluidics in Biotechnology: Perspectives and Applications	Recent trends in CAR-T cells Research and Manufacturing	BIT Pilani, Goa	September 22-23, 2022
51.	Satyajit Panda	Rubber Composites for Structural Vibration Problems	Rajkiya Engineering College	Azamgarh, UP	02 January 2023
52.	Satyajit Panda	"On the piezoelectrically smart damping for attenuation of critical dynamics of beam-like slender structures			
53.	"	ACMFMS 2022	IIT Guwahati	December 12, 2022	
54.	Satyajit Panda	Rubber Composites for Structural Vibration Attenuation	National Physical & Oceanography Laboratory (NPOL), DRDO	Kochi, India	June 17, 2022
55.		Modelling & Simulation of welding and additive manufacturing			
56.	Manmohan Pandey	Liquid-Vapor Phase-Change Phenomena in Miniature Devices	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 14-16, 2022, Roorkee, Uttarakhand, India	IIT Roorkee	15-Dec-22
57.	Swarup Bag	A hybrid machine learning – finite element model for the prediction of residual stress in directed energy deposition process	National Welding Seminar 2022 (NWS 2022)	IIT Chennai	21 January 2023
58.	Swarup Bag	Simulation of surface and volumetric defects in friction stir welding process	High End workshop on Emerging Trends in Material Science & Engineering for its Applications in Manufacturing Sector	Nit Silchar	27 January 2023
59.	Swarup Bag	Assessment of material deposition through induction heating	High End workshop on Emerging Trends in Material Science & Engineering for its Applications in Manufacturing Sector	Nit Silchar	28 January 2023

60.	Swarup Bag	A perspective on laser welding of metallic materials: Modelling and experiments	DAE-BRNS NATIONAL LASER SYMPOSIUM – 31	Iit Kharagpur	4 December 2022
61.	Swarup Bag	An overview of underwater welding: Materials, processing and challenges	Workshop on Underwater Welding, Organized by Department of Mechanical Engineering	IIT Guwahati	12 October 2022
62.	Swarup Bag	Modelling and simulation of friction stir welding: A potential joining technique for underwater welding	Workshop on Underwater Welding, Organized by Department of Mechanical Engineering	IIT Guwahati	12 October 2022
63.	Swarup Bag	Modelling & Simulation of welding and additive manufacturing	SERB-sponsored high-end workshop on Advances in Welding and Additive Manufacturing	SVNIT Surat	20 July 2022
64.	Swarup Bag	An introduction to Laser additive manufacturing processes	AICTE-ISTE sponsored Refreshers Course on “Rapid Manufacturing: The Future Sustainable Manufacturing Technology”	Asansol Engineering College, Asansol, West Bengal	22 January 2022
65.	Swarup Bag	Visualization of material defects in FSW through finite element simulation	National Welding Seminar 2022 (NWS 2022)	IIW Kolkata	22 April 2022
66.	Sajan Kapil	Metal Additive Manufacturing	1st GILP JD International Symposium, Gifu University	Gifu University, Japan	9th March 2023
67.	Sajan Kapil	Functionally Graded Materials TSP Solver-based Toolpath for Additive Manufacturing of Density-based	COPEN 12	IIT Kanpur	10th December 2023
68.	Sajan Kapil	A Novel Non-Pneumatic Method of Powder Feedstock Handling for Directed Energy Deposition-based Additive Manufacturing	International Conference on Powder Metallurgy and Particulate Materials (PM 23) + Exhibition & 48	The Lalit Mumbai	15th March 2023

			Annual Technical Meeting of PMAI,		
69.	Sajan Kapil	Multi-Axis Multi-Material Wire Arc Additive Manufacturing (MAMM - WAAM)	IGSCT Outreach Program	IIT Guwahati	30th Jan 2023
70.	Sajan Kapil	ASTM Classification on Additive Manufacturing Technologies and Tool Path Planning for Additive Manufacturing	A 3-days workshop on AM Modeling and Simulation Techniques	VIT, Vellore	24th Nov 2022
71.	Sajan Kapil	A System-Level Classification of Additive Manufacturing	4 days' workshop on Advances in Additive Manufacturing (3D Printing)	IIT Jodhpur	6th Dec 2022
72.	Sajan Kapil	Introduction to Advancement in 3D Printing and Bio-printing	International Conference on Biomaterials, Regenerative Medicine and Devices	IIT Guwahati	14th Dec 2022
73.	Sajan Kapil	Introduction, Basic Concepts and Case Studies of DFAM	Programme on Design for Additive Manufacturing	CLD-HRDI, WRI & CTM-AMPT	11th Jan 2023
74.	Sajan Kapil	5-axis and Robotic Toolpath Planning for WAAM	Programme on Design for Additive Manufacturing	CLD-HRDI, WRI & CTM-AMPT	12th Jan 2023

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. (Name) (Surname)	xxx	xxx	D/M/Y	xxx
1	Prof. Partha P Mukherjee	Purdue University, USA	Interfaces and Crosstalk in Solid-State Batteries	27/07/2022	Honorary Faculty at IITG
2	Prof.(Dr.) Achyut Ch. Baishya,	Guwahati Medical College Guwahati	Discussion related to Biodesign Center	20/03/2023	Principal Cum Chief Superintendent, GMC Guwahati and PI from GMC in Biodesign project

3	Mr. Ashish Bhatt	Aeronautical Development Agency, Bangalore	"Aircraft stealth technology and infrared		
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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	S.K. Dwivedy and Poonam Kumari	ACMFMS2022	SERB+CSIR+BRNS+DRDO+TIH+EDS+Adme ca	11-14 December, 2022	International	
02	Niranjan Sahoo and Pankaj Kalita	Sustainable Energy Utilization Technology for Green Hydrogen and Renewable Energy	Technology Innovation Hub (IITG-TI&DF), IIT Guwahati	20-21 October 2022		
03	Niranjan Sahoo and Pankaj Kalita	Industry – Academia Stakeholder meet on “Metrology for Deployment of Green Hydrogen and Renewable Fuels in India” in collaboration with delegates from PTB (Physikalish-Technische Bundesanstalt), Germany	Technology Innovation Hub (IITG-TI&DF), IIT Guwahati	21 October 2022		
04	Uday Shanker Dixit	Workshop on Underwater Welding	Technology Innovation Hub (IITG-TI&DF), IIT Guwahati	October 10 -14, 2022	National	
05	Uday Shanker Dixit (Technical Chairman)	North-East Research Conclave 2022		May 20-22, 2022		
06	Uday Shanker Dixit	National Symposium on Poorvottar Bharat in the Bharatiya Swadhinata Sangram	Special Center for the Study of North India, Jawaharlal Nehru University (JNU), New Delhi in collaboration with	September 20-21, 2022		

			Indian Knowledge Systems, IIT Guwahati			
07	Sajan Kapil and R Ganesh Narayanan	Computer-Aided Process Planning for 3D Printing & CNC Machining	NewGen IEDC	25-27 May 2022	National	20
08	Sajan Kapil	CAD through Solidworks	TIH IITG	2-3 September 2022	National	10
09	Sajan Kapil	Indo German Science and Technology Outreach Program	IGSTC - Delhi	30th Jan 2023	International	>100
10	Sajan Kapil, Biranchi Panda and R Ganesh Narayanan	Demonstration and hands-on-training on 3D Printing	NewGen IEDC	16-17 March 2023	National	15
11	S.Kanagaraj and Biman B Mandal	International Conference on Biomaterials, Regenerative Medicine and Devices (BIO-Remedi 2022).	Industries and SERB	Dec 15, 2022 -Dec 18, 2022	International	

PATENTS:

No. of Patents Applied: 10

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1.	Anand Mohan Pandey, Sajan kapil, Manas das	A portable device for simultaneous coating and texturing of surfaces by an electrochemical deposition-based process,	4th August 2022	202331002410	Filed
2.	Atul Singh Rajput, Sajan Kapil, and Manas Das	A Method for Performing Magnetorheological Fluid-Assisted Finishing (MFAF) on a Product having a Hole Feature	7th June 2022	202231032416	Filed
3.	Atul Singh Rajput, Sajan Kapil, and Manas Das	An Apparatus for Enhancing Surface Quality of Invisible Aligners Fabricated by Additive Manufacturing	4th August 2022	202231044563	Filed

4.	Atul Singh Rajput, Sajan Kapil, and Manas Das	Method and apparatus for chemical etching of the additively manufactured head manufactured from Ti-6Al-4V	11th Nov 2022	202231064595	Filed
5.	Sudip shyam, Dhruvkumar Wankawala, and Pranab Kumar Mondal	A passive droplet formation and splitting microfluidic device for symmetric or asymmetric droplet generation and a process thereof	08th April 2022	202231008005	Filed
6.	Dhruvkumar Wankawala, Sudip shyam, and Pranab Kumar Mondal	A microfluidic system for droplet manipulation including simultaneous operation of magnetic and non-magnetic droplet formation, alternation, and sorting and method thereof	26th Sepetember, 2022	202231055118	Filed
7.	D Das, S Bag, and S Pal:	Multi-utility FSW tool shank with interchangeable tool probe	1 September 2022	202231049902	Filed
8.	D Das, and S Bag	An economical and portable μ -FSW setup	26 Augusr 2022	202231048830	Filed
9.	D Das, S Bag, and S Pal	FSW tool with modified tool shoulder	23 February 2023	202331012303	Filed
10.	Ranajit Mahanti, and Manas Das	Systems and methods for application of vibrations to a microtool electrode in micro-electrical discharge machining	26 March 2023	202331021594	Filed

AWARDS AND HONOURS:

- Shyamanta M Hazarika: Abdul Kalam Technology Innovation National Fellowship; INAE-SERB, DST.
- Amaresh Dalal: Associate Editor in Sadhana; Springer publication.
- Pranab Kumar Mondal: JSPS fellowship for Long term research work; Okinawa Institute of Science and Technology Graduate University, Japan.
- S. Kanagaraj: Transfer of Technology; Non-exclusive rights of the knee joint technology have been transferred to Ratnanidhi Charitable Trust, Mumbai.
- Pranab Kumar Mondal: Guest Editor in Microsystem Technologies; Springer.

STUDENTS' ACHIEVEMENTS:

- Jyotirmoy Kakati/Ujjwal K. Saha/Sukhomay Pal: Travel Grant to attend International Conference; ASME 2022 Power Conference, July 18-19, Pittsburgh, USA.
- Sima Nayak / Niranjan Sahoo: PMRF.
- Aditya Sharma / Niranjan Sahoo: PMRF.
- Amit Kumar & Divakar Bommana / Niranjan Sahoo & S. K. Dwivedy: New Generation Innovation and Entrepreneurship Development; New Gen IEDC - IIT Guwahati.
- Sumit Kumar Das/Sachin Singh Gautam: Best Paper Award; ACMSFMS 2022, IIT Madras.
- Dhruvkumar Wankawala and Pranab Kumar Mondal: Best Paper Award; FMFP 2022, IIT Roorkee.
- Vaibhav Jiaswal, Kishore kumar Padi, Subramani Kanagaraj: Transfer of Technology; Non-exclusive rights of the knee joint technology have been transferred to Ratnanidhi Charitable Trust, Mumbai.
- Lipika Boruah: ACS Biomaterial Sciences and Engineering Best Poster Presentation Award; BIO-Remedi 2022, IIT Guwahati.
- Sumit Kumar Mehta, Dhananjay Kumar, Pranab Kumar Mondal, and Somchai Wongwises: Best Paper Award; 5th International conference on Energy systems, drives and automation (ESDA 2022).
- Sumit Kumar Mehta, Pranab Kumar Mondal, and Somchai Wongwises: Best Paper Award; 12th TSME-International Conference on Mechanical Engineering 2022.
- Toni Kumari, Chandan Nashine, Nadaf Arman Mohaddin, Sandip Kumar Sarma / Manmohan Pandey: New Generation Innovation and Entrepreneurship Development; DST.
- Swagat Dwibedi and Swarup Bag: Corps of Electrical and Mechanical Engineers' Prize; The Institution of Engineers (India).
- Atul Singh Rajput / Sajan Kapil, Manas Das: Young Tribologist Award; 11th International Conference on Industrial Tribology (ICIT)) organized by IIT Delhi.
- Ambrish Singh / Sajan Kapil, Manas Das: Best Poster Presentation Award; COPEN 12, IIT Kanpur.
- Anand Mohan Pandey / Sajan Kapil, Manas Das: Best Poster Presentation Award; COPEN 12, IIT Kanpur.
- Atul Singh Rajput / Sajan Kapil, Manas Das: Runner up award for oral presentation; 11th International Conference on Industrial Tribology (ICIT)) organized by IIT Delhi.
- Atul Singh Rajput, Ambrish Singh, Sajan Kapil, Manas Das: New Generation Innovation and Entrepreneurship Development; DST.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1.	Bag, Swarup	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.	Bandopadhyaya, Dibakar	IIT Kanpur	Associate Professor	Active materials, Artificial muscle materials, Smart structures, Robotics and mechanism, Composites, MEMS, Bio inspired design
3.	Banerjee, Atanu	IIT Kanpur	Associate Professor	Complaint Mechanism, Shape memory alloy, Bio-memetic devices

4.	Basireddy, Sandeep Reddy	IISc Bangalore	Assistant Professor	Nonlinear Dynamics of Mechanical Systems, Robotics and Control, Applied Dynamics
5.	Basu, Dipankar Narayan	IIT Kharagpur	Associate Professor	Nuclear Thermalhydraulics, Supercritical Natural Circulation Loops, Domestic Air-conditioning, Computational Fluid Dynamics and Heat Transfer
6.	Biswas, Pankaj	IIT Kharagpur	Associate Professor	Manufacturing and Design: Computational weld mechanics, Solid state welding, Soft computing modeling of welding processes, FEM, Line heating
7.	Chakraborty, Debabrata	IIT Kharagpur	Professor	FRP, Composites, FEM, Fracture Mechanics and Design
8.	Dalal, Amaresh	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.	Das, Manas	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.	Dass, Anoop K.	IISc Bangalore	Professor	Computational Fluid Dynamics and Turbomachines
11.	De, Arnab Kumar	IIT Kanpur	Associate Professor	Numerical Methods in Fluid Flow and Heat Transfer, Convection, Turbulence
12.	Dixit, Uday S.	IIT Kanpur	Professor	Design and Manufacturing : FEM, Neural Network and Fuzzy Set Application; Mechatronics
13.	Dwivedy, Santosha K.	IIT Kharagpur	Professor & HOD	Non-linear Dynamics, Design and Robotics, vibrations
14.	Gautam, Sachin S.	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.	Hazarika, Shyamanta M.	University of Leeds, England	Professor	Robotics, Cognitive Systems, Knowledge Representation and Reasoning
16.	Joshi, Shrikrishna N.	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.	Kakoty, Sashindra K.	IIT Kharagpur	Professor & Dean,	Tribology, Duct Acoustics, Mechanical System Design, Rural Technology

			Infrastructure, Planning and Management	
18.	Kalita, Karuna	University of Nottingham	Associate Professor	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
19.	Kanagaraj, S.	IIT Kharagpur	Professor	Biomaterials, Carbon nanotubes based nanocomposites, Nanofluids, Materials characterization
20.	Kapil, Sajan	IIT Bombay	Assistant Professor	Rapid Manufacturing (3D Printing), Welding/Cladding Processes, CNC, Manufacturing Automation
21.	Khanikar, Prasenjit	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.	Kulkarni, Vinayak	IISc Bangalore	Associate Professor	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
23.	Kumar, Bhaskar	IIT Kanpur	Assistant Professor	Hydrodynamic Stability, Bluff Body Flows, Computational Fluid Dynamics
24.	Kumari, Poonam	IIT Delhi	Associate Professor	Theory of plates and shells, Computational mechanics, Smart structures
25.	Madhusudhana, Gavara	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.	Mahanta, Pinakeswar	IIT Guwahati	Professor	Thermal Radiation with Participating Media, Fluidization, Energy Conservation and Renewable Energy
27.	Mandal, Shubhadeep	IIT Kharagpur	Assistant Professor	Microswimmers, Complex Fluids, Droplet Microfluidics, Electrohydrodynamics
28.	Mankodi, Tapan Krishnakumar	IIT Bombay	Assistant Professor	Rarefied Gas Dynamics, Computational Gas Dynamics, Hypersonic Aerothermodynamics, Non-equilibrium Flows, Galerkin Methods
29.	Mittal Rinku Kumar	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.	Mondal, Pranab Kumar	IIT Kharagpur	Assistant Professor	Microfluidics, Electrokinetics, Two Phase Transport, Microscale Transport of Heat, Flow Through Porous Media.
32.	Murthy, K. S. R. Krishna	IIT Kharagpur	Professor	Finite Element Methods, Error Estimation and Fracture Mechanics
33.	Muthu, Nelson	IIT Bombay and Monash University	Assistant Professor	Meshfree Methods, FEM, Fracture Mechanics, Composites, Structural Health Monitoring, Medical Device Innovation
34.	Muthukumar, P.	IIT Madras	Professor	Coupled heat and mass transfer analysis; Metal hydride based thermal machines, Conventional and Non-conventional refrigeration systems
35.	Nandy, Arup	IISc Bangalore	Assistant Professor	Finite Element Development and Analysis in Structure, Acoustics, Electromagnetics, Structural acoustic interaction, Magnetohydrodynamics, MEMS; Optimization
36.	Narayanan, Ganesh R.	IIT Bombay	Associate Professor	Material Forming and Joining
37.	Pal, Sukhomay	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.	Panda, Biranchi	NTU Singapore	Assistant Professor	Advanced manufacturing and design, 3D/4D printing, Modelling and Characterization, Energy and sustainable environmental technologies
39.	Panda, Satyajit	IIT Kharagpur	Associate Professor	Composite materials, Nonlinear vibrations, Smart materials and structures, FEM, Functionally Graded materials and structures, Micromechanics.
40.	Pandey, Manmohan	IIT Kanpur	Professor	Dynamics and Control of Fluid-Thermal Systems, Nuclear Reactor Thermal-Hydraulics
41.	Robi, P. S.	IIT Bombay	Professor	Coating, Fracture Mechanics, Materials Processing, Metal Matrix composite, Metal Casting, P/M Processing
42.	Saha, Ujjwal K.	IIT Bombay	Professor	Propulsion, Turbomachinery, Wind Energy Conversion, Internal Combustion Engines
43.	Sahasrabudhe, Anil D.	IISc Bangalore	Professor (On deputation as Chairman of the All India Council for Technical Education)	Vibration and Noise, Condition Monitoring, CAD/CAM

44.	Sahoo, Niranjana	IISc Bangalore	Professor	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
45.	Senthilvelan, S.	IIT Madras	Professor	Composites, Fatigue, Wear and Failure Analysis
46.	Soti, Atul	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.	Sharma, Deepak	IIT Kanpur	Associate Professor	Optimal Design: Modeling and Computation, Engineering Design and Optimization, Genetic Algorithms, Multi-objective Optimization
48.	Tiwari, Rajiv	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

Physics

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 1995

ACADEMIC PROGRAMMES OFFERED: B. Tech. (Engineering Physics), M. Sc. (Physics) and Ph. D. (Physics).

LABORATORY FACILITIES:

No. of Laboratories with a brief introduction (Total No: 24)

- a) Teaching Labs: (05 teaching laboratories)
 - i. **Advanced Physics Lab-01**
 - ii. **B. Tech 1st year Lab-01**
 - iii. **Electronics Lab-01**
 - iv. **M. Sc. Lab-01**
 - v. **Numerical Lab-01**
- b) Research labs: (18 research laboratories)
 - i. **Advanced Nanomaterials Lab (Involved in cutting-edge research on developing advanced nanomaterials and exploring their practical applications in energy conversion and storage).**
 - ii. **Cold and Ultra-Cold Atomic Physics Lab**
 - iii. **Computational Lab**
 - iv. **Computer-Generated Holography and Optical Imaging Lab**
 - v. **Electro-ceramics Lab**
 - vi. **Fiber Optics Lab**
 - vii. **Furnace Lab**
 - viii. **High Energy Physics Lab**
 - ix. **Laser and Photonics Lab**
 - x. **Low-Temperature Physics Lab**
 - xi. **Magnetism Lab**
 - xii. **Materials Science Lab**
 - xiii. **Nonlinear Optics Lab**
 - xiv. **Physical Property Measurement System Lab**
 - xv. **Semiconductor Labs (02)**
 - xvi. **Spectroscopy Lab**
 - xvii. **Terahertz Photonics and Plasmonics Lab**
 - xviii. **Thin Film Physics Lab**
 - xix. **XRD Lab**

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

- Computing Node, Make: HPE Model: HPE Proliant DL560 Gen 10; Price: Rs. 9,91,200.00
- Complete Nuclear Magnetic Resonance experimental setup, Make: LD Didactic GmbH, Model: P.6.5.3.1; Price: Rs. 6,13,600.00
- Solar P.V. Training and Research system, Make: Ecosense sustainable solutions(P) ltd; Price: Rs. 5,04,000.00

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:

(i) 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 explore 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.
- 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.
- Transition Metal oxide system.

(ii) 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.
- Programmable Diffractive Optics, Confocal Microscopy.
- Quantum Optics.
- Ultrafast optics, Terahertz Plasmonics and metamaterials.

(iii) 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, Darkmatter studies, Supernovae neutrinos.
- Experimental High Energy Physics: B-Physics, Neutrino Physics, ILC R&D.
- Low energy QCD, Effective Field Theory.

(iv) 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
- (v) **Quantum Optics and Quantum Technology**
- The group focuses on a multitude of frontier areas, covering both fundamental and applied aspects of quantum optics.
- The current interests of the research group are coherent control of atom-light interaction, cavity quantum optomechanics, circuit quantum electrodynamics, quantum entanglement, quantum synchronization, quantum metrology, quantum communication, and artificially developing models for quantum many body physics using ultracold atoms.

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT:

- Developed electronically tuned highly efficient catalysts for water splitting for green fuel hydrogen generation (Dr. Uday Narayan Maiti *et al.*)
- Developed electric field tunable oriented hydrogel of MXene that acts as fast energy storage devices. (Dr. Uday Narayan Maiti *et al.*)

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
1	Dr. Debasish Borah	PHENO 2022	University of Pittsburgh, USA	09/05/2022 to 11/05/2022	International
2	Prof. Tarak Nath Dey	Physics with Trapped Atoms, Molecules, and Ions (HYBRID)	Bengaluru, India	09/05/2022 to 14/05/2022	International
3	Prof. Pratima Agarwal	North East Research Conclave 2023	IIT Guwahati	20/05/2022 to 22/05/2022	National
4	Prof. P. K. Giri	North-East Research Conclave, Advanced Semiconductors and Quantum Materials	IIT Guwahati, India	20/05/2022 to 22/05/2022	National
5	Dr. Debasish Borah	PPC 2022	Washington University in St. Louis, USA	06/06/2022 to 10/06/2022	International
6	Dr. Sayan Kumar Chakrabarti	Visit to CENTRA, Departamento de Física, Instituto Superior Técnico,	Lisboa, Portugal	26/06/2022 to 03/07/2022.	International

7	Dr. Sayan Kumar Chakrabarti	41st International Conference on High Energy Physics (ICHEP),	Bologna, Italy.	06/07/2022 to 13/07/2022	International
8	Prof. Subhash Thota	The international conference on “Emergent Techniques and Functional Materials (ICETFM-2022) (4 students attended)	Department of Physics, Mediacaps University, Indore, India	12/07/2022 to 14/07/2022	International
9	Dr. Pankaj Kumar Mishra	Discussion meeting on Statistical Physics and Complex Systems	IIT Kharagpur	20/07/2022	National
10	Prof. Perumal Alagarsamy	DST Funded workshop “Karyashala” entitled “High-End equipment’s”	Patna	21/07/2022 to 27/07/2022	National
11	Prof Alika Khare	Sophisticated Instruments Used in Scientific Research	IASST Guwahati	07/09/2022 to 13/09/2022	National
12	Dr. Saurabh Basu	Annual Conference on Quantum Condensed Matter (QMAT 2022)	Department of Physics, IIT Kanpur, Kanpur, India	18/09/2022 to 22/09/2022	National
13	Dr. Pankaj Kumar Mishra	Annual conference on quantum condensed matter	IIT Kanpur	22/09/2022	National
14	Dr. Saurabh Basu	Emergence Phenomena in Quantum Materials (E-QMAT)	Department of Physics, IIT Roorkee, Roorkee, India	12/10/2022 to 14/10/2022	International
15	Prof. Subhash Thota	Conference on Emergent phenomena in Quantum MATerials (E-QMAT) (5 students attended)	Department of Physics, IIT Roorkee	12/10/2022 to 14/10/2022	International
16	Prof. P. K. Giri	International Conference on Emerging Advanced Nanomaterials 2022 (ICEAN-2022)	Newcastle, Australia	17/10/2022 to 21/10/2022	International
17	Prof. Subhash Thota	The 67 th Annual Conference on Magnetism and Magnetic Materials (MMM 2022)	Hyatt Regency in Minneapolis,	31/10/2022 to 04/11/2022	International

			Minnesota, USA		
18	Dr. Pankaj Kumar Mishra	Young Investigator meet on quantum condensed matter Theory	NISER, Bhubaneswar	01/11/2022	National
19	Prof. Perumal Alagarsamy	XIII BIENNIAL NATIONAL CONFERENCE OF PHYSICS ACADEMY OF NORTH EAST	Manipur	08/11/2022 to 10/11/2022	National
20	Prof. Bipul Bhuyan	Invited talk – Flavor Physics at the <i>B</i> -Factories, XIII Biennial National Conference of Physics Academy of North East (PANE 2022)	Manipur University	08/11/2022 to 10/11/2022	National
21	Prof Alike Kahre	XLV annual symposium of OSI, Conference on Optics, Photonics, and Quantum optics (COPaQ-2022),	I.I.T. Roorkee	10/11/2022 to 13/11/2022	National
22	Prof. Amarendra Kumar Sarma	Conference on Optics, Photonics & Quantum Optics	IIT Roorkee	10/11/2022 to 13/11/2022	International
23	Prof. Bipul Bhuyan	Invited Talk –Deep Underground Neutrino Experiment (DUNE): Physics and Detectors, Horizons in Particle Accelerators and Laboratory-based Quantum Sensors for the future of Particle Physics and Particle Astrophysics	ICTS-TIFR, Bangalore	15/11/2022	International
24	Prof. Santabrata Das	North East Meet of Astronomers (NEMA-VIII)	Manipur University	21/11/2022 to 23/11/2022	National
25	Prof. Tarak Nath Dey	Structured Light and Spin-Orbit Photonics 2022	Bengaluru, India	29/11/2022 to 02/12/2022	International
26	Dr. Pankaj Kumar Mishra	Discussion meeting on Structured Light and Spin-Orbit Photonics	ICTS, Bangalore	30/11/2022	International

27	Prof. P. K. Giri	High-End Workshop on Nanostructured Devices	BIT Meshra, India	09/12/2022 to 15/12/2022	National
28	Prof. P. K. Giri	International Conference on Frontiers in Materials Engineering (ICFME-2022)	IIT Indore, India	14/12/2022 to 16/12/2022	International
29	Prof. Bipul Bhuyan	Plenary Talk – Neutrino Physics: Current Experimental Status, DAE-BRNS High Energy Physics Symposium 2022	ISER Mohali	15/12/2022	National
30	Prof. Alike Khare	Women in Optics and Photonics in India 2022	Raman Research Institute, Bangalore	06/12/2022 to 07-12-2022	National
31	Dr. Kumar Meduri Chakravartula	XXV DAE-BRNS High Energy Physics Symposium 2022	IISER Mohali	12/12/2022 to 16/12/2022	National
32	Dr. Debasish Borah	88 th Anniversary INSA General Meeting	CSIR, NIO Regional Center, Visakhapatnam	14/12/2022 to 16/12/2022	National
33	Prof. A Srinivasan	Condensed Matter Days (CMDAY2023)	NIT Nagaland, Dimapur, India	14/12/2022 to 16/12/2022	National
34	Dr. Sayan Kumar Chakrabarti	32nd meeting of the Indian Association for General Relativity and Gravitation (IAGRG)	IISER Kolkata	19/12/2022 to 21/12/2022	National
35	Prof. P. K. Giri	International Conference in Asia – 2022 (IUMRS-ICA 2022)	IIT Jodhpur, India	19/12/2022 to 23/12/2022	International
36	Prof. Subhradip Ghosh	EESTER 2023	SRM Institute of Science & Technology, Chennai	03/01/2023 to 07/01/2023	National

37	Dr. Bibhas Ranjan Majhi	One Week Training Programme on “Contemporary Physics Research, 2023”	NIT Agartala	05/01/2023 to 11/01/2023	National
38	Prof. Santabrata Das	Galactic in and outflows on all Scales (GALFLOWS 2023)	IUCAA, PUNE	02/02/2023 to 05/02/2023	National
39	Debaprasad Maity	Less Travelled Path to the Dark Universe, 12-25 March 2023	International Centre for Theoretical Sciences, Bengaluru	12/03/2023 to 25/03/2023	International
40	Dr. Gagan Kumar	Winter College on Optics: Terahertz Optics and Photonics	ICTP, Trieste Italy	06/02/2023 to 17/02/2023	International
41	Dr. Saurabh Basu	PRL Conference on condensed matter physics 2023 (PRL CCMP 2023)	Physical Research Laboratory, Ahmedabad, Gujarat, India	06/02/2023 to 08/02/2023	National
42	Debaprasad Maity	Beyond Standard Models of Particle Physics and Gravity	Indian Association for the Cultivation of Science, Kolkata,	12/12/2022 to 13/12/2022	National
43	Dr. Kumar Meduri Chakravartula	International Meeting on High Energy Physics (IMHEP-II)	IOP Bhubaneswar	16/02/2023 to 22/02/2023	International
44	Prof. Arunansu Sil.	International Meeting on HIGH ENERGY PHYSICS 2023	Institute of Physics (IOP), Bhubaneswar	16/02/2023 to 22/02/ 2023	International
45	Prof. Bipul Bhuyan	Keynote address – Physics of the Smallest: Impact of Progress in S&T, <i>New Approaches of Basic Sciences towards the Development of Engineering and Technology-2023 (NABSET-2023)</i>	Assam Don Bosco University, Guwahati	24/02/2023	National
46	Prof. P. K. Giri	Japan-India joint workshop on ‘Innovative carbon fiber polymer composite structures:	Tokyo, Japan	28/02/2023 to	International

		material, design and application’.		04/03/2023	
47	Prof. Subhash Thota	Perovskite Society of India Meet (PSIM-2023) (3 students attended)	IIT Roorkee, India.	01/03/2023 To 03/03/2023	International
48	Dr. Saurabh Basu	Americal Physical Society March Meeting (2023)	Caesars Forum in Las Vegas, USA	05/03/2023 to 10/03/2023	International
49	Prof. Subhash Thota	Americal Physical Society (APS) March Meeting 2023	Caesars Forum in Las Vegas, Nevada, USA	05/03/2023 to 10/03/2023	International
50	Prof. Arunansu Sil.	FRONTIERS IN PARTICLE PHYSICS 2023	Centre for High Energy Physics, IISc, Bangalore	10/03/2023 to 12/03/2023	National
51	Prof. Bipul Bhuyan	Invited Talk – Solar Supply Chain Development in the North-East India and ASEAN: North-East India Perspective, Roundtable Conference on Solar Supply Chain development in the North East India and ASEAN	Guwahati	27/03/2023	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Dr. Debasish Borah	A brief history of our universe	Symposium on Cosmology	Assam Don Bosco University, Guwahati	07/04/2022
2	Prof. Subhash Thota	Antiferromagnetism at Naoscale in Few Transition Metal Oxides	Association of Indian Physics Students (NC India) & International Association of Physics Students (IAPS)	New Delhi, India	23/04/2022
3	Prof. A Srinivasan	Principles and applications of X-ray diffraction	Gauhati University	Guwahati	02/05/2022

4	Prof. Tarak N. Dey	Guiding and polarization shaping of vector beam in an anisotropic media	International Centre for Theoretical Sciences of the Tata Institute of Fundamental Research (ICTS-TIFR), Bengaluru	Bengaluru	11/05/2022
5	Prof. Bosanta R Boruah	High resolution imaging using laser beam scanning microscopes	IASST Guwahati	Virtual Conference	16/05/2022
6	Dr. Debasish Borah	Origin of baryon asymmetry and dark matter from ultra-light primordial black hole evaporation	PITT-PACC, University of Pittsburgh	Pittsburgh, USA	19/05/2022
7	Prof. P. K. Giri	Two Dimensional Layered Materials and Their Heterostructures: Photo-physics and Applications	IIT Guwahati	Guwahati	21/05/2022
8	Dr. Debasish Borah	Gravitational wave probe of dark matter and leptogenesis	XV International conference on interconnections between particle physics and cosmology	Washington University in St. Louis, USA	10/06/2022
9	Prof. Bosanta R Boruah	A novel wavefront modulation based free space optical communication system	LOPS2022™ 2 nd EDITION	Virtual Conference	10/06/2022 /12/06/2022
10	Dr. Sayan Kumar Chakrabarti	Shadow of a black hole in Loop Quantum Gravity and its super-radiance property	CENTRA, Departamento de Fisica, Instituto Superior Tecnico	Lisboa, Portugal	30/06/2022
11	Dr. Sayan Kumar Chakrabarti	Black hole shadows: from LQG to expanding universe: what can they tell us	International Conference on High Energy Physics poster	Bologna, Italy	07/07/2022
12	Prof. Subhash Thota	Ising Spin Chain Coulombites and their Field-Induced Transitions	The international conference on “Emergent Techniques and Functional Materials (ICETFM-2022, July 12-14, 2022)	Medi-caps University, Indore Indore, India	12/07/2022 to 14/07/2022

13	Dr. Pankaj Kumar Mishra	Discussion meeting on Statistical Physics and Complex Systems	IIT Kharagpur	IIT Kharagpur	20/07/2022
14	Prof. Perumal Alagarsamy	Electron Microscopy for probing nanostructure	IIT Patna	Patna	21/07/2022
15	Subhaditya Bhattacharya	Features of multipartite dark matter at collider	Max Planck Institute	Heidelberg, Germany	25/07/2022
16	Prof. Amarendra Kumar Sarma	Many Facets of Quantum Harmonic Oscillator	Assam Don Bosco University	Guwahati	25/08/2022
17	Prof Alika Khare	Laser Raman Spectroscopy	Institute of Advanced Studies in Science and Technology Guwahati	Guwahati	12/09/2022
18	Prof. Santabrata Das	Relativistic hot accretion flow around black holes	IISC, Bangalore	Bangalore	21/09/2022
19	Debaprasad Maity	Reheating and its cosmological consequences	IISER, Kolkata	Kolkata	21/09//2022
20	Dr. Pankaj Kumar Mishra	Annual conference on quantum condensed matter	IIT Kanpur	IIT Kanpur	22/09/2022
21	Subhaditya Bhattacharya	Probing Dark matter through Higgs portal interaction	Indian Institute of Science (IISc)	Bangalore, India	24/09/2022
22	Prof. Subhash Thota	Magnetic Properties of few Ising-Spin-Chain Spinels and Columbites	Recent Advances in Materials and Devices, The Department of Physics, School of Applied Sciences in association with CSIR-IMMT, Bhubaneswar, REVA UNIVERSITY, Yelahanka	Bengaluru, Karnataka 560064	26/09/2022 to 30/09/2022
23	Prof. Subhash Thota	Unraveling the Novel Magnetic Properties of Columbites: An Emphasis on the Tricritical Point in H-T Phase diagram	Indo-French Laboratory of Solid-State Chemistry Workshop-2022 LAFICS Workshop, Solid State and Structural Chemistry Unit, Indian Institute of Science IISc.,	IISc, Bangalore, INDIA	03/10/2022 to 04/10/2022

			Bangalore, 560012, INDIA		
24	Prof. Saurabh Basu	Higher Order Topology in Materials	IIT Roorkee	Roorkee	13/10/2022
25	Dr. Debasish Borah	A brief history of our universe	Pandit Deendayal Upadhyay Adarsha Mahavidyalaya, Goalpara	Webinar	14/10/2022
26	Prof. P. K. Giri	Heterostructures of Two Dimensional Layered Materials: Intriguing Photo-physics and Emerging Applications	University of Newcastle	Newcastle	18/10/2022
27	Dr. Pankaj Kumar Mishra	Young Investigator meet on quantum condensed matter Theory	NISER, Bhubaneswar	NISER, Bhubaneswar	01/11/2022
28	Debaprasad Maity	Gravitational Waves: Theory and Observations	Central University Himachal Pradesh	Himachal	03/11/2023
29	Prof. Perumal Alagarsamy	Quest for Novel Materials for Energy Harvesting Using Nanogenerators to Power Up Low-Power Electronics	Manipur University	Manipur	08/11/2022
30	Dr. Gagan Kumar	XLV Symposium of Optical Society of India – a Conference on Optics, Photonics & Quantum Optics – COPaQ 2022	IIT Roorkee	Roorkee	09/11/2023
31	Prof. Ashwini Kumar Sharma	Lossy mode resonances and tuning of the epsilon-near-zero plasmon resonance in indium tin oxide thin films	Department of Physics, Manipur University	IIT Guwahati (online)	09/11/2022
32	Prof Alike Khare	Laser Induced Breakdown: A Versatile Tool	I.I.T. Roorkee	Roorkee	10/11/2022
33	Prof. Amarendra	Non-Hermitian Optics: A New Paradigm	IIT Roorkee	Roorkee	11/11/2022

	Kumar Sarma				
34	Subhaditya Bhattacharya	Multipartite dark matter at colliders	International Centre for Theoretical Studies (ICTS)	Bangalore, India	23/11/2022
35	Prof Pratima Agarwal	<i>“Solar cell: Materials, structure and Technology”</i>	Mizoram Science Congress-2022	Aijal Club, Khatla, Aizwal Mizoram 796001	24/11/2022 to 25/11/2022
36	Prof. A Srinivasan	Characterization of magnetic materials	Gauhati University	Guwahati	28/11/2022
37	Prof. Tarak N. Dey	Structured beam propagation through atomic media	International Centre for Theoretical Sciences of the Tata Institute of Fundamental Research (ICTS-TIFR), Bengaluru	Bengaluru	29/11/2022
38	Dr. Pankaj Kumar Mishra	Discussion meeting on Structured Light and Spin- Orbit Photonics	ICTS, Bangalore	ICTS, Bangalore	30/11/2022
39	Debaprasad Maity	Reheating and its cosmological consequences	Less Travelled Path to the Dark Universe, International Centre for Theoretical Sciences, Bengaluru	Bangaluru	03/12/2022 to 03/25/2022
40	Prof. Alike Khare	My Journey with Optical Sciences	Raman Research Institute	Bangalore	06/12/2022
41	Prof. P. K. Giri	Basics of Nano-photonics and Silicon nanostructures for photonic applications	BIT Meshra	Meshra	09/12/2022
42	Debaprasad Maity	Reheating and its cosmological consequences	Beyond Standard Models of Particle Physics and Gravity, Indian Association for the Cultivation of Science, Kolkata,	Kolkata	13/12/2022
43	Prof. P. K. Giri	Heterostructures of Two Dimensional Layered Materials: Intriguing Photo-Physics and Emerging Applications	IIT Indore	Indore	14/12/2022
44	Prof. A Srinivasan	Magnetism at the nanoscale	NIT Nagalaod	Dimapur	15/12/2022

45	Prof. Subhash Thota	Dielectric Relaxation in Few Antiferromagnetic Oxides	National Seminar on Ferroelectrics and Dielectrics (NSFD - 2022) Department of Physics, VIT-AP University, Beside AP Secretariat, Near Vijayawada, Andhra Pradesh - 522237, India	Vijayawada, Andhra Pradesh - 522237, India	17/12/2022 to 19/12/2022
46	Prof. P. K. Giri	Two-dimensional Layered Materials for Photo-sensing and Chemical sensing Applications	IIT Jodhpur	Jodhpur	20/12/2022
47	Prof. Subhash Thota	Geometrical Frustration in Jahn-Teller Active Spinel Pyrochlores	2 nd INTERNATIONAL CONFERENCE ON MULTIFUNCTIONAL MATERIALS (ICMM-2022) December 22-24, 2022, Hyderabad, Telangana State, India	Hyderabad, Telangana State, India	22/12/2022 to 24/12/2022
48	Prof. Subhash Thota	Unusual Electronic Structure and Magnetic Behavior of Few Spinels	Evolution of Electronic Structure Theory and Experimental Realization (EESTER 2023), IIT Madras	Chennai, India INDIA	04/01/2023 to 12/01/2023
49	Prof. Subhradip Ghosh	Modeling and simulation of disordered systems by first-principles calculations	SRM Institute of Science & Technology	Chennai	05/01/2023
50	Dr. Uday Narayan Maiti	Contemporary Physics Research 2023	Department of Physics, NIT Agartala,	Agartala, Tripura	07/01/2023
51	Prof. Subhash Thota	Pulse Laser Deposited Thin-films and their Applications-I	Applied Science Department, National Institute of Technical Teachers Training and Research Chandigarh (NITTR)	Sector 26, Chandigarh-160019, Punjab, INDIA	09/01/2023 to 20/01/2023
52	Dr. Uday Narayan Maiti	Recent trends in Condensed Matter Physics-2023, (RTCMP 2023)	School of Physical Science, Indian Associate for The cultivation of Science,	Kolkata, West Bengal	12/01/2023

53	Dr. Uday Narayan Maiti	Familiarization Workshop On Nanotransistors and Energy Devices Technology, (INUIP i2i)	Center for Nanotechnology, IIT Guwahati	Guwahati, Assam	22/01/2023
54	Prof. Saurabh Basu	Topology in Condensed Matter Physics	IIT Patna	Patna	12/02/2023
55	Prof. Subhash Thota	Fundamentals of Magnetic Materials and their Applications	Three Days Workshop on on Engineering materials: Design and simulation (ICETFM-2022)NITTR Chandigarh, INDIA	Chandigarh, INDIA	15/02/2023 to 17/02/2023
56	Prof. Arunansu Sil	Flavor Leptogenesis During Reheating Era	Institute of Physics (IOP), Bhubaneswar	Bhubaneswar, Odisha	17/02/2023
57	Dr. Kumar Meduri Chakravartula	Precision QCD studies for some BSM searches using Drell-Yan process at the LHC	IOP Bhubaneswar	Bhubaneswar	21/02/2023
58	Prof. P. K. Giri	Carbon nanotube and graphene based hybrid structures for sensing applications	Tokyo University	Tokyo	02/03/2023
59	Prof. Bosanta R Boruah	Optical super-resolution using STORM	Tezpur University	Tezpur Assam	10/03/2023
60	Prof. Arunansu Sil	Flavor Leptogenesis During Reheating	Indian Statistical Institute (ISI), Kolkata	Kolkata, India	15/03/2023
61	Prof. Subhash Thota	Quantum Aspects in Transverse-field Ising Chain Quasi one-Dimensional Columbites	7th International Conference on Nanoscience and Nanotechnology – ICONN 2023, SRM Institute of Science and Technology, Chennai, INDIA	Chennai, INDIA	27/03/2023 to 29/03/2023

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Dr. Anuraj Panwar	JIIT Noida	Joint Research Project	29/6/2022

02	Prof. Subhasish Dutta Gupta	TIFR Hyderabad, University of Hyderabad and IISER Kolkata	Transverse spin with structured light	02/08/2022 to 04/08/2022
03	Prof. Prajval Shastri	Emeritus Scientist, Raman Research Institute, Adjunct Professor, ICRAR	Telescoping Deep, Wide and Sharp onto Black Holes: The Sherlock Holmes Argument and Beyond	13/02/2023
04	Prof. Sachindeo Vaidya	Center for High Energy Physics, Indian Institute of Sciences, Bangalore.	New Results in SU(N) Gauge Matrix Models - Chiral Anomaly and Light Hadron Masses	24/06/2022
05	Ms. Bhuvana G. R.	Dayananda Sagar University, Bengaluru	Academic collaboration/Exploring the various accretion scenarios in extragalactic black hole X-ray binaries	17/11/2022 to 25/11/2022
06	Dr. Krishnamohan Parattu	IIT Madras	Academic Collaboration	15/12/2022 to 28/12/2022
07	Riddhi Chatterjee	SNBNCBS, Kolkata	Academic Collaboration	01/03/2023 to 31/03/2023

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. Tarak Nath Dey	Structured Light and Spin-Orbit Photonics 2022	ICTS Bengaluru	29/11/2022 - 02/12/2022	International	56
02	Prof. Bipul Bhuyan	Royal Society Yusuf Hamied Workshop for India and the UK	The Royal Society, UK	23/02/2023 - 24/02/2023	International	40
03	Department of Physics	National Science Day, 2023	Dept. of Physics, IIT Guwahati	28/02/2023	National	120

PATENTS:**No. of Patents Applied: 01****No. of Patents Granted: 04**

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
01	Dr. Uday Narayan Maiti, Golam Masud Karim	Ultra-Fast onsite perforation of graphene via transient joule heating and stable wearable energy storage devices Thereof	02/12/2022 (Applied)	202211069760
02	Santanu Konwar and B R Boruah	Free space optical communication system apparatus and a method thereof.	28/12/2022 (Granted)	<i>Korean Patent No.: 10-2483858</i>
03	Biswajit Pathak, Rahul Kesarwani, Alika Khare and B R Boruah	System, apparatus and method for monitoring of surface profile and thickness measurement in thin films	16/11/2022 (Granted)	<i>European Patent : EP3387482</i>
04	Biswajit Pathak and B R Boruah	A METHOD AND DEVICE FOR ZONAL WAVEFRONT SENSING BY BEAM SPLITTING	12/09/2022 (Granted)	<i>Indian Patent Number 406347</i>
05	Biswajit Pathak, Rahul Kesarwani, Alika Khare and B R Boruah	System, apparatus and method for monitoring of surface profile and thickness measurement in thin films	05/08/2022 (Granted)	<i>Indian Patent Number 403113</i>

AWARDS AND HONOURS:

- Bipul Bhuyan: Appointed as a member of the Governing Council for a period of 2 years; Inter-University Accelerator Centre (IUAC), New Delhi.

STUDENTS' ACHIEVEMENTS:

- Bhairov Kumar Bhowmik: 2nd position Best poster award; Winter College on Optics: Terahertz Optics and Photonics (ICTP).
- Bhagwat Singh Chouhan: First prize in poster presentation; Best Student Poster Award-IEEE WRAP 2022.
- Angana Bhattacharya: First Position in oral presentation; ICTP, Italy.
- Angana Bhattacharya: First position in oral presentation (Physics Department); Research Conclave 2022, IITG.
- Angana Bhattacharya: Best Poster Award; INUP, IITG, 2022.
- Sanjib Ray: Best Poster Presentation Award; ICSPPCB-2023, 2 - 4, March 2023, Assam University, Silchar.
- Mouli Roy Chowdhury: NIMS Internship Award; National Institute for Materials Science (NIMS), Japan.
- Nitu: Best poster; CMET, Pune.
- Rajnandan Choudhury Das: First prize, Best Oral Presentation; Raman Memorial Conference 2023, Savitribai Phule Pune University.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org 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	Univ. 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 (Joined NISER Bhubaneswar from May 2022)	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	Univ. 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	Univ. 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	Univ. of Illinois	Professor	Theoretical Physics; Optoelectronic properties of graphene, Nonchiral bosonization

				of fermions in one and higher dimensions.
37.	Arunansu Sil	Univ. 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

Centre for the Environment

YEAR OF ESTABLISHMENT OF THE DEPARTMENT: 2004

ACADEMIC PROGRAMMES OFFERED: PhD

LABORATORY FACILITIES:

No. of Laboratories with brief introduction: 05

- **Research laboratory – I:** (Location: first floor, I block) It is used as workplace by research students to carry out routine laboratory experiments.
- **Research Laboratory – II:** (Location: second floor, I block) It is used as workplace by research students to carry out routine laboratory experiments.
- **Analytical laboratory:** (Location: Research lab-II, second floor, I block) It is equipped with sophisticated equipment essential for environmental research.
- **Computational laboratory-** (Location: Research lab-II, second floor, I block). 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:

- Godrej 200L Convertible Deep Freezer
- Network Attached Storage (NAS)
- APS-Mirrorless camera & Lens kit
- CO2 Incubator

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:

- Development of food and feed products from Eri Silkworm protein isolate”,
- A cost effective strategy and prototype development for community wastewater treatment & reuse In Farmers Field
- Technology development of vinegar production from indigenous fruits Leteku (*Baccaurea motleyana*), Kordoï (*Averrhoa carambola*), Poniya (Flacourtia jangomas) of Assam
- Biosurfactant mediated enhanced oil recovery from Assam oil reservoirs
- Sustainable, Biodegradable and Affordable Substitutes for Single use Plastic using Castor Oil and Stubble Aggregate
- Prototype development for catechins extraction and production of low cost antioxidant tablets and capsules
- Development of catalysts and a prototype device for conversion of CO₂ to fuels/chemicals
- 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.
- Black and Grey water sample analysis
- Petrographic analysis, silt load and silt content analysis in water from hydroelectric power plants.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof. Utpal Bora	Hydrocarbon Pollutants in crude oil producing and processing Regions of Assam: The challenges, opportunities and road map ahead	SECONE Society and Pollution Control Board Assam	03/03/2023	National
02	Prof. Utpal Bora	The Traditional Community Conservation Practices of Deepor Beel and Its Relevance in Nature Based Solutions for Climate Positive Conservation of The Wetlands	Keotpara, Azara Guwahati	17/01/2023	National
03	Prof. Utpal Bora	Regional Workshop and Resham Mela	RSRS, Rowriah	14/12/2022 and 15/12/2022	National
04	Prof. Utpal Bora	Industry- Academia Energy Conclave: IAEA 2022: Scope of building a Low Carbon Economy for the State of Assam and Northeast, at NESID-2022	Assam Kaziranga University and Institute of Frontier Science and Application	14/11/2022- 18/11/2022	National
05	Prof. Utpal Bora	National Workshop and Brainstorming Meeting on	New Delhi	18/07/2022- 19/07/2022	National

		"Space based Information Support for Climate and Environment Studies: Road to the Future			
06	Prof. Subhendu Sekhar Bag	Recent Trends on Prospective Applications of Advanced Materials-2022 (RTPAAM-2022)	Fakir Mohan University, Balasore, Odisha	1/12/2022-2/12/2022	International
07	Prof. Sanjukta Patra	North-East Research Conclave (NERC) '22	IIT Guwahati	20/05/2022 – 22/05/2022.	National
08	Prof. Sanjukta Patra	62nd Annual conference of "Association of Microbiologists of India (AMI-2022).	University of Mysore	21/09/2022 – 23/09/2022.	International
09	Dr. Krishna Pada Bhabak	Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	3/12/2022	International
10	Dr. Krishna Pada Bhabak	Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	2/03/2023	International
11	Prof. Manabendra Ray	Modern trends in Inorganic Chemistry (MTIC)	Banaras Hindu University	15-17/12/2022	International
12	Patel, P., Pandey, L. and Uppaluri R.	North-East Research Conclave	IIT Guwahati	20-22/05/2022	National
13	Bhattacharjee U. and Uppaluri R.	North-East Research Conclave	IIT Guwahati	20-22/05/2022	National

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Utpal Bora	Global Science for Global Wellbeing	Girijananda Chowdhury University	Azara, Guwahati	28/02/2023
02	Prof. Utpal Bora	Invited Speaker	High-End Workshop on Quality Control & Standardization of Herbal Raw Materials for value addition & Sustainable Development in North East		16/09/2022
03	Prof. Utpal Bora	Scientific Panel on Nutraceuticals and Functional Foods (SP-05)	Food Safety and Standards Authority of India, GoI, New Delhi	New Delhi	24/03/2023
04	Prof. Dr. Subhendu Sekhar Bag	Designer Fluorescent Biomolecular Building Blocks Through Click Chemistry and Nanophotocatalyst for Chemical Biology Applications	Fakir Mohan University, Balasore, Odisha	Balasore, Odisha	1/12/2022-2/12/2022
05	Prof Sanjukta Patra	Agriculture wastes into value added products	The Agricultural and Processed Food Products Export Development Authority	Assam Administrative Staff	30/06/2022

				College Guwahati	
06	Prof Sanjukta Patra	Microbes in agro-waste utilization and fermentation technology	National Institute of Technology Rourkela, Orissa, India	Rourkela, Orissa, India	9-11/12/2022
07	Dr. Krishna Pada Bhabak	Celebration of 75 th Foundation Day of CSIR-CLRI, Chennai	CSIR-CLRI, Chennai	Chennai	22/09/2022
08	Dr. Krishna Pada Bhabak	Invited guest lecture	IIT Madras	Chennai	23/09/2022
09	Dr. Krishna Pada Bhabak	Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	Guwahati	3/12/2022
10	Dr. Krishna Pada Bhabak	Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	Shillong	2/03/2023
11	Prof. Manabendra Ray	Toxic metal removal using an engineered AFC polymer with chromate and mercury as probe	MTIC conf. in Banaras Hindu University	Varanasi	16/12/2022
12	Dr. Deepmoni Deka	Jury member in judges panel by CBSE, New Delhi for Regional Science Exhibition 2022-23	Miles Bronson Residential School, Ghy	Guwahati	19/12/2022 20/12/2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1.	Padma Shri Prof. Kushal Konwar Sarma	Department of Veterinary Surgery & Radiology, AAU	Insensitivity Towards Environment and Conflict with Wildlife	05/06/2022	World Environment Day
2.	Prof. Dipjyoti Rajkhowa	ICAR Research Complex for NEH Region, Nagaland Centre	Climate Resilient Agriculture		
3.	Prof. K. Kannan	Ex-VC Nagaland University	Alexander Von Humboldt: the unknown naturalist	29/06/2022	International Day of the Tropics
4.	Prof. B.N. Goswami	Former Director of Indian institute of tropical meteorology	Wetlands: problems and Management	02/02/2023	Wetlands 2023
5.	Dr. Jogesh Deuri	Deptt of Sericulture, handloom & textile, BTR Assam	Wetlands: problems and Management		
6.	Dr. Abhinandan Saikia	Tata Institute of Social Sciences	Wetlands: problems and Management		
7.	Mr. Pramod Kalita	Deepor beel Suraksha mancha	Wetlands conservation & restoration		
8.	Mr. Rituraj Dewan	Deepor beel Suraksha mancha	Wetlands conservation & restoration		

9.	Mr. Nripen Barua	CEO & Founder Acinom research	Wetlands: problems and Management		
10.	Mr. Kalyanjit Hatibaruah	CEO & MD, Flugelsoft	Wetlands conservation & restoration		
11.	Mr. Debajit Kumar Das	Advocate Gauhati High Court	Wetlands conservation & restoration		

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	Centre for the Environment, IITG	05/06/2022	National	100
02	Prof. Utpal Bora	Workshop: GREEN GOSSIP: An interactive session of school children with Scientist and Academicians	Centre for the Environment, IITG	05/06/2022	National	30
03	Prof. Utpal Bora & Dr. Deepmoni Deka	World Wetlands Day 2023	Centre for the Environment, IITG	02/02/2023	National	35
04	Prof. Utpal Bora	Technology Vision 2047- North East India Regional Consultative Meeting”, a brainstorming workshop	TIFAC, DST	14/03/2023-15/03/2023	National	130

PATENTS:

No. of Patents Applied: 03

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
01	Prof. (Debasis) (Manna) Debasis Manna, Subbasis Dey, Anjali Patel, Soumya Srimayee	Quinoline-based zinc ionophores display antimicrobial activity"	D/M/2022	202231073119 E-106/835/2022/KOL	Applied
02	Prof. Dr. Subhendu Sekhar Bag	Near Infrared (NIR-I) Perovskite-Quantum Dot (BagQD) As Fluorescent Sensor For Live-Cell Imaging and Photocatalytic Disinfection of Pathogenic Bacteria Without Regrowth.	30/3/2023	Indian Patent Application No.: E-2/85/2023/KOL/Appl .202231021372/CBR 5127	Patent Filed (Complete Specification)
03	Prof. Dr. Subhendu Sekhar Bag	Smart Nanophotocatalyst for Azide-Alkyne Cycloaddition	21/2/2023	Indian Patent Application No.: E-2/42/2023/Kol/Appl.	Patent Filed (Comple

		and Hetero-Selective Glaser Coupling Reactions.		202231009433/CBR2 802	te Specific ation)
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AWARDS AND HONOURS:

- Subhendu Sekhar Bag: INSA Teachers Award, INSA, New Delhi.
- Manabendra Ray: Maharaja Nripendra Narayan Memorial Prize; Acharya Brajendra Nath Seal College (Est 1888), Cooch Behar.

STUDENTS' ACHIEVEMENTS:

Udaratta Bhattacharjee: Best Flash Presentation and Poster Award; IIT Guwahati and Biotech Research Society.

- Akshita Kanwar: Best Flash Presentation & Poster Award; Biotech Research Society India's International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BRSI-BSBB-22).
- Sayantan Sinha: STE-Young Researcher Award; Save The Environment, India & EWASH 2022.
- Sayantan Sinha: Fellow of The Linnean Society of London (FLS).
- Shilpa Nandi: Prime Minister's Research Fellows (PMRF); Lateral entry, May 2021 scheme.
- Shalini Prajapati: Prime Minister's Research Fellows (PMRF); Lateral entry, May 2021 scheme.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Or g PhD degree received from	Designation	Areas of Interest
1.	A.B.Kunnumakka ra	University of Calicut, Kerala, India,	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.
2.	Aiyagiri Ramesh	CFTRI, Mysore	Professor	Nanobiotechnology, Chemistry-Biology Interface for Developing Antibacterials and Sensors
3.	Ajay Kalamdhad	IIT Roorkee	Professor	Solid waste management, mechanical composting and vermicomposting, analysis of solid wastes, water and waste water Treatment
4.	Anamika Barua	University of Leeds, UK	Professor	Socio-economic understanding of climate risk and resilience, urban living and sustainable cities

5.	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
6.	Arun Goyal	IIT Kanpur	Professor	Molecular Biology, Protein Engineering, Structural and Functional Proteomics of Carbohydrate active enzymes and other industrial microbial enzymes.
7.	Arup Kumar Sarma	Gauhati University	Professor	Modeling & simulation in Free Surface Flow, Heuristic Method in Reservoir Optimization, GIS based Watershed Modeling
8.	Bhisma K. Patel	IIT Kanpur	Professor	Bio-Organic Chemistry and Newer Methodologies, Green Chemistry, Heterocyclic Chemistry
9.	Bishnupada Mandal	IIT Kharagpur	Professor	Separations with chemical reaction, Molecular based membrane separation, Modeling and simulation of separation processes, Environmental pollution control
10.	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
11.	Chandan Mahanta	JNU, New Delhi	Professor	Water Quality, Sediment Dynamics in Fluvial Systems, Environmental Impact, Risk Assessment and Management, Environmental Geo-informatics, Engineering Geology.
12.	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

13.	Chivukula V. Sastri	University of Hyderabad	Professor	Biomimetic Chemistry and Chemical Biology
14.	Debasish Manna	University of Illinois, Chicago, USA	Professor	Ion transport, Liposomal drug delivery, Drug discovery and immunotherapy.
15.	G Pugazhenth	IIT Kanpur	Professor	Membrane Separation Process, Polymer Nanocomposite, Nanomaterials, Adsorption, Wastewater Treatment
16.	Gopal Das	IIT Kanpur	Professor	Supramolecular, Bioorganic chemistry and Biomineralization
17.	Gurvinder K. Saini	Andhra University, Vishakapatnam	Professor	Fungal Biotechnology
18.	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
19.	Karuna kalita	University of Nottingham, UK	Professor	Coupled Dynamics of Electro-Mechanical Systems Vibration Rotordynamics
20.	Kaustubha Mohanty	IIT Kharagpur	Professor	Bio separation, Biofuels, Biological wastewater treatment, Membrane technology, Ionic liquids
21.	Krishna Pada Bhabak	Indian Institute of Science, Bangalore, India	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
22.	Lal Mohan Kundu	LMU Munich, Germany	Professor	Nucleic Acid / Peptide Chemistry, DNA / RNA Damage and Repair, DNA Hybrid Materials
23.	Lalit M. Pandey	IIT Delhi	Associate Professor	Surface and interfacial science particularly in the area of Bio-interfaces and
24.	M. K. Dutta	Gauhati University	Professor	Microeconomics, Agricultural Economics, Environmental Economics, Econometrics
25.	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.
26.	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
27.	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
28.	Tapas Kumar Mandal	IIT Kharagpur	Professor	Multiphase multiphase flow, Bio flow & Measurement i
29.	Mihir 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
30.	Mohammad Jawed	IIT Kanpur	Professor	Biological Processes, Anaerobic Wastewater Treatment, Heavy Metal Removal and Recovery, Water Treatment and Supply, Domestic & Industrial Wastewater Treatment
31.	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
32.	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.
33.	Ramagopal VS Uppaluri	University of Manchester, England	Professor	Multi-heavy metal removal from waste streams using chitosan-based derivatives; Jeevamrutha bio-fertilizer; Machine learning applications for large scale municipal solid waste management
34.	Ranjan Tamuli	Centre for Cellular and Molecular	Professor	Environment and Fungi

		Biology, Hyderabad, Degree awarded by JNU, New Delhi.		
35.	Sanjukta Patra	Central Food Technological Research Institute, Mysore	Professor	Enzyme and microbial technology, Metagenomics, Biosensors, Environmental Biotechnology
36.	Saswati Chakraborty	IIT Mumbai	Professor	Water and Wastewater Treatment, Biodegradation of Industrial Wastewater and Removal of Heavy Metals from Wastewater
37.	Senthil K. Sivaprakasam.	Central Leather Research Institute, Chennai, India.	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
38.	Senthilmurugan S	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
39.	Sharad Gokhale	IIT Delhi	Professor	Urban Vehicular Pollution, Industrial Stack Pollution, Indoor Air Pollution, Environmental Impact Assessment, Air Quality Modeling
40.	Subashisa Dutta		Professor	Satellite Remote Sensing and GIS for Water resources Management, Computational river hydraulics and its applications, Watershed and Irrigation Management
41.	Subhendu Sekhar Bag	IIT Kharagpur	Professor	Environmental Chemical Biology, Environmental Nanotechnology, Organic Chemistry, Environmental Chemistry
42.	Tamal Banerjee	IIT Kanpur	Professor	Phase equilibria of ionic liquids, Molecular simulations, Global optimization, Statistical thermodynamics.
43.	Utpal Bora	Institute of Genomics & Integrative Biology, Delhi (degree awarded	Professor	Biodiversity, Ecology, Environmental Informatics, Environmental Policy

		by GGS Indraprastha University, Delhi).		
44.	Vaibhav V. Goud	IIT Kharagpur	Professor	Heterogeneous Reactions, Bio-energy and Green Engineering, Bio lubricant, Utilization of Lignocellulosic Biomass for Fuel/Chemicals, Supercritical Fluids
45.	Venkata V. Dasu	IIT Madras	Professor	Bioprocess development (upstream to downstream), Metabolic Engineering, Bioenergy.
46.	Vijay S. Moholkar	University of Twente, Netherlands	Professor	Bubble dynamics, CFD, Sono-process engineering, Bio-mass gasification
47.	Vimal katiyar	IIT Bombay	Professor	Synthetic and Natural Polymers, Polymer Processing, Biothermoset, Nanobiocomposite, Organic Solar Cells.
48.	Vishal Trivedi	Central drug research institute, Lucknow	Professor	Intracellular Signaling in Plasmodium falciparum.

Centre for Indian Knowledge Systems

YEAR OF ESTABLISHMENT OF THE CENTRE: 2021**ACADEMIC PROGRAMMES OFFERED: PhD****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:

Center has started projects related to Vastu, ancient architecture and conservation of heritage structure. Project on traditional food grain storage systems is also going on. Some efforts to extract knowledge from Puranas are on.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
1	Prof. Uday S. Dixit	Assimilating Indian Knowledge System in mainstream education: Mandate of NEP 2020 by Vidya Bharati Uchcha Shiksha Sansthan (VBUSS) and National Institute of Open Schooling (NIOS)	Noida	May 5,6, 2022	National
2	Prof. Uday S. Dixit	Multidisciplinary Research for Sustainable Society	Tezpur University	14-3-23	National

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	Assimilating Indian Knowledge System in mainstream education: Mandate of NEP 2020	Vidya Bharati Uchcha Shiksha Sansthan (VBUSS) and National Institute of Open Schooling (NIOS)	Noida	May 5,6, 2022
02	Prof. Uday S. Dixit	A look at Ram Charit Manas	Param Seva Sangh Ashram	Guwahati	13-02-23
03	Prof. Uday S. Dixit	Indian Science Day	NIT Nagaland	Online	28-02-23
04	Prof. Uday S. Dixit	Indian Science Day	NIT Arunachal	Online	28-02-23
05	Prof. Uday S. Dixit	A holistic and multidisciplinary way of research as per Indian philosophy	Tezpur University	Tezpur	14-3-23

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl.No	Name	Name of Inst./Univ./Org.	Date	Purpose/ Name of Lecture
1.	Shri Janadhana Dasa	Unit President, The Akshaya Patra Foundation, North East region	April 4, 2022	Title : Bhakti yoga based on the teachings of the Bhagavad Gita
2.	Dr. Lalit Mohan Pandey, Associate Professor, BSBE	IIT Guwahati	April 5, 2022	Title : Yoga Philosophy, Meditation and Health
3.	Dr. Mukul Chandra Bora	Director of Institute of Engineering and Technology, Dibrugarh	06-04-2022	Indian Calendars
4.	Prof. TV Bharat and Mr. A. Shandilya	IIT Guwahati	06-04-2022	Introduction to the Elements of Indian Almanac
5.	Professor Nandita Saikia	Department of Public Health and Mortality Studies International Institute for Population Sciences, Mumbai-400088	24-04-2022	Title: Trajectory of gender disparity in health across life-course: Is India changing for the better?
6.	Dr Rajeswar Mukherjee	Assistant Director of Research at Kaivalya Dhama Research Institute, Lonavala, Pune.	08-06-2022	Science of Consciousness
7.	Swami Samanand Giri	Head of two Math, Sri Spatmatrika Narmadiye Veda Seva Math, Maheswar and Samvit Gangayan Ashram Trust in Haridwar .	25-07-2022	Achieving Perfection
8.	Rituparna Bhattacharyya	Editor-In-Chief (joint), Space and Culture, India, Independent Research Consultant.	02-08-2022	Academic Writing
9.	Prof. U.S Dixit	Professor Mechanical Engineering, IIT Guwahati	04-08-2022	मानस की चौपाई 'ढोल गँवार शूद्र पशु नारी, सकल ताड़ना के अधिकारी' से क्या तात्पर्य है?

10.	Prof. J. Ramkumar	Professor in the Dept of Mechanical Engineering and Design Program of IIT Kanpur.	25-08-2022	An Ancient Modern World
11.	Dr. Meghna Ghosh	Asst. Prof. Economics at the Commerce and Management Department of Saral Birla University Ranchi.	30-08-2022	A Short Account on the Economic History of India
12.	Dr Ujjwal Arun Maske	Asst. Prof in Mahapurusha Srimanta Sankardeva Viswavidyalaya, Nagaon	02-09-2022	Effect of Yogic Practices on Human Body
13.	Prof. Rani Sadasiva Murthy	National Sanskrit University, Tirupati	29-09-2022	Approach to Indian Knowledge Systems
14.	Dr. Hosh Ram Yadav	1989-batch Indian Railway Services for Engineers (IRSE),	11-10-2022	Influence of Indian Railway on culture, freedom movement and national integrity
15.	Mr. Avik Chanda	author, columnist, thought leader, and entrepreneur	11-11-2022	Finding the solutions for present and future using ancient Indian wisdom
16.	Prof. Krishna Murari Pandey	Professor, NIT Silchar	28-11-2022	Indian Panchang and horoscope: are they relevant now?
17.	Er. Tapan Bakshi	West Verginia, USA	23/2/23	Modern Astronomy and Vedas
18.	Prof. Amitabha Ghosh	Shibapur Kolkata	9 Lectures in January and February 2023	Ancient Indian Astronomy
19.	Dr. Bikul Das	Boston, USA, Kavikrishna Lab R&D Building, IIT Guwahati	06-03-2023	Development of Vedic Altruism based Public health System
20.	Mr. Anuj Dhar	Writer, Kolkata	11-03-2023	The Quest for Truth about Subhas Chandra Bose's Fate
21.	Sunil Balkrishna Mansinghka	Gau Vigyan Anushandhan Kendra, Devlappar, Nagpur	14-03-2023	Symposium on Panchgavya Ayurveda Chikitsa
22.	Research Scholars of IKS	IIT Guwahati	22-03-2023	Research symposium for students of MA (English) of Royal Global University, Guwahati
23.	Ms. Bindu Suraj	National Coordinator of the	25-03-2023	Woman-Friendly Technology

		organization SHAKTI (registered in Cochin, Kerela)		
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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
1	Prof. U.S. Dixit	Curtain Raiser Program on National Calendar of India	IIT Guwahati	April 6, 2022	National	75
2	Prof. U.S. Dixit and Prof. S. Sharma	10-day Sanskrit Course	IIT Guwahati	4-14 August 2022	National	25
3	Prof. U.S. Dixit & Dr. G. Trivedi	Participation of Poorvottar Bharat in the Bharatiya Swadhinata Sangram	Special Centre for the Study of North East India, JNU, New Delhi.	20-21 September 2022	National Seminar	100

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/ Org PhD degree received from	Designation	Areas of Interest
1.	Prof. Sukanya Sharma	Deccan College PG & Research Institute, Pune	Professor	Ancient Indian History, Culture and Archaeology
2.	Prof. T. V. Bharat		Professor	
3.	Prof. Arbind K. Singh	IISc Bangalore	Professor	
4.	Dr. Indu Siva Ranjani G	IIT Madras	Assistant Professor	Sustainable building materials, energy efficient structures, lightweight concrete
5.	Prof. Konjengbam Darunkumar Singh		Professor	
6.	Dr. Pankaj Kalita		Associate Professor	
7.	Prof. Prabhu Venkataraman		Professor	
8.	Prof. Ramagopal Uppaluri		Professor	
9.	Prof. S. Senthivelan		Professor	
10.	Prof. Shakuntala Mahanta		Professor	

11.	Dr. Siddhartha Singha		Assistant Professor	
12.	Dr. Srinivasan Krishnaswamy		Assistant Professor	
13.	Prof. Uday Shanker Dixit	IIT Kanpur	Professor	Modelling, History of Science & Technology
14.	Prof. Vimal Katiyar		Professor	
15.	Dr. Pahi Saikia		Associate Professor	
16.	Prof. Arun Goyal		Professor	
17.	Prof. Amarendra Kumar Das	IIT Guwahati	Professor	
18.	Prof. Utpal Bora		Professor	
19.	Prof. Alike Khare	IIT Kanpur	Professor	
20.	Dr. Mithilesh Kumar Jha		Assistant Professor	
21.	Dr. Lalit Mohan Pandey		Associate Professor	

Centre for Nanotechnology

YEAR OF ESTABLISHMENT OF THE CENTRE: 2004

ACADEMIC PROGRAMMES OFFERED: Doctor of Philosophy PhD

LABORATORY FACILITIES:

The Centre for Nanotechnology has five new labs in new CFN building and a total of 25 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 Lab	PLD	01
		Controlled Environment Chamber	01
		RF Probe Station	
		<ul style="list-style-type: none"> • RF Probe Station • Vector Network Analyzer • RF signal generator • RF frequency counter 	01 01 01

			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
		DC probe Station	01
4.	Materials Characterization Lab	AFM-TERS	01
		Raman spectroscopy	01
		Material Printing System	01
		<ul style="list-style-type: none"> • UV IOzone Tip cleaner 	01
		Fume Hood	01
		Glove Box	01
		<ul style="list-style-type: none"> • Hot plate • Analytical balance • Spin coater • Mini sputter coater • AAA Solar Simulator 	01 01 01 01 01
			01

		UV-Visible Spectrophotometer	01
		Wire Bonder	01
		DWS Rheolab	01
5.	Optical Characterization Lab	High End Confocal Microscope	01
		Electrochemical Potentiostat	01
6.	Material Res. Lab	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
		Carbon Coater	01
		Refrigerated High Speed Centrifuge	01
8.	ICMR Lab	Auto Analyzer	01
		<ul style="list-style-type: none"> • Electrolyte Analyzer 	01
		<ul style="list-style-type: none"> • Biochemistry analyzer 	01
		<ul style="list-style-type: none"> • Hematology Analyzer 	01
		<ul style="list-style-type: none"> • Multiplate Reader 	01
		<ul style="list-style-type: none"> • Disc Based Clinical Analyzer 	01
		<ul style="list-style-type: none"> • Erythrocyte Sedimentation Rate Analyzer 	01
		<ul style="list-style-type: none"> • Coagulation Analyzer 	01
		Advanced Elisa Basic Unit	01
		<ul style="list-style-type: none"> • Visualization Unit 	01
		3D Printer	
		<ul style="list-style-type: none"> • 3D Printer for Fabrication 	04
		<ul style="list-style-type: none"> • Material Extrusion System 	01

		<ul style="list-style-type: none"> • Material Extrusion System 01 • Fused Filament Fabrication Printer for polymers 02 • Fused Filament Fabrication Printer for polymer Fabrication 04 • Fused Deposition Modelling Printer for polymer Fabrication 01 • Stereolithography System 01 • Laser Ablation System 01 • Vinyl Plotter for Laser Ablation Masks 01 	
9.	Cell culture Lab	Chemi doc MP Imaging	01
		Fluorescent Cell Imager	01
		-20°C Upright Freezer	01
		2-10°C Refrigerator	01
		LN ₂ Container	01
		Water bath	01
		Refrigerated Micro-Centrifuge	01
		CO ₂ Incubator	01
		Table Top Multipurpose Refrigerated Centrifuge	01
		Real Time PCR System	01
10.	XRD Lab	Bruker D8 Advance X-Ray Diffractometer	01
		Electrochemical Potentiostat	01
11.	TEM Lab	Transmission Electron Microscope (Make: JEOL)	01

12.	Optoelectronic Device Fabrication Lab	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.	
13.	Nanobiotech Lab	BD FACS Calibur UV-Vis Spectrophotometer Fluorescence spectrophotometer FluoroLog-3 Water purification system Milli Q / Elix Dynamic Light Scattering (DLS), Malvern Zetasizer Nano Micro plate reader Real Time PCR (Applied Bio system) Vortex Deep Freeze (-20 °C) Shaking Incubator Rocker Refrigerator CO ₂ incubator Epi fluorescence microscope (Nikon eclipse) Water bath Digital Weighing Balance Horizontal Laminar hood	01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01

14.	Synthesis Lab	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		
15.	Nano Fabrication Lab	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
16.	MEMS & NEMS Lab	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
17.	SPM Lab	Scanning Probe Microscope: Veeco (Model)	01
		Gas Chromatograph (Centurian Scientific)	01
		Ultimaker 3FDM 3D printer	01
18.	Thin Film and Micro Fluidics Lab	High end upright microscope	01
		Thermal stage	01
		High speed camera	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
19.	Lithography Fabrication Lab	Laser Micro Machining	01
20.	Micro-Nanoelectronic Characterization Lab	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
21.	Chem Dist Lab	Electrochemical Potentiostat	01
22.	Analytical Lab for Characterization and Testing	These laboratories are functional and operational	-
23.	Data Science Lab		-
24.	Nanocatalysis Lab		-
25.	Nanobiotech Lab		

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Equipment

- Stella DH C90BS KAFF Chimney
- Godrej Refrigerator Techqube 30 LHS Q103, RT28A3022 GS/NL Samsung Refrigerator (02), RT28A3722S8/NL Samsung Refrigerator, RT 30T3722S8/NL Samsung Refrigerator, RT28A3022GS/NL Samsung Refrigerator
- HD4938/00 Philips Induction Cooker
- Ag Hot and Cold RO+UV Water Purifier
- Digital High Pressure Pirani Gauge Control Unit Model-DHPG-222
- Hot Air Oven
- Cisco Switch, 6U Rack, 48 Port Patch Panel, Patch Cord 1 Metre
- Panasonic 86" LED TV LH-86QM3VS
- Realme-RMV2001SLED Displays/Screens-55" 4K Display, OEM-WM-Fixed-Monitor Bracket Wall
- Acer All in One Model No Aspre C24-A10 S1 No UXBGVSIB93M5240222; UXBGVSIB93M5240196; UXBGVSIB93M5240255
- Fume Hood
- Bluestar Inv ACIA524 DLU, ODU Stand Total line
- Realme-RMV2001SLD Display Screen-55" 4K Display, OEM-WM-Fixed-Monitor Bracket Wall

Facilities:

- ISO 5 and 6 Clean Rooms
- SWASTHA labs
- ICMR labs
- Chem Dist Lab
- Cell Cultut
- Analytical Lab for Characterization and Testing
- Data Science Lab
- Nanocatalysis Lab
- Nanobiotech Lab
- Optical Characterization Lab
- Materials Characterization Lab
- Electrical Characterization Lab

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, Memory and computing technology, Semiconductor and quantum materials technology, Spintronics.

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 and continuing during this financial year 2022-2023 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)

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/ INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Prof. Dipankar Bandyopadhyay	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Roorkee	14/12/2022	International
02	Prof. Dipankar Bandyopadhyay	16th Complex Fluids Symposium (CompFlu - 2022)	IIT Kharagpur	19/12/2022	International
03	Prof. Dipankar Bandyopadhyay	Chemical Engineering Symposium - 2022	Calcutta University	22/12/2022	
04	Prof. Dipankar Bandyopadhyay	12th International Conference on Metamaterials, Photonic Crystals and Plasmonics,	Online	19/07/2022	International
05	Prof. Dipankar Bandyopadhyay	6th International Conference on Emerging Materials	Bangalore	11/12/2022	International
06	Prof. Dipankar Bandyopadhyay	Gold 2022 Conference	Online	17/07/2022	International
07	Dr. Akshai Kumar A S	ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022	Virtual	21/08/2022	International
08	Dr. Akshai Kumar A S	Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology	IIT Guwahati	05/09/2022	International

09	Dr. Akshai Kumar A S	IN YAS Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (IN YAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi, September 16-18, 2022	MUMBAI	16/09/2022	National
10	Dr. Akshai Kumar A S	DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022	Indian Institute of Technology Ropar	25/09/2022	National
11	Dr. Akshai Kumar A S	International Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022	BHU	15/12/2022	International
12	Dr. Akshai Kumar A S	Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023	Kaziranga	16/03/2023	International
13	Dr. Akshai Kumar A S	National-level mentoring symposium 'Gurukul in emerging areas in modern biology and medicine'	Tezpur University	02/03/2023	National
14	Dr. Ankush Bag	International Conference on Emerging Electronics (ICEE)	Bangalore, India	11-14/12/22	National
15	Dr. Ankush Bag	Compound Semiconductor Weekend-2022,	KAUST, Saudi Arabia.	03-04/09/22	International

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	Atomic Force Microscopy (AFM)	INUP-I2I Workshop, IIT Guwahati	Guwahati	April 2022
02	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	CHEMCON 2021		Dec 2022
03	Dr. Akshai Kumar A S	"Cyclic Voltammetry" INUP-i2i 2022 Offline Workshop Schedule 4-6 April 2022	IIT Guwahati	Guwahati	4-6 April 2022
04	Dr. Akshai Kumar A S	"Guerbet-Type and Related Reactions	ACS National Meeting & Exposition	Virtual	August 21-24, 2022

		Catalyzed by Pincer-Metal Complexes Based on 3d Metals.” ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022			
05	Dr. Akshai Kumar A S	“Activities at the Centre for Nanotechnology, IIT Guwahati ” Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology, 5-6 September, 2022	IIT Guwahati	Guwahati	5-6 September, 2022
06	Dr. Akshai Kumar A S	“Pincer Metal Catalyzed Synthesis of Fuel Chemicals” IIT Day Exclusive webinar series for IIT, 7-8 September, 2022	Agilent	Virtual	7-8 September, 2022
07	Dr. Akshai Kumar A S	“The Theranostic and Optoelectronic Applications of Anthracene Derivatives” INYAS Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (INYAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi,	Indian National Young Academy of Sciences (INYAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi	Mumbai	September 16-18, 2022

		September 16-18, 2022			
08	Dr. Akshai Kumar A S	“Organometallic Catalysis Towards Green Hydrogen Generation” DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022	Indian Institute of Technology Ropar	Ropar	September 25, 2022
09	Dr. Akshai Kumar A S	Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals” International Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022	Modern Trends in Inorganic Chemistry - XIX held at BHU	BHU	December 15-17, 2022
10	Dr. Akshai Kumar A S	Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals” ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik, Editor-in-Chief, Organometallics, December 15, 2022	ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik	Virtual	December 15, 2022
11	Dr. Akshai Kumar A S	Invited Lecture “Pincer-Metal Catalyzed Production	Chemistry Meet 2023, Kindling in Kaziranga	Kaziranga	March 16-18, 2023

		of Hydrogen Biofuels and Specialty Chemicals” Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023			
12	Dr. Akshai Kumar A S	Invited Lecture “The Theranostic and Optoelectronic Applications of Anthracene Derivatives” ‘Gurukul in emerging areas in modern biology and medicine’ on 2-3rd March 2023, Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Tezpur University	2-3 March 2023
13	Dr. Subrata Pramanik	Introduction to Flow Cytometry and its applications	BioNest-IIT Guwahati	Guwahati	18/01/2023
14	Dr. Rajiv K. Kar	Interpreting the biomolecules through computation at the classical and quantum levels	AICTE sponsored Short Term Training Programme (STTP) for the faculties of the North Eastern Region of India.	Guwahati	Jun 2022
15	Dr. Rajiv K. Kar	Digital Health	Ayushman Bharat Digital Mission	Guwahati	Oct 2022
16	Dr. Tanmay Dutta	Ferrimagnets in a skyrmionic world	IEEE Magnetic society symposium 2022, Nanyang Technological University	Singapore	27/09/2022
17	Dr. Tanmay Dutta	Nanofabrication-an overview and unconventional methodologies	MEMS and related subjects workshop 2022, DRDO Bangalore	Bangalore, India	15/09/2023
18	Dr. Ankush Bag	Device Engineering for Ga ₂ O ₃ based High Performance Deep UV Detectors	International Conference on Emerging Electronics (ICEE)	Bangalore, India	11-14/12/22
19	Dr. Ankush Bag	Power and Optoelectronics Devices	Semiconductor Technology and Applied Research Centre (STARC), Govt. of India	Bangalore, India	15-17/09/22

20	Dr. Ankush Bag	Ga2O3 Based Emerging Power and Opto-Electronic Devices	Compound Semiconductor Weekend-2022,	KAUST, Saudi Arabia.	03-04/09/22
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VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
1	Prof. Aditya D. Mohite of	Rice university, United States	Collaboration	14/05/2022-29/05/2022	-
2	Prof. Apurba Laha	IIT Bombay	III-Nitride Nano-optoelectronics	22/03/23	-
3	Prof. Frank Rhee	Hanyang University, South Korea	Collaboration	20/01/23	-
4	Prof. Jeng-Ywan Jeng	National Taiwan University of Science and Technology, Taiwan	Collaboration	28/03/23	-

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 Offline Familiarization Workshop on Nanoelectronics: Fabrication and Characterization INUP-i2i 2022	Meity	4th - 6th April 2022	National	106
02	Prof. D. Pamu and Dr. Arun Tej M.	1st Hands-on Training on Fabrication & Characterization of Nanoelectronic Devices	Meity	6th - 16th May 2022	National	43
03	Prof. D. Pamu and Dr. Arun Tej M.	INUP-i2i 2022 Online Familiarization Workshop on 2D Semiconductor Nanodevices and Simulations	MeitY	8th -10th December 2022	National	120
04	Prof. D. Pamu and Dr. Arun Tej M.	INUP-i2i 2023 Online familiarization workshop on Nanotransistors and Energy Device Technology	MeitY	21st -23rd February 2023	National	110

PATENTS:

No. of Patents Applied: 03

No. of Patents Granted: 01

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1.	Dr. Akshai Kumar A S	GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/02/2023	PCT/IB2023/051407	
2.	Dr. Akshai Kumar A S	GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/04/2022	202231020801	
3.	Dr. Akshai Kumar A S	SYMMETRIC TETRAALKYNYLATED ANTHRACENES AND THE PROCESS FOR PREPARING THE SAME FOR SENSING AND OPTOELECTRONIC APPLICATIONS	03/08/2022	PCT/IB2022/057185	
4.	Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh	DEVICE WITH INTEGRATED METHODS FOR REVERSE TRANSCRIPTION POLYMERASE CHAIN REACTION (RT-PCR) AND/OR DNA/PROTEIN ARRAY BASED ANALYSES	2022 Granted	US11213827B2	PCT/IN2016/000141

AWARDS AND HONOURS:

- Biman B. Mandal: 75 under 50 Scientists Shaping Today's India; DST/Vigyan Prasar in a book released by Hon. Science and Technology Minister, Govt of India.

STUDENTS' ACHIEVEMENTS:

- Shubham Sanjay Agrawal: Khorana Program for Scholars 2023; India-US forum 2023.
- Plaboni Sen: Ashima Chatterjee Memorial Award; 7th World Cancer Congress (Bangalore Healthcare summit).

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
1.	S. Akshai Kumar A.	Ph.D. (IISc Bangalore)	Head, Centre for Nanotechnology, Associate Professor Dept. of Chemistry & Centre for Nanotechnology Email: akshaikumar@iitg.ac.in Phone: +91 361 2583479	Organometallic Chemistry, Inorganic Chemistry, Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation
2.	Bandyopadhyay, Dipankar	Ph. D (IIT Kanpur)	Head, Centre for Nanotechnology Professor Department of Chemical Engineering E-mail: dipban@iitg.ac.in Phone:+91 361.2582254	Colloid and Interfacial Phenomena, Computational Fluid Dynamics, Micro and Nano fluidics, Complex Flow and Fluids
3.	Bose, Biplab	Ph. D (AIIMS)	Associate Professor Department of Biosciences and Bioengineering E-mail: biplabbose@iitg.ac.in Phone:+91 361 2582216	Molecular Networks, Recombinant Proteins
4.	Bag, Ankush	Ph. D (IIT Kharagpur)	Assistant Professor Department of Electronics and Communication Engineering Email: ankushbag@iitg.ac.in Phone:+91 361 2583282	Growth, fabrication and modelling of gallium oxide based power devices such as Schottky barrier diodes, MOSFETs
5.	Chattopadhyay, Arun	PhD (Columbia University)	Professor Department of Chemistry Email: arun@iitg.ac.in Phone: +91 361 2582304	Nanoscale Science & Technology
6.	Dasmahapatra Ashok Kumar	PhD (Indian Institute of Technology Bombay)	Associate Professor Dept. of Chemical Engg & Centre for Nanotechnology E-mail: akdm@iitg.ac.in Phone: +91 361 258 2273 (O)	Complex Fluids, Phase transition in polymeric system, Self assembly in block copolymer, Structure Property relation, Biophysics, Graphene based nano materials, Solar cells.
7.	Dutta, Tanmay	Ph.D (National University of Singapore)	Assistant Professor Department of Electronics and Communication Engineering Email: tanmay.dutta@iitg.ac.in Phone:+91 361 2583285	Non-volatile memory, Spintronics, MRAM (SOT,STT), Race-track memory, HDD (Hard disk drives), SSD (Solid state drives), Quantum computing, Neuromorphic memory
8.	Ghosh, Siddhartha Sankar	PhD (IICB, Kolkata)	Professor Department of Biosciences and Bioengineering	Gene Therapy, Nanobiotechnology

			E-mail: sghosh@iitg.ac.in Phone: +91 361 2583051	
9.	Giri, Pravat Kumar	PhD (IIT Kanpur)	Professor Department of Physics Email: giri@iitg.ac.in Phone: +91 361 2582703	Condensed Matter Physics; Semiconductor nanostructures, Ion-solid interactions, Optoelectronic materials & devices, Nanotechnology
10.	Iyer, Parameswar Krishnan	Ph.D. (CSMCRI, Bhavnagar)	Professor Department of Chemistry E-mail: pki@iitg.ac.in Phone: +91 361 258 2314	Organic and Polymer synthesis, Bio & Chemosensors, Optoelectronic devices.
11.	Mandal, Tapas K	Ph. D (IIT Kharagpur)	Professor Department of Chemical Engineering E-mail: tapasche@iitg.ernet.in Phone: +91 361.2582271 Fax: +91 361 2582291	Multiphase flow & Measurement in multiphase flow, Bio-diesel.
12.	Mandal, Biman B	IIT Kharagpur	Professor	Regenerative Medicine, Biomaterials, Tissue Engineering, Stem Cells.
13.	Manna, Uttam	Indian Institute of Science, Bangalore	Associate Professor	Bio-inspired polymeric materials
14.	Nemade, Harshal B.	PhD (IIT Bombay)	Professor Department of Electronics and Communication Engineering E-mail: harshal@iitg.ac.in Phone: Extn. 2204 (+91 361 2582509)	Electronic and Ultrasonic instrumentation, Electronic product design, EMI/EMC issues, Acoustic sensors, SAW devices, MEMS, NEMS
15.	Palathinkal, Roy Paily	Ph. D. (IIT Madras)	Professor Department of Electronics and Communication Engineering Email: roypaily@iitg.ac.in Phone: +91 361 2582512	VLSI and MEMS
16.	Pattader, Partho Sarathi Gooh	PhD (Lehigh University, USA)	Assistant Professor Dept. of Chemical Engg. & Centre for Nanotechnology E-mail: psgp@iitg.ac.in Phone: +91 361 2583531	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter
17.	Pamu, D.	Ph. D. (Univ. of Hyderabad)	Associate Professor Dept. of Physics & Centre for Nanotechnology, Email: pamu@iitg.ac.in Tel: 0361-2582721	Condensed Matter Physics; High-k and low loss materials, Ferroelectrics Ceramics, Oxide thin films Nanomaterials
18.	Paul, Anumita	Ph.D. (Columbia University)	Professor Department of Chemistry E-mail: anumita@iitg.ac.in Phone: +91 361 258 2308	Surface Science, Catalysis, Thin Films.
19.	Peela, Nageswara Rao	PhD (Indian Institute of Technology, Kanpur)	Associate Professor Dept. of Chemical & Centre for Nanotechnology E-mail: peelanr@iitg.ac.in Phone: +91 361 2583526	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
20.	Sahoo, Lingaraj	Ph.D (MDU, Rohtak)	Professor Department of Biosciences and Bioengineering E-mail: ls@iitg.ac.in Phone: +91(0361) 2582204	Genetic engineering and functional genomics of plants
21.	Mallajosyula, Arun Tej	Ph.D. (IIT Kanpur, India)	Assistant Professor Dept. of Electronics and Electrical Engineering Email : aruntej@iitg.ac.in Phone : +91-361-258-3469	<i>Photovoltaics, Organic Electronics, Flexible Electronics</i>

Centre for Sustainable Polymers

Year of Establishment of the Centre: 2021

Academic Programmes Offered: PhD (started from Jan 2022), MS(R) (started from July 2022)

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 EQUIPMENT AND FACILITIES ACQUIRED:

Following is the list of pilot-scale equipment and facilities installed at the Centre for Sustainable Polymers during the specified period.

- Injection moulding machine
- Cast film extruder
- Blown film extruder
- Thermoforming machine
- Polymer production facility

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

MAJOR INITIATIVES AND BREAKTHROUGH IN RESEARCH AND DEVELOPMENT:

Following projects were registered with the Centre for Sustainable Polymers:

- Creation of DSIR-Common Research and technology Development Hub (CRTDH) funded by DSIR; Sanctioned amount ~ Rs. 5 crores; PI: Prof. Vimal Katiyar
- Biopolymer based cultivation of mushroom, shelf-life enhancement of vegetables (tomato, capsicum, cucumber, mushroom) fruits (khashi mandarin, strawberry) and residual utilization as biofertilizer and Green-compost funded by DBT; Sanctioned amount ~64.7 lakh; PI: Prof. Vimal Katiyar

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Dr. Amit Kumar	Industry Connect with Centre of Excellence Conclave	New Delhi, India	18 May 2022	National
02	Prof. Vimal Katiyar	4th International Conference on Sustainability Education	New Delhi, India	09-10 Sep 2022	National
03	Prof. Vimal Katiyar	SPSI-MACRO-2022	Pune, India	02-04 Nov, 2022	National
04	Prof. Vimal Katiyar	International conference on Polymers for Advanced Technology	Goa, India	23 Feb 2023	National
05	Prof. Vimal Katiyar	ACS Spring 2023	Indianapolis, USA	26-30 March, 2023	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	'Nanotechnological Interventions in Edible Food Packaging' delivered	International Conference on Technological Interventions for Sustainability	Allahabad	16 Apr 2022
02	Dr. Amit Kumar	Sustainable Polymers	Industry Connect with Centre of Excellence Conclave	New Delhi	18 May 2022
03	Prof. Vimal Katiyar	Plastic Circularity and Sustainability	4th International Conference on Sustainability Education	New Delhi	09-10 Sep 2022
04	Prof. Vimal Katiyar	Biodegradable Products Development Using Home Grown Technologies	SPSI Macro 2022	Pune	02-04 Nov 2022
05	Prof. Vimal Katiyar	Polymers for Packaging	International conference on Polymers for Advanced Technology	Goa	23 Feb 2023
06	Prof. Vimal Katiyar	Biodegradable polymers for high end applications: An Indian Perspective	Asia Pacific Young Scientists Symposium in Polymer Science and Engineering in ACS Spring 2023	Indianapolis, USA	29 Mar 2023

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. Vimal Katiyar	Taiwan-India 2022 Exchange Workshop and Symposium (TIEWS-2022) at IIT Guwahati	National Sci. and Tech. Council, Taiwan and others	4-6 Sep 2022	International	~100

AWARDS AND HONOURS:

- Prof. Vimal Katiyar: Chairman of Panel of Packaging, FSSAI.
- Prof. Vimal Katiyar: Empaneled auditor of CPCB for EPR enforcement.
- Prof. Vimal Katiyar: Fellow of the Royal Society of Chemistry

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Prof. Debabrata Chakraborty	IIT Kharagpur	Professor	Fibre-reinforced plastic composites
02	Prof. Amarendra Kumar Das		Professor	Industrial Design, Rapid Prototyping, Polymer Composite Design
03	Prof. G. Pugazhenth	IIT Kanpur	Professor	Polymer nanocomposites, membrane separation
04	Prof. Sreedeeep S.	IIT Bombay	Professor	Plastic-soil interaction
05	Prof. Vimal Katiyar	IIT Bombay	Professor	Polymer synthesis and processing, bio-based and biodegradable polymeric materials
06	Prof. S. Kanagaraj	IIT Kharagpur	Professor	Biomaterials, carbon nanotubes based nanocomposites
07	Prof. A. S. Achalkumar	Centre for Soft Matter Research, Bangalore	Professor	Supramolecular chemistry, liquid crystals
08	Prof. Ajay Kalamdhad	IIT Roorkee	Professor	Solid waste management, polymer composting
09	Prof. Ashok Kumar Dasmahapatra	IIT Bombay & NCL Pune	Professor	Polymer physics, molecular simulations
10	Prof. Sambit Mallick	University of Hyderabad	Professor	Social impact of polymers, sociology of Science and Technology
11	Prof. Sachin Kumar	University of Maryland, USA	Professor	Polymer cytotoxicity
12	Prof. S. Senthilkumar	Central Leather Research Institute, Chennai	Professor	Biopolymers, bioprocess development
13	Dr. Amit Kumar	University of Delaware, USA	Associate Professor	Polymer nanocomposites, molecular simulations

14.	Dr. Raghvendra Gupta	The University of Sydney, Australia	Associate Professor	Computational fluid dynamics, polymer rheology
15	Dr. Pavan Kancharla	IIT Kanpur	Associate Professor	Organocatalysis, carbohydrate chemistry
16	Dr. Animesh Das	University of Goettingen, Germany	Associate Professor	Green and sustainable chemistry

Central Instruments Facility

YEAR OF ESTABLISHMENT OF THE CENTRE: 2004

ACADEMIC PROGRAMS OFFERED: CIF 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.

SOPHISTICATED INSTRUMENTS HOUSED AT CENTRAL INSTRUMENTS FACILITY (CIF)

No. of instruments: 32

Existing Facilities (Major Equipment):

- 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
- Nanoindenter, Make: CETR, Model: UNMT-1
- Spectroscopic Ellipsometer, Make: SEMILAB, Model: GES5E
- Single Crystal X-ray Diffractometer, Make: Agilent, Model: Single source supernova E

- 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
- Ultra-High Performance Liquid Chromatograph - Quadrupole Time of Flight - High Resolution Mass Spectrometer (UHPLC-QTOF-HRMS), Make: Agilent, Model: G6546A
- Liquid Chromatography Inductively Coupled Plasma Mass Spectrometer (LC-ICPMS)*, Make: Agilent, Model: 7850 ICP-MS.

**Instrument was delivered to CIF and the installation process is going on.*

MAJOR EQUIPMENT AND FACILITIES PROPOSED:

Procurement of major equipment: CHNSO Analyser costing Rs. 81.42 lakhs

The purchase order for this instrument was issued on 30 March 2023.

The CHNSO Analyser can be used to precisely determine the percentage of Carbon (C), Hydrogen (H), Nitrogen (N), Sulphur (S) and Oxygen (O) present in organic and other types of materials. It can handle a broad range of sample types, including solids, liquids, volatile, and viscous materials, in the industries of medicines, polymers, chemicals, environment, food, and energy. Therefore, this analyser is very beneficial for the majority of the institute's departments, schools and centres (such as Civil, Chemical, BSBE, Chemistry, School of Energy Science and Engineering, Center for Environment, etc.).

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

- Instrumentation facility used by 20 of the 28 Departments, Centres and Schools of the Institute.
- The facilities of CIF are also used by 48 external institutes from all over India especially *North-eastern region on a minimal chargeable basis.*

Total sample charges collected from last five years is Rs. 29,33,370/-, an amount equal to Rs. 8,01,033/- has been collected as sample charges from the analysis of external samples during the reporting year (2022-2023).

Training/Workshop conducted in the reporting year

The CIF has been regularly conducting training for students aspiring to be operators as a part of their teaching assistantship (TA). They 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 178-trained operators.

A) Automated ultra-high vacuum (UHV) X-ray photoelectron spectroscope: X-Ray Photoelectron Spectroscopy (XPS) is an analytical technique to study the sample surfaces, also known as electron spectroscopy for chemical analysis (ESCA). Sample is exposed to X-rays and photo-electrons emitted (from a depth of up to 10 nm) are quantified in order to gather information regarding the surface composition and chemical bonding states of the elements present in the sample.

The XPS system at IIT, Guwahati is a PHI5000VersaprobeIII from ULVAC-PHI, INC. Demonstration to the XPS users (86 numbers) by the service engineer and Hands-On-Training to 8 student operator trainees as teaching assistantship was done during 30 May 2022 – 22 June 2022.

B) Teachers training programme: Basic objective of this massive teachers training programme is to motivate and equip teachers to encourage research thinking in students. Various school/college teachers attended the teachers training program conducted by Outreach Education Programme scheme by IIT Guwahati, under this program around 400 teachers visited CIF on 21.12.2022.

C) Student exchange programme: IIT Guwahati in collaboration with Gifu University, Japan has organized 2nd Spring School 2023 from March 03-14, 2023. Under this, 12 students with 2 professors visited CIF for advanced research knowledge with hands-on –training on 10.03.2023.

D) Outreach educational programme visits to CIF:

1. NIPER Guwahati (15 students and 02 faculty members) visited CIF on 31/01/2022.
2. Don.Bosco University (50 students with 04 faculty members) visited CIF on 23/02/2022.
3. Director of CIPET Guwahati along with 06-member team visited to explore possibilities of sophisticated instruments in plastic technology on 21/07/22.
4. USTM, Meghalaya (54 students with 06 faculty members) visited CIF on 10/05/2022.
5. Jawahar Novodaya Vidyalaya (All North-East region) under the science congress scheme with 80 students and 25 teachers visited CIF on 23/11/22.
6. SERS Public school, Rangia (35 students with 02 teachers) visited CIF on 23/02/2023.
7. Jateeya Vidyapeet Parijat school (45 students with 05 teachers) visited CIF on 23/01/2023.
8. Tihu College, Nalbari (50 students with 06 faculty members) visited CIF on 15/03/2023.

Students trained for CIF instrument operation

Sl. No.	Department	Existing CIF trained Operators	New operators trained in the reporting period
1.	Department of Chemical Engineering	14	05
2.	School of Agro and Rural Technology	02	02
3.	Centre for Environment	04	06
4.	Centre for Nanotechnology	02	02
5.	School of Energy Science and engineering	05	03
6.	Department of Civil Engineering	05	03
7.	Department of Bioscience and Bioengineering	15	03
8.	Department of Mechanical Engineering	15	08
9.	Department of Physics	18	12
10.	Department of Chemistry	49	08
Total number of students trained		129	49

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01.	Pugazhenth G.	Indian Institute of Technology Kanpur, Kanpur (Chemical Engineering, 2005)	Professor	Membrane Separation, Polymer Nanocomposites, Nanomaterials

**Lakshminath Bezbaroa
Central Library**

Being a major service centre of the Institute, Lakshminath Bezbaroa Central Library provides library and information services to support teaching, learning, research activities by creating state-of-the-art facilities and offering innovative services. The library is a window to world of latest information in sciences, engineering, technology, humanities & social sciences with a fast growing collection of books, journals, magazines both in print and digital format. It is housed on a four-stored building having a floor area of about 7500 sq. meter and can accommodate around 475 readers at a time. In-house services of the library are fully computerized and wi-fi facility is provided within library building for connecting to internet and accessing Institute's electronic resources.

During the reported period about 97 visitors from other academic Institutions have availed reference and reading facilities of the Library. In addition to that, more than 1,700 students, teachers, researchers and others visited the Library for their academic purposes. Library remains open from 8.00 am to 02.00 am (next day) throughout the year and 24 hours during mid/end semester examination, to provide reading facility to Institute's academic community. During the reporting period, total 51,714 books were circulated by 5,012 Institute users and more than 22 lakhs journal articles were downloaded.

Collection Development:

- a) The library has a fast growing collection of books, journals, magazines both in print and digital format. A large number of books, database, international and national journals on various subjects have been added during Financial Year 2022-23. Total collection strength of the Library now stands as follows:

ITEMS	Collection Size (2022-23)
Printed Books and bound volume journals (including NBHM collection)	1,84,324
E- books (including NBHM collection)	2,37,016
Standards (Online version)	71,464
Online Journals (including backfiles & current journals subscribed and provided by Consortia)	26,664
Ph.D. Theses	2,192
Non-Book material (CD, DVD, etc.)	7,165
Current Print Journals	17

- b) The growth of the collections since 2011-12 stand as follow:

Sl. No.	F.Y.	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
(i)	Printed Books & Bound Volume Journals	1,48,181	1,54,564	1,57,955	1,64,701	1,69,409	1,76,947	1,80,878	1,81,748	1,83,160	1,84,324
(ii)	E-books	7,931	1,45,770	1,47,463	1,53,089	1,80,559	1,88,516	2,03,640	2,15,466	2,15,466	2,37,016
(ii)	Printed Journals	151	120	90	84	68	50	29	29	25	17
(iii)	Online Journals (including journals)	12,656	12,835	24,012	24,264	25,143*	27,492*	27,557*	26,186*	26,282*	26,664*

subscribed and access provided by Consortia)											
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* includes backfiles

- c) As scientific research activities are profoundly dependent on the journal publications, Library has emphasized on enhancing subscription of current journals and expanded the collection significantly over last few years. Further, for better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently Library is subscribing 15,693 current journals across all academic areas. In addition to that, Institute is having access to 8,834 online journals through ‘e-Shodh Sindhu Consortium’ and ‘DeLCON: DBT- Electronic Library Consortium’.
- d) Apart from the above, Library has procured some of world’s most renowned abstract/full-text database like ACS Web Edition, Brill Journal Collection (Humanities & Social Sciences and Biology journals Collection),EBSCO Business Source Complete, eHRAF Database, IEC Standards, INFORMS Journal Collection, IOP Science Collection, ISO Standards, OnePetro, ProQuest Academic Complete - eBook Collection, Royal Society of Chemistry Gold Collection, Sage Journal Collection (Management & Organization Studies),SciFinderⁿ, Scopus, SUMMON 360+ Link, etc., and some well-known national database i.e. CMIE ProweesIQ, Economic Outlook, BIS Standards, EPWRF Time Series, etc. during the reporting period.
- e) Library has also subscribed Turnitin, a Plagiarism-detection Software, during the reporting period.
- f) To make awareness about the regional culture and to generate interest about vernacular literature, Library has developed a reasonably good collection on Assamese and Hindi language and on literary works of Sahityarathi Lakshminath Bezbaroa.
- g) Library has also developed a good number of collection on Braille Books and a special literary collection on Mahatma Gandhi.

1.Expenditure on books and research journals:

Expenditure on books and research journal of Lakshminath Bezbaroa Central Library has also increased over last ten financial years, details of which as follows:

Financial Year	Expenditure on Books (Rs. In Lakhs)	Expenditure on Research Journals (Rs. In Lakhs)
2013-14	147.57	570.15
2014 -15	190.82	666.84
2015–16	124.91	685.72
2016-17	75.12	746.20

2017-18	149.99	883.89
2018-19	148.87	1,022.56
2019-20	65.58	1,088.22
2020-21	52.80	1,140.40
2021-22	55.21	1,200.25
2022-23	92.45	1,304.72

2.Services and Facilities:

- a) To facilitate the users, a digital repository of theses, submitted by Ph. D. scholars of the Institute, has been created and made accessible to the academic community via <http://gyan.iitg.ac.in>. By end of the reporting period, total 2,192 full-text theses had been uploaded in the stated repository. In addition to this facility, Institute Library has joined hand with the Shodhganga portal of INFLIBNET Centre on 25th July, 2022 and has uploaded the theses collection on the portal.
- b) To extend better searching of huge electronic resources of the Library, a world-renowned Discovery Service has been made available to academic community of the Institute.
- c) One RFID based Book Drop Kiosk and two Self- Check-Out Kiosk have been installed in the first floor of library for self issue/re-issue/return of library books beyond regular working hours.
- d) For safekeeping of personal belongings of library users, token-based property counter has been made available throughout library operation hours.
- e) To facilitate and enable the academic community to access paid online contents from their own residences beyond Institute campus, Lakshminath Bezbaroa Central Library provides remote access to e-resources via Shibboleth in association with INDIAN Access Management Federation (INFED) at INFLIBNET Centre, Ahmedabad.

3. Infrastructure and developmental activities:

- a) For enabling better delivery of circulation facility, the library management software has been upgraded to web-based version. This helped to provide better browsing of library collection, instant email and SMS generation for individual library transactions.
- b) A large format display monitor has been installed for intimating the users about recent developments and facilities of library.
- c) Interior of entire Library building has been renovated with modern illumination system for creating appropriate ambiance for readers.
- d) North East Regional Centre of National Digital Library of India (NDLI) has been setup in the premise of Lakshminath Bezbaroa Central Library and providing training & support to build digital repositories to the institutes of North East India.

Centre for Career Development

In the placement season 2022-23 (started from 1st December), a total of **246** companies from various sectors participated in the recruitment process.

Total number of students registered – 1426	Total number of students placed – 1084
Total Female students registered – 294	Total Female students placed – 228
Total Male students registered – 1132	Total male students placed- 856
Total number of PPOs offered – 215	Total number of PPOs Accepted – 166
Percentage of male students placed- 75.62%	Percentage of female students placed - 77.55%

Number of International Offers – 20

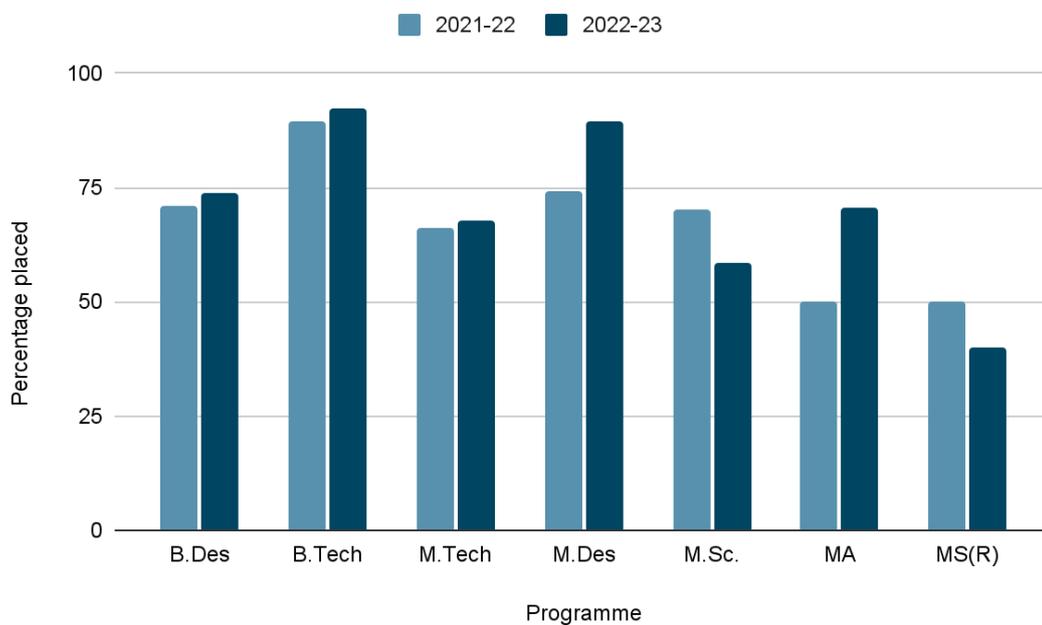
Overall placement across all programmes – 76.02%

Most of the students are placed in various profiles including:

Sector	Profiles
IT/Software	Software Development Engineer, Member Technical Staff, Design, R&D, Developers, Data Science
Finance	Quant, Algorithmic Trader
Non-tech Profiles	Business Analyst, Associate Product Manager, Marketing Manager
Analyst	Quant, Data Science
Core Engg.	Graduate Engineer trainee, Post Graduate trainee, Technical Executive
Education	Teaching
Design	Product Designer, Graphic Designer, UX/UI

Big corporate giants, especially US-based and other MNCs have slowed down on hiring due to the recession. On the other hand, India-based tech companies/startups have participated actively in the hiring process. The hiring pattern in core sectors is better as compared to the last year. The education and finance sectors have seen a rise in the number of hires this year.

Programme-wise Placement Statistics



Programme	2021-22 (%)	2022-23 (%)
B. Tech	89.59	83.03
B. Des	71.05	74.00
M. Tech	66.08	69.84
M. Des	74.19	89.66
M.Sc.	70.21	58.49
MA	50.00	85.36
MS(R)	50.00	40.00

School of Agro and Rural Technology

YEAR OF ESTABLISHMENT OF THE SCHOOL: 2016

ACADEMIC PROGRAMMES OFFERED: M.Tech and PhD

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Jar Test Apparatus, Turbidity Meter, COD Digestion Unit, Dual Channel peristaltic pump, Suction Filtration Unit, Hot Air Oven, Remi Deep Freezer, IR THERMOMETER, Gas flow Meter, pH meter, -80^oc Deep freezer, Chilled Water Circulator, Microscope Camera, orbital shaker, SimaProSoftware

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

- 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:

- Developed a herbal beverage with potential intestinal health
- Developed a mechanical system for soil and solid biological sample analysis on field

**CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/
INTERNATIONAL:**

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof. Rakhi Chaturvedi	108 th Indian Science Congress (ISC)	RTM Nagpur University, Nagpur, Maharashtra, India	January 03-07, 2023	International
02	Prof. Rakhi Chaturvedi	International Conference on Modernization of Traditional Indian Medicine: Public Health & Industrial Perspectives	University of Patanjali, Haridwar, Uttarakhand, India	August 01-04, 2022	International
03	Prof. Rakhi Chaturvedi	Lecture series on "Technological interventions to standardize the indigenous system of medicine in India" (AYURTECH-2022)	Indian Institute of Technology Madras, Chennai, Tamil Nadu, India	June 20-25, 2022	National
04	Prof Sanjukta Patra	North-East Research Conclave (NERC) '22	IIT Guwahati	20th-22 nd May, 2022.	International

05	Prof Sanjukta Patra	62nd Annual International Conference of the Association of Microbiologists of India (AMI). Microbes and Society: Current Trends and Future Prospects (MSCTFP-2022).	University of Mysuru, Karnataka, India	21 st -23 rd September, 2022	International
06	Prof Sanjukta Patra	“Export Worthy Natural packaging of Natural, Organic and Geographical Indication (GI) Agro products”	Assam Administrative Staff College Guwahati	30 th June, 2022	National
07	Prof Sanjukta Patra	International Workshop on Key Enabling Technologies for Sustainable Agri-Food Chain	National Institute of Technology Rourkela, Orissa, India	9 th -11 th December, 2022	International
08	Prof Sanjukta Patra	Gurukul in Emerging areas in modern biology and medicine	Tezpur University, Assam	2 nd -3 rd March, 2023	National
09	Prof. RamagopalUppaluri	North-East Research Conclave, 2022	IIT Guwahati	20 th -22 nd May 2022	National
10	Prof. RamagopalUppaluri	North-East Research Conclave, 2022	IIT Guwahati	20 th -22 nd May 2022	National
11	Prof. RamagopalUppaluri	North-East Research Conclave, 2022	IIT Guwahati	20 th -22 nd May 2022	National
12	Dr. Meena Khwairakpam	North-East Research conclave (NERC)towards-Sustainable science & Technology Assam Biotech Concave	IIT Guwahati	20 th -22 nd May 2022	National
13	Dr. Meena Khwairakpam	VII ISEES International Conference on “Sustainable Energy and Environmental Challenges VII SEEC”	Indian Institute of Technology (Banaras Hindu University) Varanasi, India	16 th -18 th December2022	International
14	Dr. Ajay Kalamdhad	National Conference on Sustainable waste management practices (SWMP)	Sardar Vallabhbhai National Institute of Technology, Surat	27 th -28 th December 2023	National
15	Dr Sudip Mitra	North East Research Conclave	IIT Guwahati	20-22/05/2022	National
16	Dr Sudip Mitra	Celebration of International Year of Millets	NABARD, Guwahati	09/01/2023	National
17	Dr Sudip Mitra	Regional Advisory Group Meeting	NABARD, Guwahati	17/10/2022	National
18	Dr Sudip Mitra	Climate Goals: Technological Road Map to Net Zero	Le Meridien, New Delhi	20/09/2022	National

19	Dr Sudip Mitra	Experience Capitalization Workshop on Disaster Resilient Infrastructure	Le Meridien, New Delhi	06/09/2022	National
20	Dr Sudip Mitra	Socio-Technological Aspects of Seismic Disaster and its Mitigation (STASDM)	IIT Guwahati	23-24 / 06/2022	National
21	Dr Sudip Mitra	Stakeholder Consultation Workshop for Resilience of Health infrastructure in Sikkim	Gangtok	01-02/03/2023	National
22	Dr. Siddhartha Singha	Northeast Green Summit 2022	North Eastern Police Academy (NEPA), Umsaw, Meghalaya	20-22/11/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1.	Prof. Rakhi Chaturvedi	Talk on Sustainability of Bioresources using Plant Tissue Culture Techniques	Department of Botany, MMV, Banaras Hindu University	Varanasi, UP, India	February 15-18, 2023
2.	Prof. Rakhi Chaturvedi	Nodal segment culture for clonal propagation and large scale multiplication of elite plants. Steps involved in Plant Tissue Culture.	Poona College of Pharmacy,	Pune, Maharashtra, India	November 23, 2022
3.	Prof. Rakhi Chaturvedi	Sustainable Production of Plant Secondary Metabolites by the	UGSAS, Gifu University	Yanagido, Gifu, Japan	November 09, 2022
4.	Prof. Rakhi Chaturvedi	Plant Tissue Culture Techniques and Sustainable Production of Plant Secondary Metabolites by the Application	Guru Ghasidas Vishwavidyalaya,	Bilaspur, Chhattisgarh, India	August 25, 2022
5.	Prof. Rakhi Chaturvedi	Refresher Course on Biodiversity and Conservation (Inter-Disciplinary)	North-Eastern Hill University (NEHU),	Shillong, Meghalaya, India	August 17, 2022
7.	Prof. Rakhi Chaturvedi	Sustainable production of Plant Secondary Metabolites by the Application of Cellular Totipotency	Indian Institute of Technology Madras	Chennai, Tamil Nadu, India	June 20-25, 2022
8.	Prof. Rakhi Chaturvedi	Sustainability, Atmanirbhar Bharat (Self Reliant India) & 75 years of Azadi ka Amrit Mahotsav	MSME Chamber of Commerce and Industry of India, National Productivity Council NPC & Services Export Promotion Council SEPC	Vigyan Bhavan, New Delhi, India	April 25 - 28, 2022
9.	Prof Sanjukta Patra	Agriculture wastes into value added products	The Agricultural and Processed Food Products Export	Assam Administrative Staff	30 th June, 2022

			Development Authority	College Guwahati	
10.	Prof Sanjukta Patra	Microbes in agro-waste utilization and fermentation technology	National Institute of Technology Rourkela, Orissa, India	Rourkela, Orissa, India	9 th -11 th December, 2022
11.	Prof. Ajay Kalmadhad	Bio methanation: Conversion of Green Waste into Clean Energy	Sardar Vallabhbhai National Institute of Technology, Surat	Surat, Gujrat	27 th -28 th December 2023
12.	Prof. Ajay Kalmadhad	Urban Water bodies of Guwahati Cities	NEDFi, Dispur	Dispur, Assam	07 th Nov, 2022
13.	Dr Sudip Mitra	Rural Development Project: Risk Management and Creating Contingency Plan	National Institute of Rural Development and Panchayati Raj-North Eastern Regional Centre (NIRD-PR-NERC)	NIRD-PR-NERC	16/03/2023
14.	Dr Sudip Mitra	Climate resilience and adaptations for coastal communities	Indian Council of Social Science Research, Eastern Regional Centre (ICSSR-ERC), Ministry of Education, Govt. of India.	Department of Geography, Bhatler College, Dantan (Virtual)	07/03/2023
15.	Dr Sudip Mitra	Methane Emission: Opportunities and Challenges in Agriculture Sector	International Center for Climate Sustainability Action Foundation	Virtual	25/01/2023
16.	Dr Sudip Mitra	Application of Ergonomics in Farm Mechanization	Assam Agriculture University, Jorhat, Assam	Virtual	10/01/2023
17.	Dr Sudip Mitra	Municipal Solid Wastes Dumping and Heavy Metals: Unique Management Strategy through Application of Biochar and Vetiver Grass	Department of Environmental Science, Jamia Milia Islamia, New Delhi	Virtual	15/09/2022
18.	Dr Sudip Mitra	Agroecotechnology & climate smart agriculture: path towards sustainability	Department of Rural Development, University of Science and Technology Meghalaya	Virtual	22/06/2022
19.	Dr Sudip Mitra	AGRO-ECOTECHNOLOGY AND CLIMATE SMART AGRICULTURE: PATHS TOWARD SUSTAINABLE RURAL DEVELOPMENT	XLVI INDIAN SOCIAL SCIENCE CONGRESS	Bharathidasan University, Tiruchirappalli 620024, T.N.	27-31/01/2023
20.	Dr. Siddhartha Singha	A Case Study of Spatial Planning of Two Village in Assam	NIRDPR-NERC (Orientation Training Programme for first time Block Development Officers)	Meghalaya	11/10/2022

21.	Dr. Siddhartha Singha	Technology development for value chain creation of plant products	Department of Human Physiology	Vidyasagar University, Midnapore, West Bengal	10/08/2022
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VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Dr. Robindra Teron	NEIAFMR, under Minsitry of Ayush	Understanding the contribution of FAB lab in herbal sector	28/10/2022	Collaborative project discussion on herbal products
02	Prof. Vishal R. Sardeshpande	CTARA, IIT Bombay	Understanding the contribution of FAB lab in rural sector	12/11/2022	
03	Mr. Shalabh Mittal	CEO, School of Social Entrepreneurship India	Understanding the contribution of school in rural entrepreneurship	22/02/2023	Initiated SSE workshop
04	Dr. Sandip Kumar Sinha and Prof. Chandradipa Ghosh	Rajabajar science college	Discussion about importance of invivo and invitro model in food research	16/03/2023	Collaborative projects discussion on health science

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	Climate Goals Meeting	International Center for Climate Sustainability Action Foundation	01/02/2023	National	60
02	Dr. Sudip Mitra	First project review and planning meeting On "Circular Economy Solution for Microplastics: Indo-Finnish Scientific Collaboration"	University of East Finland	02/12/2022	International	20
03	Dr. Siddhartha Singha	Value chain development of citrus varieties available in NER	DBT	13-14/06/2022	Vidyasagar University students (National)	45

04	Dr. Siddhartha Singha (convener)	Challenges & Opportunities of Medicinal Plant-Based Industries (IChaMP) in BIMSTEC Countries	VIBGYOR N.E. Foundation and National Medicinal Plants Board	26-27/08/2022	International Seminar	150
05	Dr. Siddhartha Singha (convener)	Medicinal plant production and Advancement in Herbal Medicine, Nutraceuticals, Cosmetics and other Herbal product formulation technologies (MedProTech)	VIBGYOR N.E. Foundation and National Medicinal Plants Board	28-29/10/2022	International Seminar	268
06	Dr. Siddhartha Singha (coordinator)	2nd Spring School 2023	IIT Guwahati in collaboration with Gifu University, Japan	3-14/3/2023	International program	10

AWARDS AND HONOURS:

- Rakhi Chaturvedi: Women in STEM: Vanguard of India@75; Featured in a Compendium on at the first CII (Confederation of Indian Industry) “Women in STEM Summit” July 2022.
- Rakhi Chaturvedi: Distinguished Service Award; Society of In Vitro Biology (SIVB) during 2022 In Vitro Biology Meeting at San Diego, California, USA 2022.

STUDENTS’ ACHIEVEMENTS:

- Rajendra Adak: Best Oral Presentation (1st); 5th National Students Research Convention on Healthcare and MedTech, Indian Institute of Technology Kanpur (IITK), Kanpur, Uttar Pradesh, India, 3rd-5th March, 2023.
- Risha Hazarika: 3rd place in Poster Presentation; Gurukul in Emerging areas in modern biology and medicine, Tezpur University, Assam.
- Jyoti: Best Paper Award (1st); VII ISEES International Conference on “Sustainable Energy and Environmental Challenges” (SEEC-2022), December 16-18 at Indian Institute of Technology (B.H.U), Varanasi.
- Vinny Kohli: First Position in Poster session; Department of Food Engineering & Technology, Tezpur University, Assam, India and Department of Soils, Water & Agricultural Engineering, Sultan Qaboos University, Oman in Association with AFST (1) Tezpur Chapter.

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 agrowasteutilisation
04	Dr. Ramgopal V.S. Uppaluri	University of Manchester, UK	Professor (equivalent to Higher Academic Grade)	Food Processing, Low cost nutritionally rich food product development, Solar pumps, Green concrete
05	Dr. Ajay Kalamdhad	Indian Institute of Technology Roorkee	Professor	Solid waste management, Mechanical composting and vermicomposting, Anaerobic digestion Analysis of solid wastes Microbiology of composting Biosorption Water & wastewater Treatment
06	Dr. Sudip Mitra	Indian Agricultural Research Institute (IARI), New Delhi	Associate Professor	Climate Smart Agriculture, Soil Quality and Natural Resources Management
07	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
08	Dr. Meena Khwairakpam	Indian Institute of Technology Roorkee	Associate Professor	Rural Sanitation, Waste Management, Constructed Wetland, Biological transformation of organic waste, waste to wealth
09	Dr. Pankaj Kalita	Indian Institute of Technology (IIT) Guwahati	Associate Professor	Clean Energy Technology (Fluidized bed technology, gasification, AD technology), Energy Storage (Thermal and Compressed Air), Integration of Solar Energy Devices (Thermal and PV), Energy Management
10	Dr. Karuna Kalita	University of Nottingham	Professor	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
11	Dr. Nanda Kishore	Indian Institute of Technology Kanpur	Professor	Biofuels, Computational Fluid Flow and Heat/Mass Transfer, Density Functional Theory, Non-Newtonian Fluids
12.	Dr. Sashindra K. Kakoty	IIT Kharagpur	Professor	Tribology, Duct Acoustics, Mechanical System Design, Rural Technology

School of Buisness

YEAR OF ESTABLISHMENT OF THE SCHOOL: 2022

ACADEMIC PROGRAMMES OFFERED: MBA, Ph.D.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Established the School of Business office and the research scholars' room/competing facility at the R&D Building 5th floor.

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

Organizational Behaviour, Human Resource Management, Operations Management, Marketing Management, Financial Management, Project Management, Information System.

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/National
01	Dr. Abraham Cyril Issac	Shaping the future of Management education for sustainable emerging economies	IIT Roorkee	20/11/2022-22/11/2022	International
02	Dr. Abraham Cyril Issac	Indian Academy of Management (INDAM) Conference 2023	NMIMS Mumbai	06/01/2023-08/01/2023	International
03	Dr Bodhisattva Sengupta	Workshop in Memory of Professor Ngo Van Long	Montreal, Canada (Hybrid mode)	23/9/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Dr. Abraham Cyril Issac	10 very good reasons why you should do an MBA from the right place	National Institute of Technology Calicut	Online webinar	10/03/2023
02	Dr. Abraham Cyril Issac	Developing Interpersonal skills and Organizational etiquettes	North Eastern Development Finance Corporation Ltd. (NEDFi)	NEDFi House Guwahati	01/02/2023
03	Prof. Siddhartha Pratim Chakrabarty	Mathematical Finance: History, Pedagogy and Opportunities	Cotton University (as a part of National Statistics Day 2022)	Guwahati	29/06/2022
04	Prof. Siddhartha Pratim Chakrabarty	Sustainable Finance: The Shifting Landscape and ESG Driven Investment	Indian Institute of Management Calcutta (as a part of the India Finance Conference (IFC-2022))	Kolkata	17/12/2022
05	Prof. Siddhartha Pratim Chakrabarty	Mathematical Finance: History, Pedagogy and Opportunities	Siksha 'O' Anushandhan (Deemed to be University)	Bhubaneswar (delivered online)	17/03/2023
06	Dr. Kuldeep Baishya	Role of North Eastern Council in the Development	North Eastern Council	Cotton University Guwahati	20/01/2023

		of North East India and the way forward			
07	Dr Bodhisattva Sengupta	Interaction Between Jurisdictions in a Federal Economy	KKHSOU and OKD Institute of Social Change and Development	KKHSOU, Guwahati	21/3/2023

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date	Remarks
01	Prof. Jeng Ywan Jeng	National Taiwan University of Science and Technology (NTUST) Taiwan	To explore the possibility to collaborate with SOB. Talk on “Introduction of EMRD/CTO (Executive Master of Research & Development for the CTO) and SEMI-EMRD education program.	27/03/2023 (4:00 PM)	Interactive session with Students and SOB Faculty
02	Mr. Kinsuk Chakraborty	SAGE Publications	SAGE research methods and SAGE business cases	18/11/2022	Detailed on the relevance and significance of Sage business cases

AWARDS AND HONOURS:

- Abraham Cyril Issac: Dr. Durganand Sinha award for Top 5 theses in OB/HR; National Academy of Psychology.
- Nachiketa Tripathi: Appointed Associate Editor; Employee Responsibilities and Rights Journal published by Springer, US.
- Nachiketa Tripathi: Elected as President Elect; National Academy of Psychology (India).

STUDENTS’ ACHIEVEMENTS:

- Tarun Chandila: Secured 4th position in the Nationwide “Business Idea Competition”; FINCORP’2022; KK Modi University.
- Sujan Mandal: Secured 4th position in the Nationwide “Business Idea Competition”; FINCORP’2022; KK Modi University.
- Ankit Baranwal : Secured 4th position in the Nationwide “Business Idea Competition”; FINCORP’2022; KK Modi University.

FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
Head of the School				
01	Prof. Laishram Boeing Singh	IIT Madras	Professor	Project Planning and Control, Public Private Partnerships, Risk Management, Infrastructure Financing, Construction Management and Construction Informatics
Permanent Faculty				
02	Dr. Abraham Cyril Issac	IIT Madras & Swinburne University of Technology Melbourne	Assistant Professor	Organizational Behavior, Human Resource Management, Knowledge Management, Macroeconomics
03	Dr. Sumant Kumar Bishwas	IIT Delhi	Assistant Professor	Organizational Behavior and Human Resource Management
04	Dr. Kuldeep Baishya	IIM Shillong	Assistant Professor	Marketing Management
05	Dr. Priyank Sinha	IIT Kanpur	Assistant Professor	Operation Research, Supply Chain Management, Network Optimization
06	Dr. Abhay Pant	IIM Indore	Assistant Professor	Economics & Finance
Adjunct Faculty				
07	Prof. Nachiketa Tripathi	IIT Kanpur	Professor	Organizational Behaviour, HRM and Social Psychology
08	Prof. Siddhartha Pratim Chakrabarty	University of Illinois at Chicago, Chicago, USA	Professor	Business, Finance, Data Science, Statistics, Sustainable Development Goals and Mathematics
Associate Faculty				
09	Prof. Rajshree Bedamatta	Indian Statistical Institute	Professor	Agrarian Studies, rural labour markets, Food Security, Food Sovereignty movements, nutrition and public health, education
10	Prof. Sukhomay Pal	Indian Institute of Technology Kharagpur	Professor	Welding Process Monitoring and Control, Non-Conventional Machining Process, Application of Artificial Neural Network, Tool Condition Monitoring, Genetic Algorithms and Fuzzy logic in manufacturing
11	Dr. Deepak Sharma	Indian Institute of Technology Kanpur	Associate Professor	Optimization and soft computing techniques for design and manufacturing
12	Dr. Sansam Ranbir Singh	IIT Madras	Associate Professor	Open Source Intelligence (Social Media/Social Network Analysis), Information Retrieval, NLP

13	Dr. Pratul Chandra Kalita	Indian Institute of Technology Guwahati	Associate Professor	Design Management, Design Methods, Systems Approach to Design, Design for Development
14	Dr. Bodhisattva Sengupta	McGill University, Montreal	Associate Professor	Public Economics and Policy, Dynamic Economic Theory
15	Dr. Prakash Kotecha	IIT Bombay	Associate Professor	Computational Intelligence Algorithms, Optimization, Operations Research
16	Dr. Agnirup Sarkar	Durham University	Assistant Professor	Macroeconomics, Monetary Economics, Finance

School of Energy Science and Engineering

YEAR OF ESTABLISHMENT:

The School of Energy Science and Engineering (SESE), renamed from Centre for Energy in April 2021, aims to address the National Education Policy (NEP) and connect technology development to training and grassroots outreach in order to address specific Sustainable Development Goals (SDGs), with a primary focus on Quality Education, Affordable Clean Energy, Sustainable Cities and Communities, Climate Action, and Partnership for the Goals. The school foresees providing multidisciplinary integrated education across different disciplines to bridge gaps amongst Academia, Humanities, Science, Engineering, Economics, Management, and Policymaking by introducing interdisciplinary programs. The B.Tech. program in Energy Engineering has been newly introduced, and the first batch of 20 students joined in the July 2022 session. The school has immediate plans to introduce executive degree programs and short-term training programs and strengthen national and international collaborations for joint degree programs.

ACADEMIC PROGRAMMES OFFERED: [a] PhD, [b] MS by Research [c] B.Tech. in Energy Engineering from July 2022

LABORATORY FACILITIES:

No. of Laboratories: 12 (PG) established and 5 (UG) underway

[i] 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, etc. The laboratory is equipped with Gas Chromatograph (GC), Thermo-Gravimetric Analyzer (TGA), Differential Scanning Calorimetry (DSC), High Performance Liquid Chromatograph (HPLC), Oxygen bomb calorimeter, Vacuum rotary evaporator, Lyophilizer etc. to name a few.

[ii] 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.

[iii] 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.

[iv] 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.

[v] 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.

[vi] 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.

[vii] 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.

[viii] 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.

[ix] 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.

[x] 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.

[xi] 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.

[xii] **Sustainable Biofuel Laboratory, SESE, Technological Complex:** Research work focus on biofuel production from lignocellulosic agriculture wastes.

[xiii] **B.Tech Laboratories:** The establishment of five new laboratories for the B.Tech. programme is underway: Fuel and Combustion Laboratory, Thermo-Fluid and Heat Transfer Laboratory, Wind and Hydro Energy Laboratory, Solar Energy Laboratory, and Energy Materials and Device Fabrication Laboratory.

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

During the period April 1, 2022, to March 31, 2023, no major equipment was purchased. However, the purchase of all the essential equipment for the establishment of the Fuel and Combustion Laboratory and the Thermo-Fluid and Heat Transfer Laboratory for the B. Tech. programme at SESE was done in this period.

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, Amorphous and nanocrystalline semiconductors, Thin film and Heterojunction solar cells, Perovskite solar cells, Graphene, transition metal dichalcogenides and transition metal oxides, 2D materials.

Major initiatives and breakthrough in Research and Development:

- Development of Ammonia Sensor for Agricultural Sensor

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
1	Prof P.Agarwal	Solar cell: Materials, structure and Technology	Mizoram Science Congress-2022	Aijal Club, Khatla, Aizwal Mizoram 796001	November 24-25, 2022
2	Dr. F. Khalid	Use of Exergy Analysis for HVAC Processes (Invited Expert Talk)	International Workshop on Heating, Ventilation, Air Conditioning &	AMU, Aligarh, India	March 24-28, 2023

			Refrigeration (HVAC&R), ,		
3	F. Khalid	Environmental, social & governance (ESG) issues with Energy Transition (Invited Expert Talk)	Symposium on Energy Transition- Concepts, Opportunities & Challenges, Department of Chemical Engineering, Indian Institute of Technology Guwahati	Indian Institute of Technology Guwahati	November 21-24, 2022
4	Dr. E S N Raju P	Application of Artificial Intelligence Techniques in Microgrids	High End Workshop on Application of Artificial Intelligence and Machine Learning Techniques for the solution of Large-Scale Renewable Energy Integrated Power System Problems (Under the Karyashala Scheme – A SERB Scheme	University College of Engineering (Autonomous) JNTU Kakinada, AP, India	September 26 – October 02, 2022
5	Dr. E S N Raju P	Development and Validation of Artificial Neural Network-Based Tools for Forecasting of Power System Inertia with Wind Farms Penetration	High End Workshop on Grid Integration of Renewable Energy Sources: Concepts, Issues and Solutions (Under the Karyashala Scheme – A SERB Scheme)	National Institute of Technology, Agartala (Tripura), India	January 16-22, 2023
6	Dr. E S N Raju P	Electric Vehicles: Technologies, Charging Methods, Configurations, and Standards	AICTE ATAL FDP on "Smart Engineering Solutions to Smart Cities"	G.H. Rasoni College of Engineering, Nagpur(Maharashtra), India.	Decembe 5-12 2022
7	Dr. E S N Raju P	Control and Energy Management in Microgrid	AICTE ATAL FDP on "Renewable Energy Resources and Rural Electrification: Challenges and Solutions"	Dayalbagh Educational Institute (To be Deemed University), Agra, India	October 10-15, 2022
8	V.V. Goud	Anaerobic Co-digestion of Defatted Microalgae Residue and Rice Straw as an Emerging Trend for	Gifu Joint Degree Symposium, Gifu University	Gifu University, Japan	November 30, 2022

		Waste Utilization and Sustainable Bio-refinery Development, ,			
9	V. V. Goud	Sustainable Bio-refinery Development, in International Conference on pure and applied chemistry (IconPAC-2023) on the theme of “Chemistry for clean energy technologies: Hydrogen, Methanol, Ethanol and Fuel Cell Production, Challenges and Issues”.	KL University	INDIA	January 27 - 28, 2023
10	Prof. V.V. Goud, Dr. Pankaj Kalita and Dr. Lepakshi Barbora (STO)	Awareness on renewable energy technologies	Airport Authority of India	Guwahati	February 23, 2023
11	V V Goud	Guest Speaker on the subject Startup Ecosystem and benefits of IP Assets, in National Level Workshop under the theme IP YATRA	Kaziranga University	Assam, India	March 13-14, 2023

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
1.	Prof. Debendra Ch. Baruah	Professor, Department of Energy, Tezpur University, Tezpur, Assam, India	Speaker for the Webinar Series on Sustainable Energy Technologies Topic: Sustainability Threat of "Unused-Stream" : is it a case of Technology-Practice disparity?	24/02/2023
2.	Dr. Sabyasachi Saha	Associate Professor Editor, South Asia Economic Journal (Sage) Research & Information System for Developing Countries (RIS) Core 4B, Fourth Floor India Habitat Centre New Delhi - 110003 India	Speaker for the Webinar Series on Sustainable Energy Technologies Topic: “Science, Technology and Innovation (STI) for Sustainable Development Goals (SDGs)”	18/11/2022
3.	Ms. Rupsha Bhattacharyya	Research Scientist, Bhabha Atomic Research Center, India.	Speaker for the Webinar Series on Sustainable Energy Technologies Topic: Towards a Net Zero India in 2070: Opportunities and Challenges for the Low Carbon Energy Transition	28/10/2022

4.	8 member team from Physikalisch-Technische Bundesanstalt, Germany, the National Metrology Institute of the Federal Republic of Germany	PTB - the German Metrology Institute under the Ministry of Economics and Energy	Industry – Academia Stake Holder Meet	21/10/ 2022
5.	Dr. Ahmad Arabkoohsar	Professor, Aalborg University, Denmark	Speaker for the Webinar Series on Sustainable Energy Technologies Topic:: 4th Generation of District Energy Systems	26/08/2022
6.	A team of officers from Arunachal Pradesh {Rajesh S [Chief Conservator of Forests (Environment & Climate Change)], Taring Darang (Chief Engineer), Nich Jacob (Executive Engineer), Marpek Riram (Assistant Engineer of the Urban Development Department), and Y Johnson Singh (Scientist, Environment forests & Climate change Department)}		To study the work done by the school on effective low-cost solid waste management technologies including waste-to-energy technologies, wet waste composting techniques, and advanced recycling methods.	30/03/2023
7.	Prof Nakano and Prof Kasumi Nakagawaof	Gifu University Japan	Visited School of Energy Science and Engineering, IIT Guwahati to collaborate on research projects of mutual interest	14/03/2023
8.	Professor Jeng Ywan Jeng	National Taiwan University of Science and Technology (NTUST) Taiwan	Visited School of Energy Science and Engineering, IIT Guwahati on 30 Mar, 2023 to explore the possibility of collaborative work between two university i.e. School of Energy Science and Engineering, IIT Guwahati and NTUST, Taiwan	30/03/2023

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. Niranjana Sahho and Dr. Pankaj Kalita	Workshop on Sustainable Energy Utilization Technology for Green Hydrogen and Renewable Fuels	Technology Innovation and Development Foundation (TI&DF), IITG	October 20-21, 2022	National	66

PATENTS:**No. of Patents Applied: 01****No. of Patents Granted: 01**

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.	Remarks
1	Prof. Kasutubha Mohanty and Pranab Jyoti Sarma	A multi-chambered modular Plant Microbial Fuel Cell (PMFC) for bioelectricity generation	03/06/2022 (Applied)	202231032009	Under Examination
2	Lepakshi Barbora, Deep Bora, Arup Dutta, Pinakeswar Mahanta, Jon Mani Kalita, Saurav Khuttiya Deuri	Anaerobic Digester-Membrane Electrode Assembly (ADMEA) System for Producing Enriched Biogas and Electricity	25/07/2022 (Granted)	202131014785	Granted

AWARDS AND HONOURS:

- Farrukh Khalid: Appointed as the Editorial Board Member; Seatific Journal.
- Farrukh Khalid: Appointed as the Guest Editor for a special issue; Journal of Hydrogen Energy.
- E S N Raju P: "Young Scientist Award" in the International Scientist Awards on Engineering, Science and Medicine; VDGGOOD Professional Association.
- V. V. Goud: Adjunct faculty, in the subject of Chemical Technology/Chemical Engineering; UICT, KBCNMU, India.

STUDENTS' ACHIEVEMENTS:

- Karan Kumar: Best Keynote Speaker; 3rd International Conference on Biofuel & Biomass scheduled during December 08-09,2022.
- Rohith Sangineni: IEEE Dielectrics and Electrical Insulation Society Graduate Fellowship 2022-23; IEEE Dielectrics and Electrical Insulation Society, 27th March 2023.
- Karan Kumar: Best Paper Award; VII - International Conference on Sustainable Energy and Environmental Challenges (VII-SEEC) at IIT BHU during December 16-18, 2022.

FACULTY MEMBERS

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
CORE FACULTY MEMBERS				
1.	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
2.	Farrukh Khalid	Ontario Tech University, Oshawa, Ontario, Canada	Assistant Professor	Applied Thermodynamics, Hydrogen Production using Thermochemical cycles and Renewable, Exergy Analysis, Sustainable Energy Systems, Waste Management, High Temperature Electrolysis, Nuclear Desalination, Green Buildings, Multi-generation Systems, Solar Desalination
3.	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 wearable devices, biosensors, Flexible electronics, solar cells
4.	Pankaj Kalita	Indian Institute of Technology Guwahati	Associate Professor	Clean Energy Technologies, Solar Thermal, Energy Storage
5.	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				

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
6.	Arun Goyal	Indian Institute of Technology Kanpur	Professor, Department of Biosciences and Bioengineering	Molecular Biology, Protein Engineering, Bioethanol
7.	Kaustubha Mohanty	Indian Institute of Technology 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.
8.	Mahuya De	-	Professor, Department of Chemical Engineering	Catalysis and reaction engineering, adsorption, hydrocarbon processing
9.	P. Muthukumar	Indian Institute of Technology 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.
10.	S. Senthilmurugan	Indian Institute of Technology 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
11.	Vijay S Moholkar	University of Twente, Netherlands	Professor, Department of Chemical Engineering	Thermochemical and biochemical conversion of biomass for synthesis of green gaseous and liquid fuels, 3G biofuels, conversion of waste to value added products, synthesis of functional polymer and bionanocomposites
12.	V. V. Goud	Indian Institute of Technology Kharagpur	Professor, Department of Chemical Engineering	Bio-energy; Biolubricant, Heterogeneous Reactions, Utilisation of Lignocellulosic Biomass for Production of Fuel/Chemicals, Application of

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
				Supercritical Fluids, Wastewater Treatment
ASSOCIATED FACULTY MEMBERS				
13.	D. Das	Indian Institute of Technology Bombay	Professor, Department of Biosciences and Bioengineering	Metabolic engineering, Biochemical engineering, Modelling of fermentation process, Biofuel
14.	H.B. Nemade	Indian Institute of Technology 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
15.	K. Kalita	University of Nottingham, U.K	Professor, Department of Mechanical Engineering	Rotordynamics, Coupled Dynamics of Electro-Mechanical Systems, Vibration
16.	L. Sahoo	MDU, Rohtak	Professor, Department of Biotechnology	Genetic engineering and functional genomics of plants
17.	N. Sahoo	Indian Institute of Science, Bangalore	Professor, Department of Mechanical Engineering	Fluid and Thermal Engineering, Aerodynamics, Gas Dynamics, Instrumentation, Measurements and Experiments in Fluid
18.	P. Agarwal	Indian Institute of Technology Kanpur	Professor, Department of Physics	Amorphous and nano-crystalline semiconductor thin films solar cells, perovskite solar cells, heterojunction solar cells and other devices
19.	P. Goswami	Gauhati University	Professor (HAG), Department of Biosciences and Bioengineering	Biosensors and Biofuel cells
20.	S. K. Nayak	Indian Institute of Science, Bangalore	Associate Professor, Department of Electronics and Electrical Engineering	Power flow analysis in AC and DC traction power system, Electromagnetics, Lightning interaction with an electrical and mechanical system, High Voltage Engineering

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
21.	U. K. Saha	Indian Institute of Technology Bombay	Professor, Department of Mechanical Engineering	Turbomachinery, Jet Propulsion, Internal Combustion Engines and Wind Energy
22.	V. Kulkarni	-	Professor, Department of Mechanical Engineering	High enthalpy flows, scramjet engine, experimental, aerodynamics, measurement science, CFD simulations
HONORARAY FACULTY MEMBERS (INDIA)				
23.	Prof. 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)				
24.	Prof 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
25.	Prof 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

School of Health Science and Technology

YEAR OF ESTABLISHMENT OF THE SCHOOL: 2021

ACADEMIC PROGRAMMES OFFERED: M.Tech. and PhD

LABORATORY FACILITIES:

The School has proposed to develop the following laboratories under the Biomedical Science and Engineering M.Tech. program:

- Biotechniques & Bioinstrumentation Laboratory
- Diagnostics & Devices Laboratory
- Product Design & Prototyping Laboratory
- Research Laboratories

MAJOR EQUIPMENT AND FACILITIES ACQUIRED:

Sl. No.	Description of Item with Make and Model	P.O. No. with Date	Qty.	Price as mentioned in the Asset Register
	(1)	(2)	(3)	(4)
01	Ice Flaker Labman LMIF-30	IITG/S&P/SHST-06/EQPT/1603/2022-23(2021) dated 06.01.2023	01	93,220.00
02	1)4700880 Finnpiptette F2 GLP-Kit-2 (0.2-1000ul) 2)Neubauer Haemocytomener 3)Genpet-PM Genaxy Pipete Aid 4)Ph 700 ph Meter Make-EUTECH 5)Refrigerator 260 L. Make LG 6)D-1008 Mini Spin Centrifuge 7)MX-S Vortex Mixer	IITG/S&P/SHST-06/EQPT/160L/2022-23(1312) dated 06.01.2023	03 01 01 01 01 01 02	3,81,313.00

	8) EGR252T Elite Series Gel Rocker with electronic timer		01	
	9) IFUGE CS2P Microplate Centrifuge		01	
03	1)HR250A2 Analytical Balance Make: AND (JAPAN) 2)ISTIR HP320 Magnetic Stirrer with Hot Plate 3)TI-121B SS Autoclave Make-Tempo 4)TI-601 Water Bath Make: Tempo 5)TI-90A Bactrological Incubator Make: Tempo 6)HB120-S Dry Bath 7)SK-0180 Pro Orbital Shaker with SK 180.1 Universal Attachment	IITG/S&P/SHST-06/EQPT/1602/2022-23(1313) dated 06.01.2023	01 01 01 01 01 01 01	4,17,366.00
04	Acer Veriton Desktop S2690G Ci5 Si No-UXVW6S1093304047 260700/72A0700/7080700	IITG/S&P/SHST-09/EQPT/1818/2022-23 dated 13.02.2023	03	1,57,500.00

MAJOR AREAS OF RESEARCH AND DEVELOPMENT:

Healthcare, Medical Devices, Diagnostics, Bioinformatics, 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)

- 1) 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)

- 2) Centre for Excellence in Disruptive Innovations & Product Development for Affordable Rural Healthcare, 5/3/8/20/2019-ITR, ICMR (1506 L)
- 3) Healthcare Bio-Entrepreneurship Ecosystem Encompassing Biomaterials, Industrial Biotechnology and Diagnostics, BT/BIRAC/BI-IITG/2020, BIRAC, 2022 (498 L)
- 4) Indian Nanoelectronics Users' Programme - Idea to Innovation (INUP-i2i), 5(1)/2022-NANO, MeitY, (2022-2024) (923 L)
- 5) Understanding on/off kinetics of LOV-domain proteins to construct optogenetic tools, SRG/2022/000858, DST-SERB (2022-2024) (30 L)

CONFERENCES/WORKSHOPS/SYMPOSIA ATTENDED: NATIONAL/INTERNATIONAL:

Sl. No.	Name of Faculty	Name of Conf./Workshop	Place	Date	International/ National
01	Prof. Dipankar Bandyopadhyay	9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT Roorkee	14/12/2022	International
02	Prof. Dipankar Bandyopadhyay	16th Complex Fluids Symposium (CompFlu - 2022)	IIT Kharagpur	19/12/2022	International
03	Prof. Dipankar Bandyopadhyay	Chemical Engineering Symposium - 2022	Calcutta University	22/12/2022	
04	Prof. Dipankar Bandyopadhyay	12th International Conference on Metamaterials, Photonic Crystals and Plasmonics,	Online	19/07/2022	International
05	Prof. Dipankar Bandyopadhyay	6th International Conference on Emerging Materials	Bangalore	11/12/2022	International
06	Prof. Dipankar Bandyopadhyay	Gold 2022 Conference	Online	17/07/2022	International
07	Dr. Akshai Kumar A S	ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022	Virtual	21/08/2022	International
08	Dr. Akshai Kumar A S	Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology	IIT Guwahati	05/09/2022	International
09	Dr. Akshai Kumar A S	INyas Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (INyas) in association with Bhabha	MUMBAI	16/09/2022	National

		Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi, September 16-18, 2022			
10	Dr. Akshai Kumar A S	DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022	Indian Institute of Technology Ropar	25/09/2022	National
11	Dr. Akshai Kumar A S	International Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022	BHU	15/12/2022	International
12	Dr. Akshai Kumar A S	Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023	Kaziranga	16/03/2023	International
13	Dr. Akshai Kumar A S	National-level mentoring symposium 'Gurukul in emerging areas in modern biology and medicine'	Tezpur University	02/03/2023	National
14	Dr. Krishna Pada Bhabak	Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	03/12/2022	International
15	Dr. Krishna Pada Bhabak	Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	02/03/2023	International
16	Dr. Rajiv K. Kar	Young Investigator Meeting 2022	Online	04/05/2022	National
17	Dr. Rajiv K. Kar and Dr. Subrata Pramanik	Workshop for Franco-Indian Campus for Health	New Delhi	27/06/2022	International

INVITED LECTURES OF FACULTY: IN INDIA, ABROAD:

Sl. No.	Name of Faculty	Name of Lecture	Name of Inst./Org.	Place	Date
01	Prof. Dipankar Bandyopadhyay	Atomic Force Microscopy (AFM)	INUP-i2i Workshop, IIT Guwahati	Guwahati	April 2022
02	Prof. Dipankar Bandyopadhyay	Genesis of a Dream: Health Care Technologies for a Billion	CHEMCON 2021		Dec 2022
03	Dr. Akshai Kumar A S	"Cyclic Voltammetry" INUP-i2i 2022 Offline Workshop Schedule 4-6 April 2022	IIT Guwahati	Guwahati	4-6 April 2022

04	Dr. Akshai Kumar A S	“Guerbet-Type and Related Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals.” ACS National Meeting & Exposition, ACS Fall 2022, August 21-24, 2022	ACS National Meeting & Exposition	Virtual	August 21-24, 2022
05	Dr. Akshai Kumar A S	“Activities at the Centre for Nanotechnology, IIT Guwahati ” Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology, 5-6 September, 2022	IIT Guwahati	Guwahati	5-6 September, 2022
06	Dr. Akshai Kumar A S	“Pincer Metal Catalyzed Synthesis of Fuel Chemicals” IIT Day Exclusive webinar series for IIT, 7-8 September, 2022	Agilent	Virtual	7-8 September, 2022
07	Dr. Akshai Kumar A S	“The Theranostic and Optoelectronic Applications of Anthracene Derivatives” INYAS Technical Symposium on Basic Science and Technology for Sustainable development (BSSD) organized by Indian National Young Academy of Sciences (INYAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi, September 16-18, 2022	Indian National Young Academy of Sciences (INYAS) in association with Bhabha Atomic Research Centre (BARC), Mumbai & Indian Institute of Technology Delhi	Mumbai	September 16-18, 2022
08	Dr. Akshai Kumar A S	“Organometallic Catalysis Towards Green Hydrogen Generation” DST KARYASHALA, Indian Institute of Technology Ropar, India, September 25, 2022	Indian Institute of Technology Ropar	Ropar	September 25, 2022

09	Dr. Akshai Kumar A S	Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals” International Conference on Modern Trends in Inorganic Chemistry - XIX held at BHU, Varanasi, India. December 15-17, 2022	Modern Trends in Inorganic Chemistry - XIX held at BHU	BHU	December 15-17, 2022
10	Dr. Akshai Kumar A S	Invited Talk “Guerbet-Type and Related Alkylation Reactions Catalyzed by Pincer-Metal Complexes Based on 3d Metals” ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik, Editor-in-Chief, Organometallics, December 15, 2022	ACS Webinar on “Trends in Organometallic Chemistry”, Co-ordinated by Prof. Paul Chirik	Virtual	December 15, 2022
11	Dr. Akshai Kumar A S	Invited Lecture “Pincer-Metal Catalyzed Production of Hydrogen Biofuels and Specialty Chemicals” Chemistry Meet 2023, Kindling in Kaziranga, March 16-18, 2023	Chemistry Meet 2023, Kindling in Kaziranga	Kaziranga	March 16-18, 2023
12	Dr. Akshai Kumar A S	Invited Lecture “The Theranostic and Optoelectronic Applications of Anthracene Derivatives” ‘Gurukul in emerging areas in modern biology and medicine’ on 2-3rd March 2023, Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Jointly organized by INYAS in collaboration with the Department of Molecular Biology and Biotechnology, Tezpur University	Tezpur University	2-3 March 2023
13	Dr. Krishna Pada Bhabak	Celebration of 75 th Foundation Day of CSIR-CLRI, Chennai	CSIR-CLRI, Chennai	Chennai	22/09/2022
14	Dr. Krishna Pada Bhabak	Invited guest lecture	IIT Madras	Chennai	23/09/2022

15	Dr. Krishna Pada Bhabak	Frontiers in Chemical Sciences-2022 (FICS-2022)	IIT Guwahati	Guwahati	3/12/2022
16	Dr. Krishna Pada Bhabak	Emerging Trends in Chemical Sciences-2023 (ETCS-2023)	NEHU, Shillong	Shillong	2/03/2023
17	Dr. Subrata Pramanik	Introduction to Flow Cytometry and its applications	BioNest-IIT Guwahati	Guwahati	18/01/2023
18	Dr. Rajiv K. Kar	Interpreting the biomolecules through computation at the classical and quantum levels	AICTE sponsored Short Term Training Programme (STTP) for the faculties of the North Eastern Region of India.	Guwahati	Jun 2022
19	Dr. Rajiv K. Kar	Digital Health	Ayushman Bharat Digital Mission	Guwahati	Oct 2022

VISITORS FROM OTHER INSTITUTES/UNIVERSITIES/ORGANISATIONS/INVITED LECTURES:

Sl. No.	Name	Name of Inst./Univ./Org.	Purpose/ Name of Lecture	Date
01	Dr. Naba Goswami	Saint Clairsville, Ohio, USA	Interactive Session JBMSHST	11/01/2023
02	Dr. Mustafa A. Barbhuiya	UMass Chan Medical School, Massachusetts, United States	Invited Lecture Series	08/11/2022
03	Prof. Ulrich Schwaneberg	RWTH Aachen University, Germany	Invited Lecture Series	30/08/2022
04	Mr. Venkataramanan Ramachandran	Karkinos Healthcare Ltd., India	Special Lecture	25/08/2022
05	Prof. Alexander Mikheyev	Australina National University, Canberra, Australia	Invited Lecture Series	05/05/2022

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. Akshai Kumar A S	Frontiers in Chemical Science 2022	SERB, Oil India, MERCK, Bruker, ChemDist Group of Companies	2-4 December 2022	International	350

PATENTS:

Sl. No.	Name of Faculty and co researcher	Name	Date Applied/Granted	Application No.
1	Dr. Akshai Kumar A S	GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/02/2023	PCT/IB2023/051407
2	Dr. Akshai Kumar A S	GROUP(VIII) CATALYSTS FOR PRODUCTION OF GREEN HYDROGEN AND FORMIC ACID FROM METHANOL AND ITS MECHANISM THEREOF	06/04/2022	202231020801
3	Dr. Akshai Kumar A S	SYMMETRIC TETRAALKYNYLATED ANTHRACENES AND THE PROCESS FOR PREPARING THE SAME FOR SENSING AND OPTOELECTRONIC APPLICATIONS	03/08/2022	PCT/IB2022/057185

AWARDS AND HONOURS:

- Biman B. Mandal: 75 under 50 Scientists Shaping Today's India; DST/Vigyan Prasar in a book released by Hon. Science and Technology Minister, Govt of India.

STUDENTS' ACHIEVEMENTS:

- Shubham Sanjay Agrawal: Khorana Program for Scholars 2023; India-US forum 2023.

CORE 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, University of Calcutta	Assistant Professor	Sensors and Diagnostics, Analytical Chemistry, Quantum Mechanics, Soft Matter Low-dimensional Materials, Simulation, 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

ASSOCIATED FACULTY MEMBERS:

Sl. No.	Name	Name of the University/Institute/Org PhD degree received from	Designation	Areas of Interest
01	Dipankar Bandyopadhyay	IIT Kanpur	HoC and Professor	Micro/nano Mechanics of Soft Matter, Rheology of Viscoelastic Materials, Liquid Crystals, and Smart Materials, Intermolecular forces, Colloids and Interfacial science, Micro/Nano Fluidics, Electro- and Magneto-hydrodynamics, Electrokinetics, Self-Organized Solar Cells and Light Emitting Devices, Advanced Flow Microreactors for

				Artificial Photosynthesis, Hydrogen Production, Bio-Synthesis, and CO ₂ sequestration, Synthesis and Applications of micro/nano Robots, MEMS Theranostic devices, Point-of-Care-Testing Health Care Devices
02	Parameswar K. Iyer	CSMCRI, Bhavnagar	Professor	Organic and Polymer synthesis, Bio & Chemosensors, Optoelectronic devices.
03	Roy P. Paily	IIT Madras	Professor	VLSI & MEMS.
04	Biman B Mandal	IIT Kharagpur	Professor	Regenerative Medicine, Biomaterials, Tissue Engineering, Stem Cells
05	G. Krishnamoorthy	IIT Kanpur	Professor	Organic Photochemistry & Spectroscopy.
06	Bithiah G. Jaganathan	Institute for Transfusion Medicine and Immune Hematology, Germany	Professor	Stem Cell Biology, Cancer signaling
07	Ranjan Tamuli	Centre for Cellular and Molecular Biology, Hyderabad.	Professor	Calcium signaling, Genetics, DNA repair
08	Tapas K. Mandal	IIT Kharagpur	Professor	Micro-nano technology and its application in Energy harvesting, Healthcare, Process intensification, Point of care techniques in diagnosis of diseases, Artificial Photosynthesis and Microfluidics.
09	Harshal B. Nemade	IIT Bombay	Professor	Electronic and Ultrasonic instrumentation, Electronic product design, EMI/EMC issues, Acoustic sensors, Surface acoustic wave devices, MEMS, NEMS.
10	S. Kanagaraj	IIT Kharagpur	Professor	Biomaterials Carbon nanotubes based nanocomposites Nanofluids Materials characterization
11	Chandan Mukherjee	Max-Planck-Institut für Bioanorganische Chemie, Germany	Professor	Oxidation Catalysis / Molecular Magnetism / Synthesis of Single-Molecule Magnets (SMMs) / MRI Contrast agents / Water Oxidation Chemistry.

12	S. K. Dwivedy	IIT Kharagpur	Professor	Design and Robotics Non-linear Dynamics Vibration
13	Siddhartha S. Ghosh	IICB, Kolkata	Professor	Gene Therapy & Nanobiotechnology.
14	Bhishma K. Patel	IIT Kanpur	Professor	Bio-Organic Chemistry and Newer Methodologies.
15	Subhendu S. Bag	IIT Kharagpur	Professor	Bio-Organic/Medicinal Chemistry of Nucleic Acids, Peptides, and b-Lactam Antibiotics.
16	Uttam Manna	IISc, Bangalore	Associate Professor	Bio-inspired Polymer Materials, Drug Delivery, Open Microfluidics, Chemical Sensor
17	Raghvendra Gupta	University of Sydney	Associate Professor	Multiphase flow, Microfluidics and micro process engineering, Computational and experimental fluid dynamics.
18	Partho S. G. Pattader	Lehigh University, USA	Associate Professor	Stochastic dynamics, Colloid and Interface science, Tribology, Soft matter.
19	Akshai Kumar A S	IISc Bangalore	Assistant Professor	Organofluorine Chemistry, Catalysis (Homogeneous and Heterogeneous), C-H and C-F activation.
20	Krishna P. Bhabak	IISc Bangalore	Associate Professor	Design and synthesis of organic compounds or fluorescently labeled compounds or the turn-on fluorogenic drug delivery systems/prodrugs for the treatment strategies of various disease states such as cancer or inflammatory diseases
21	Urmi Salve	University of Calcutta	Associate Professor	Human Factor Engineering, Occupational Ergonomics, Cognitive Ergonomics, Research Methodology
22	Daksha Parmar		Assistant Professor	Public Health and Development, Social Science Issues in Health, Human Resources for Health in India, Interface of Frontline Healthcare Providers with Health Systems, Health Policy and Research, Global Public Health, Population and Development, History of Birth Control, Gender and Health
23	Narayanasamy Selvaraju	IIT Madras	Assistant Professor	Environmental Biotechnology, Bioprocess Engineering, Biochemical Engineering

24	Palash Ghosh	ISI Kolkata	Assistant Professor	Q-learning (Reinforcement Learning) and Dynamic Treatment Regime (DTR), Personalized Medicine, Biased Sampled Data, Multi-Sample Likelihood, Case-Control Study, Design and Analysis of Clinical Trials, Analysis of Electronic Medical Records Data and other areas of Statistics
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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=775bb4c23401732e79405f9e784ba0b6&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=15&s=AF-ID%2860010126%29&origin=resultslist&zone=leftSideBar&editSaveSearch=&txGid=d9d18e20800ef1a2e69d48c18a08cba7>

DETAILS OF RESEARCH AND DEVELOPMENT

ONGOING SPONSORED PROJECTS:

PI Name	Title	Funding Agency	Amount	Start date	Duration (months)	Completion Date
Pranab Goswami	Development of a Low Cost and Field Deployable Sensor for Detection of Formaldehyde Both in Liquid and Gaseous Forms	DBT	9479720		36	21-04-2024
Hemant B. Kaushik	Evaluation of Column-to-Beam Flexural Capacity Ratio for Strong-Column Weak-Beam Design in RC Buildings	SERB	4048264	01-04-2021	36	01-04-2024
Ankush Bag	Indigenous design and development of wideband tunable dosimeters for UV exposed environment	SERB	5755172	01-04-2022	36	01-04-2025
Gagan Kumar	Exploring tunable electromagnetic induced transparency effect using exotic materials in terahertz metamaterials	SERB	825000	01-04-2022	36	01-04-2025
Pravat Kumar Giri	Investigation on doping in 2D topological insulators Bi ₂ Se ₃ , Bi ₂ Te ₃ , Sb ₂ Te ₃ nanosheets for optoelectronic applications	U G C	45000	01-08-2022	12	01-08-2023
Subrata Pramanik	Characterizing the functional role of the novel dopaminergic transmembrane protein p20MANI (Myelin-Associated Neurite Inhibitor)	SERB	3249400	01-11-2022	24	01-11-2024

Kuntal Deka	Design of Various Algorithms for Terahertz Communication in 6G and Beyond	DST	429000	01-11-2022	24	01-11-2024
Debapratim Das	Fuel Triggered Temporal Control over Self-Assemblies to Develop Life-Like Systems	SERB	1830000	01-12-2022	36	01-12-2025
Sisir Kumar Nayak	Development of non-edible green vegetable oil as a potential liquid dielectric for power/distribution transformer from the renewable source.	SERB	6870461	02-01-2020	36	26-10-2023
Swaroop Nandan Bora	Transient Analysis of Hydrodynamic Coefficients Connected to Cylindrical Breakwaters	SERB	1005000	02-03-2022	36	02-03-2025
Natesan Srinivasan	Robust Computational Methods for 2D Singularly Perturbed Parabolic Differential Equations	SERB	1005000	02-03-2022	36	02-03-2025
Purandar Bhaduri	Games and Controller Synthesis	SERB	660000	02-03-2022	36	02-03-2025
Indrani Kar	Contraction Analysis and Resilient Control Design for Nonlinear Cyber-physical Systems under Denial-of-Service	SERB	660000	02-03-2022	36	02-03-2025
Senthilmurugan Subbiah	Design, fabrication, and installation of raw MSW to charcoal conversion system at NTPC Ramagundam township	NTPC Ramaguntam	74,79,000	02-03-2022	13	12-06-2023
Pratyooosh Kumar	Radial solution to the wave equation and spherical mean operator on symmetric spaces	SERB	660000	02-03-2022	36	02-03-2025

Krishna Pada Bhabak	Rational drug discovery and development of potent inhibitors of an epigenetic marker, BRD2: A potential therapeutic target for glioblastoma	ICMR	618000	02-03-2023	36	02-03-2026
Ramesh Kumar Sonkar	Design and fabrication of 2D photonic crystal devices for data center applications	SERB	4773516	02-03-2023	36	02-03-2026
Bhaba Kumar Sarma	Study of Truth Graphs: Applications in Logic gate and Cryptography	SERB	1830000	02-04-2023	36	02-04-2026
Shankar Prasad Kanaujia	In-silico, In-vitro and In-vivo evaluation of metabolites of curcumin as potential anti-inflammatory agents	SERB	1005000	02-04-2023	36	02-04-2026
Arup Kumar Sarma	Non-Conventional Bio-Engineering Measures to Mitigate River Bank Erosion by Applying EMP Concept for 500m length at Kordoiguri	Brahmaputra Board Ghy	1756320	02-05-2022	24	02-05-2024
Siddhartha Sankar Ghosh	Mechanistic investigation on EMT targeted nanotherapeutics for drug-resistant triple-negative breast cancer cells	DBT	14787600	02-05-2022	36	02-05-2025
HOC NANO	SWASTHA Smart Wearable Advanced nanoSensing Technologies in Healthcare ASICs	DEITY	153508000	02-05-2022	48	02-05-2026
Chandan Karfa	Formal Methods for Modeling and Verification of Intrusion Detection System in Wireless Networks.	DST	2674400	02-09-2019	36	30-09-2023

Debasis Manna	Cancer immunotherapy: Inhibition of Immunosuppressive Indoleamine 2,3-Dioxygenase 1 Enzyme Activity by targeting the Heme and Apo-form	CSIR	2666000	02-11-2021	36	02-11-2024
Vibin Ramakrishnan	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	CPRI	11164208	02-11-2021	24	02-11-2023
Dipankar Bandyopadhyay	Centre for Excellence in Disruptive Innovations and Product Development for Affordable Rural Healthcare	ICMR	150694315	02-12-2021	60	02-12-2026
Keyur Babulal Sorathia	Designing of Educational Metaverse as an extension of VR Zone	Govt. of Assam	10000000	02-12-2022	18	02-06-2024
Shubhadeep Mandal	Development of liquid crystal based microfluidic device for particle manipulation	SERB	3127080	03-02-2022	24	03-02-2024
Tharmalingam Punniyamurthy	Synthesis of Enantioriched Unsaturated Oxygen and Nitrogen Containing Heterocycles	CSIR	1400000	03-02-2022	36	03-02-2025
Bikash Bhattacharjya	A STUDY OF RANDIC MATRIX AND ABC MATRIX OF GRAPHS	SERB	1005000	03-02-2022	36	03-02-2025
Lalit Mohan Pandey	Bio-surfactant mediated enhanced oil recovery for Assam oil reservoirs	DBT	3640000	03-02-2022	36	03-02-2025

Deepak Sharma	An Advanced Predictive Maintenance Tool for Equipment and Machines Using Industry 4.0 Concepts	SERB	2739264	03-03-2021	36	03-03-2024
Sachin Kumar	Cancer immunotherapy initiative In India (DUCI3): Repurposing anti-COVID19 immunity for cancer immunotherapy	Dalhousie Medical Research Foundation	873000	03-08-2021	60	03-08-2026
John Jose	Security Enhancement Techniques for Multi-core Processors	SERB	1005000	04-01-2023	36	04-01-2026
Bhisma Kumar Patel	Radical Induced Visible-Light Mediated Nitrile Trigger Cascade Synthesis of Heterocyclic Scaffolds	SERB	5783492	04-01-2023	36	04-01-2026
Uttam Manna	Natural Ingredient based Reactive Coating for Controlled Customization of Robust Super-Wettability & Adhesion of Liquid and Air	SERB	6442782	04-01-2023	36	04-01-2026
Chandan Kumar	Development of smart transformer-based electric vehicle charging station with high PV penetration	SERB	2871264	04-01-2023	36	04-01-2026
Anil Kumar Saikia	Synthesis of nitrogen heterocyclic compounds from alkynes, nitriles and study of their biological activity	SERB	4873264	04-01-2023	36	04-01-2026
Tapas Kumar Mandal	Development of a cost-effective device for oxygen separation from air: a strategic technological solution to control the food spoilage	DST	1913801	04-07-2022	24	04-07-2024

Sumana Dutta	Dynamics and Control of Two and Three-dimensional Excitation Waves	SERB	7719154	05-02-2020	36	17-10-2023
Sachin Singh Gautam	Functionality Enhancement through Design and Development of Advanced Finite Element Algorithms for STRTOOLS	SERB	6610692	05-02-2020	36	16-06-2024
Chandan Das	Spring School 2023	...	412272	05-03-2023	48	05-03-2027
Sisir Kumar Nayak	Development of Wireless Power Transmission System (WPTS) for powering insect scale Micro Air Vehicle (MAV)	DRDO	992376	05-03-2023	6	05-09-2023
Indu Siva Ranjani Gandhi	Development and performance evaluation of Ready mix thermal insulation foam plasters for energy efficient structures	SERB	3619217	05-03-2023	36	05-03-2026
Latha Rangan	Exploration of Underutilized Amaranthus species for Sustainable "Livelihood, Nutritional Security and Climate Resilience of Western Himalayan Region	DBT	3900240	05-05-2022	36	05-05-2025
Mihir Kumar Purkait	JJM Chair Professor	Govt of India	68331600	05-05-2022	60	05-05-2027
Tharmalingam Punniyamurthy	Study of Metallaphotoredox Catalysis for Tandem C-H Functionalization and Annulation	SERB	5400000	05-12-2022	36	05-12-2025

Sanjukta Patra	STRATEGIC PLANNING FOR WATER RESOURCES AND IMPLEMENTATION OF NOVEL BIOTECHNICAL TREATMENT SOLUTIONS AND GOOD PRACTICE	DBT	14694560	06-08-2020	36	06-08-2023
Subashisa Dutta	CUMULATIVE IMPACT ASSESSMENT FOR CASCADING INTERVENTIONS IN HIMALAYAN RIVERS (CI2HR)	Ministry of Environment, Forest and Climate Change, GOI	24501040	06-10-2020	36	06-10-2023
Gaurav Trivedi	SMART CONTACTLESS TECHNOLOGY DEVELOPMENT FOR SMART FENCING	DST-DAAD	3241141	06-12-2020	36	06-12-2023
Sovan Chakraborty	Collective neutrino flavor conversion in astrophysics and cosmology	DST	660000	07-03-2022	36	07-03-2025
Shyamanta Moni Hazarika	Biomimetic Grasp Analysis in Multi-Fingered Robotic Hands as Bilinear Matrix Inequality Problems	SERB	660000	07-03-2022	36	07-03-2025
Chandan Pal	Risk-sensitive stochastic games for continuous-time stochastic processes.	SERB	660000	07-03-2022	36	07-03-2025
Vinay Vilas Wagh	Computing Multiplicities For Tensor Products On Special Linear Groups	SERB	660000	07-03-2022	36	07-03-2025
Arunansu Sil	Electroweak baryogenesis as a portal to neutrino and dark matter	SERB	660000	07-03-2022	36	07-03-2025

Bikash Bhattacharjya	State Transfer on Graphs of Groups, Rings and Partial Cartesian Products	SERB	660000	07-03-2022	36	07-03-2025
Dipankar Narayan Basu	Assessment of Stability, Accuracy and Convergence of An Immersed Boundary Lattice Boltzmann Solver for Moving Boundary Problems	SERB	660000	07-03-2022	36	07-03-2025
Bhupen Deka	Weak Galerkin Finite Element Method for Westervelt's Equation	SERB	660000	07-03-2022	36	07-03-2025
Shyam Prosad Biswas	Comprehensive Exploration of Water-Stable, Functionalized Metal-Organic Frameworks for Fluorometric Detection of Heavy Metal Ions	SERB	3960000	07-03-2022	36	07-03-2025
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	SERB	660000	07-07-2021	36	07-07-2024
Keyur Babulal Sorathia	Design of Educational Metaverse as an extension of Virtual Reality (VR) zone	Guwahati Planetarium Management Society	10000000	07-12-2022	18	07-06-2024
Anil Mukund Limaye	The non-canonical estrogen receptor repertoire in breast cancer: towards refined disease classification and therapeutic decision	ICMR	2460966	08-01-2021	36	08-01-2024

Animesh Das	Improving the substrate binding and catalytic reaction by electron-poor metal pincer complexes and reductively stable secondary-sphere hydrogen-bond donors	DST	4475211	08-02-2023	36	08-02-2026
Sayan Kumar Chakrabarti	`Ringing', `Echoes' and `Shadows': a study on different properties of astrophysical compact objects	SERB	660000	08-02-2023	36	08-02-2026
P. Muthukumar	Design and Development of Biogas Driven Hybrid Solar Dryer for North-Eastern Climate Condition	DBT	3541000	08-04-2021	36	08-04-2024
Ranjith Thangavel	Interface Engineered Sulfur Cathodes and Lithium Metal Anodes with Heterostructured Host for Safer Lithium-sulfur batteries	TATA STEEL, Jamshedpur	154216.63	08-04-2023	4	08-08-2023
Akhilesh Kumar Maurya	Impact and Suitability of Electric Vehicles to Indian Roads	DST	1796125	08-04-2023	36	08-04-2026
Sachin Kumar	Gene expression analysis of the citral	BORDOLOI BIOTECH INDIA PRIVATE LIMITED	200000	08-04-2023	24	08-04-2025
Mihir Kumar Purkait	Prototype development for catechins extraction and production of low cost antioxidants tablets and capsules	INAE	5700000	08-10-2020	36	08-10-2023

Pankaj Kalita	Development of a novel bio-composite thermal energy storage material and its applications in isothermal drying of agricultural products and passive cooling of building	ASTECC	655500	08-11-2021	36	08-11-2024
Anand Baskaran	Unravelling the Regulatory Mechanism that Connects Ribosome Biogenesis and Stringent Response with Bacterial Cell Growth	Ignite Life Science Foundation	4180022	08-11-2021	18	31-07-2023
Debanga Raj Neog	Development of an Artificial Intelligence(AI) Model to Measure and Analyse the Tissue Movements in the Eye Region for Healthcare Applications.	SERB	1981470	09-01-2023	24	09-01-2025
Perumal Alagarsamy	Development of Sm5Fe17 based composite magnets with ultrahigh coercivity for green energy generation applications	DRDO	3026600	09-01-2023	36	09-01-2026
Gagan Kumar	Metamaterials based Compact Broadband Tunable Modulator for Terahertz Photonics	DEITY	7339640	09-03-2021	36	09-03-2024
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	DBT	9023200	09-03-2021	36	09-03-2024
Sovan Chakraborty	Neutrino Astrophysics with next generation Water Cherenkov Detectors	SERB	3090494	09-05-2022	36	09-05-2025

Kalyan Raidongia	Extraction of Electrical Energy from Hydrological Cycle through Two-dimensional Nanofluidic Channels	SERB	1005000	09-05-2022	36	09-05-2025
Rohit Sinha	Speech Technologies for North Eastern Languages	DEITY	10576080	09-05-2022	36	09-05-2025
Siddhartha Singha	Development of a pilot plant for production of high value, flaked/powder and stabilized liquid or infusion type products from wide variety of plants with exotic flavour aroma, bioactivity or functionality from indigenous plants of Hailakandi district	DST	6464040	09-06-2022	24	09-06-2024
Keyur Babulal Sorathia	Designing incentives to improve tuberculosis treatment adherence in resource constrained settings	NUS-Global Asia Institute NIHA Research Grant 2018	12255000	09-09-2020	24	31-12-2023
Kusum Kumari Singh	To capture and investigate physiologically relevant interactome in UPF3B knockout cells mimicking mental retardation (MR) patient's condition.	ICMR	4343788	09-09-2021	36	09-09-2024
Resmi Suresh M.P	Online Health Monitoring and Point-of-use Testing for Batteries Using Chirp Signals	SERB	3828260	10-01-2022	36	10-01-2025

Poonam Kumari	Fabrication, characterization and experimental investigation of functionally graded piezo-electric components.	SERB	4870800	10-01-2022	36	10-01-2025
Krishna Pada Bhabak	Bio-analyte-triggered Turn-on Fluorogenic Processes with the Adjuvant Delivery of Specific Enzyme Inhibitors and Gasotransmitters for the Treatment of Cancer	SERB	5640000	10-02-2023	36	10-02-2026
Nitin Chaudhary	Targeting osteoblast associated NCAM1 for chemosensitization of acute myeloid leukemia cells in the endosteal niche	ICMR	761000	10-02-2023	36	10-02-2026
Lingaraj Sahoo	Development of diagnostic Kits for quick detection of CTV, HLB and Phytophthora rot diseases in Citrus of North East India	DBT	6135440	10-03-2021	36	10-03-2024
Manmohan Pandey	Experimental Investigations on Flow Boiling Instabilities in Mini- and Microchannels	SERB	7443260	10-05-2021	36	10-05-2024
Mahima Arrawatia	Design of IoT Trans-receiver integrated with compact MIMO/Diversity antenna scheme	DST	2592000	10-06-2019	36	30-09-2023
Tamal Banerjee	Sustainable, Biodegradable and Affordable Substitutes for 'Single use Plastic' using Castor Oil and Stubble Aggregate	DST	3091737	10-08-2021	36	10-08-2024

Uttam Manna	Development of sustainable agriculture practices for biotic and abiotic stress management in conventional and organic tea plantations	DBT	5450240	11-04-2022	36	11-04-2025
N. Selvaraju	Analysis of Nonstationary Queues	SERB	660000	11-04-2022	36	11-04-2025
Dipankar Bandyopadhyay	Indian Nanoelectronics Users Programme - Idea to Innovation (INUP-i2i)	DEITY	92300000	11-10-2021	36	11-10-2024
Sumit Kumar	Experimental and Numerical Investigation for Miscible Carbon Dioxide-Enhanced Oil Recovery (CO ₂ -EOR) and Simultaneous Geo-Sequestration in North-East India	SERB	3236200	11-10-2022	24	11-10-2024
Bhisma Kumar Patel	Functionalization of sulfoximines and related compounds based on nitrogen-centred radical chemistry.	SERB	1830000	11-12-2020	36	11-12-2023
Arun Goyal	Lignocellulosic biomass utilization for lactic acid and bioethanol production	DBT	3710240	11-12-2020	36	11-12-2023
Arun Chattopadhyay	Assembly of Nanoscale Particles for Theranostic and Energy Applications Sanction order no JCB/2019/000039	SERB	9500000	12-03-2020	60	12-03-2025

Anupam Saikia	A Study of Selmer Groups of Elliptic Curves and Their Applications	SERB	660000	12-03-2021	36	12-03-2024
Roy Paily Palathinkal	Powering the Ultra-Low-Power Wireless System/IoT Node by Scavenging Multi-Band Radio Frequency (RF) Energy	SERB	1937760	12-04-2021	36	12-04-2024
Arunasis Chakraborty	Combined Synchrosqueezing and HMC based Bayesian Updating for Condition Assessment of Reinforced Concrete Road Bridge	SERB	3201520	12-04-2021	36	12-04-2024
Ramesh Kumar Sonkar	Fabrication and demonstration of a state-of-the-art C-band optical modulator in silicon photonics platform for 400G networks	SERB	3927264	12-04-2021	36	12-04-2024
Sashindra Kumar Kakoty	Empowering women through Appropriate technology intervention in weaving sector for Productivity enhancement and drudgery reduction of artisans	DSIR	3729756	12-11-2021	24	12-11-2023
Kuntal Deka	Phase Optimization and Performance Analysis of Intelligent Reflecting Surface Assisted Wireless Communication Systems over Generalized Fading Channels	SERB	660000	13-01-2023	36	13-01-2026

Krishna Pada Bhabak	Stimuli-responsive Prodrugs for the Turn-On Fluorogenic and Targeted Delivery of Anti-Inflammatory and Anti-Cancer Drugs with Hydrogen Sulfide (H ₂ S)	SERB	3487264	13-01-2023	36	13-01-2026
Subhas Chandra Pan	Catalytic Asymmetric Intramolecular Allylic Substitution Reactions	SERB	4189928	13-01-2023	36	13-01-2026
Senthilmurugan Subbiah	Process development for tea Aroma recovery and concentration	EKATERRA RESEARCH AND DEVELOPMENT INDIA PRIVATE LIMITED	3683600	13-01-2023	24	13-01-2025
Arijit Sur	Design of a framework to resist image-based adversarial attacks on deep learning models	DST	2928821	13-04-2021	36	13-04-2024
Sanasam Ranbir Singh	Unified platform for Social Media Content Analytics	DEITY	17650000	13-10-2021	36	13-10-2024
Udaya Kumar Dharmalingam	M. Des Programme / Executive Development Programme in Electronics Product Design	MIETY	180211000	13-10-2021	60	13-10-2026
Arun Goyal	DBT PAN IIT Center for Bioenergy: Phase II	DBT	21932720	13-12-2021	60	13-12-2026

Salil Kashyap	Intelligent Reflecting Surface Enabled Simultaneous Wireless Energy and Information Transfer in Next Generation IoT Networks: System Design, Optimization and Performance Analysis	SERB	2376180	14-02-2022	36	14-02-2025
Tapan Krishnakumar Mankodi	Development of hybrid higher-order continuum-rarefied computational framework for space propulsion applications	SERB	969370	14-02-2022	24	14-02-2024
Kuntal Deka	AI/ML for Beamforming in 6G	Opetushallitus Utbildningsstyrelsen	1008000	14-02-2022	24	14-02-2024
Anugrah Singh	Design and development of a microfluidic device for particle fractionation from concentrated suspensions	SERB	3463000	14-02-2022	36	14-02-2025
Amaresh Dalal	Experimental and Numerical Appraisal of Heat Transfer Enhancement and Deterioration in Double-cooled Supercritical Forced-flow Channels	SERB	6842264	14-02-2022	36	14-02-2025
Satyajit Panda	Development of a viscoelastic quasi-zero-stiffness mechanism using graphite particles/graphene filled rubber composites for low-frequency vibration isolation	SERB	2326764	14-02-2022	36	14-02-2025

Mahuya De	Development of low cost sustainable and efficient electro-catalyst and proton exchange membrane for electrolyser assembly for producing Green Hydrogen	OTHER	5559400	14-02-2023	36	14-02-2026
John Jose	Enhancing Security Features of On-chip Networks in Modern Multicore Processors	SERB	5071924	14-03-2022	36	14-03-2025
Senthilvelan Selvaraj	DEVELOPMENT OF LOW-COST PORTABLE DEVICE FOR PUDAM/PUTA-Traditional Medicine Manufacturing	DST	3433760	14-03-2022	36	14-03-2025
Arun B. Alosious	Study of quantum noise control techniques using Low Density Parity Check codes	DST	1949920	14-11-2022	24	14-11-2024
Sreenath J. G	Edge Computing Enabled Active Distribution Network Monitoring Considering Cyber-Threats	SERB	780520	14-11-2022	24	14-11-2024
Manoj B R	Secure and Reliable Techniques for Deep Learning-based 5G and Beyond Wireless Systems	SERB	3071640	14-11-2022	24	14-11-2024
Sayantana Chakraborty	Understanding the anatomy of an aseismically creeping fault?A case study from the Churachandpur-Mao fault in the Indo-Burma Wedge	SERB	3300000	14-11-2022	24	14-11-2024

Selvaraju Narayanasamy	Water Filtration, Advanced-oxidation and Capacitive-deionisation Treatments for Removal of Emerging Contaminants in Water. Acronym: (Water-FACTs)	DST	4304164	14-12-2020	24	08-06-2023
Pranab Kumar Mondal	Variational Calculus Method for Solving Microflows in a Rotating Platform	DST	660000	15-01-2021	36	15-01-2024
Pankaj Kalita	Development of a novel dual fluidized bed gasification technology package for effective utilization of biomass and NE coal for efficient energy harvesting.	SERB	5131240	15-02-2022	36	15-02-2025
Mihir Kumar Purkait	Centre for Technological Excellence in Water Purification (CTEWP)	DST	9993000	15-03-2019	60	15-03-2024
P. Muthukumar	DST-Energy Storage Platform on Hydrogen	DST	16594920	15-05-2019	60	15-05-2024
Chandan Karfa	Security Analysis of Compiler Optimization Techniques	SERB	2211264	15-06-2020	36	23-09-2023
Shyamanta Moni Hazarika	Motor Imagery BCI for Neuroprostheses and Robotic Neurorehabilitation	IIT Delhi	2815000	15-11-2021	36	15-11-2024
Tharmalingam Punniyamurthy	Study of Site-Selective Functionalization of C(Sp3)-H Bonds Using Transition-Metal-Catalysis	SERB	2978916	16-01-2023	36	16-01-2026
Rupam Barman	Distribution of certain partition functions	SERB	2730882	16-03-2022	36	16-03-2025

Biman Behari Mandal	3D printed patient specific meniscus implants with autologous biological cues for total and partial meniscus regeneration	SERB	4917264	16-03-2022	36	16-03-2025
Sarvendranath Rimalapudi	Machine Learning Techniques to Address the Pilot Transmission Overhead in an Intelligent Reflecting Surface Aided Antenna Selection System	DST	3500000	16-03-2023	60	16-03-2028
Anjan Kumar Siddagangaiah	Material Resource Mapping for Sustainable PMGSY Road Network	NRRDA	3380000	16-03-2023	18	16-09-2024
Rishikesh Bharti	ROAD SURFACE QUALITY ASSESSMENT OF SELECTED BORDER ROADS SECTIONS OF INDIA THROUGH ADVANCED REMOTE SENSING TECHNIQUE	DTRL	5902028	16-04-2021	36	16-04-2024
Atanu Banerjee	Design and Development of Smart Morphing Wing based on Shape Memory Alloy Actuators	SERB	4092264	16-04-2021	36	16-04-2024
Sougata Karmakar	Research and Development Program for Promotion of Handloom in North-Eastern Region (Assam)	North East Council	1353072	16-08-2022	36	16-08-2025
Parameswar K Iyer	Design and synthesis of new light harvesting chromophores and studying their photophysical properties	SERB	3036000	16-10-2020	36	16-10-2023

Sudip Mitra	Circular Economy Solution for Microplastics: Indo-Finnish Scientific Collaboration	Finland	89250	16-11-2022	12	16-11-2023
Kaustubha Mohanty	Development of advanced biofuels and bio lubricants from high lipid producing microalgal strain through HTL and Co-HTL process	GSBTM	3899586	16-11-2022	36	16-11-2025
Mohammad Qureshi	Combinatorial approach for enhancing surface oxidation and reduction kinetics for value added products from renewable sources	DST	3637788	16-12-2020	36	16-12-2023
Dipankar Srimani	Applicability of Group-7 Transition Metals (Mn and Re) for the Utilization of Carbon Dioxide in Organic Synthesis	SERB	2101000	17-01-2022	36	17-01-2025
Bishnupada Mandal	Development of Novel Ternary Composite Membrane with High Selectivity for Direct Methanol Fuel Cell Applications	SERB	7432260	17-01-2022	36	17-01-2025
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	DST/GITA	3557580	17-01-2022	36	17-01-2025

Manish Kumar	Insights to the proteolytic processing and regulation of Clp protease in <i>Leptospira</i> by its ATPase chaperone and adaptor proteins	DBT	6595240	17-01-2022	36	17-01-2025
Chandan Mukherjee	Utilization of CO ₂ by Electrocatalytic Conversion to Value-Added Products	SERB	2222000	17-01-2022	36	17-01-2025
Shyam Prosad Biswas	Systematic Investigation of Oil/Water Separation Performances of a Family of Superhydrophobic Metal-Organic Framework (MOF) Based Composites	SERB	3520264	17-01-2022	36	17-01-2025
Santabrata Das	Probing the effect of strong gravity around the black hole X-ray binaries through AstroSat observations	ISRO	1808480	17-02-2021	24	31-03-2024
Vibin Ramakrishnan	Study on the bioactive compounds of five ethno-medicinal plants of Assam	SERB	335000	17-02-2021	36	17-02-2024
Kusum Kumari Singh	Understanding the regulations of RNPS1 by miRNAs and RNA-Binding Proteins under ER stress	DBT	4866956	17-03-2021	36	17-03-2024
Sajan Kapil	Design and Development of a Bulk Material Handling Device for Metering, Mixing, and Delivery of Powder Feedstock	DST	5275240	17-03-2021	36	17-03-2024
Biranchi Narayan Panda	Design and development of an intelligent extrusion device for 3D printing of concrete structures	DST	4344222	17-03-2021	36	17-03-2024

Kaustubha Mohanty	Catalytic Hydrodeoxygenation of pyrolytic-oil produced from copyrolysis of agricultural residue and plastic waste	DST	6866337	17-09-2021	36	17-09-2024
Abhijit Kakati	DEVELOPMENT OF HIGH MOLECULAR WEIGHT AQUEOUS VISCOELASTIC POLYMER COMPOSITES FOR ENHANCED OIL RECOVERY FROM MATURED INDIAN RESERVOIR	SERB	3270900	17-10-2022	24	17-10-2024
Shyamanta Moni Hazarika	Intelligent Wearable Hand Exoskeleton for Robotic Neurorehabilitation	INAE	5700000	17-10-2022	36	17-10-2025
Keyur Babulal Sorathia	Designing of Educational Metaverse as an extension of VR Zone	Govt. of Assam	10000000	17-10-2022	18	17-04-2024
Rinku Kumar Mittal	Low-Cost Scalable Manufacturing of High-Aspect Ratio Microneedles for Minimally Invasive Transdermal Drug Delivery Applications	SERB	3304240	17-11-2022	24	17-11-2024
Vijayanand S. Moholkar	BIOCATALYTIC DESULPHURIZATION OF CRUDE OIL BY HIGH PERFORMING GENETICALLY ENGINEERED MICROORGANISMS	CSIR	1800000	18-01-2021	36	18-01-2024
Rishikesh Bharti	RISK ASSESSMENT OF FLOATING DEBRIS DOMINATED FLASH FLOODS IN TRANS-BOUNDARY UPPER HIMALAYAN CATCHMENTS	DTRL	13495020	18-09-2019	36	26-06-2023

Debapratim Das	Localized Therapeutic Delivery Systems Based on Water Insoluble Thixotropic Hydrogels of Small Peptides for Breast Cancer Treatment	SERB	5236000	18-12-2020	36	18-12-2023
Debasish Borah	Cogenesis of Baryon Asymmetry and Dark Matter from Inflaton	SERB	660000	19-01-2023	36	19-01-2026
Akshai Kumar Alape Seetharam	Waste to Value-Added Chemicals: An One-Pot One-Step Strategy for the Pincer-Ruthenium and Pincer-Iron Catalyzed Transformation of Glycerol Selectively to Lactic Acid Along with a Tandem Conversion of Carbon Dioxide to Formic Acid	SERB	5016264	19-01-2023	36	19-01-2026
Abu Taleb Khan	Synthesis of New Heterocyclic Entities and Their Applications in Biological and Material Science	DST	2387000	19-01-2023	36	19-01-2026
Udit Raha	Matter Radii of Efimovian D _{0nn} System Using Faddeev Equations	SERB	660000	19-01-2023	36	19-01-2026
Gaurav Trivedi	AI enabled advanced aquaponics ecosystem for the self-reliance of SC community in central and lower Assam	DST	26847040	19-04-2021	36	19-04-2024
Siddhartha Singha	"Development of pigmented rice based antioxidant-rich traditional and innovative food products as adaptogens for reducing oxidative stress".	DRDO	13764000	19-09-2022	36	19-09-2025

Lingaraj Sahoo	Establishing Efficient Platform for Genetic Engineering and Precise Genome Editing in Tea	DBT	3619840	19-09-2022	36	19-09-2025
Rajkumar Parshottambhai Thummer	Investigating the role of UTF1 in the generation of human induced pluripotent stem cells	DST	5233905	20-01-2022	36	20-01-2025
Chayan Bhawal	On feedback controllers for LQR control of multi-input index-1 DAE systems	SERB	682000	20-01-2022	24	20-01-2024
Senthilkumar Sivaprakasam	Process Analytical Technology (PAT) control tools for high cell density cultivation of glycoengineered Pichia pastoris for Human Interferon Alpha 2b production	SERB	4301264	20-02-2020	36	03-08-2023
Nageswara Rao Peela	Sugars Conversion to Bio-based Monomeric molecules	SERB	4020000	20-02-2023	36	20-02-2026
Sanjib Ganguly	Development of Digital Twin for PEM fuel cell-battery hybrid energy system for vehicular applications	SERB	2866900	20-02-2023	36	20-02-2026
Prabu Vairakannu	ULTRASONIC WASHING FOR DESULFURIZATION OF COAL	Central Mine Planning & Design Institute Limited (CMPDI)	19735000	20-03-2023	24	20-03-2025
Mahuya De	Development of low cost transition metal based catalysts for electro-oxidation of poly-alcohols for application in Fuel Cells	DST	5538764	20-04-2021	36	20-04-2024

Siddhartha Sankar Ghosh	Development of nano-ensemble kit for the detection of clinically Relevant serum biomarkers.	DBT	8663280	20-04-2021	36	20-04-2024
Ravindranath Adda	Design and Development of Next Generation Cost Effective Reconfigurable On-Board Battery Charger with Health and Fault Monitoring	DEITY	6887344	20-06-2022	24	20-06-2024
Shirisha Nagotu	Inter-organelle communications: deciphering their physiological relevance in Parkinson's disease model	SERB	4878764	20-10-2022	36	20-10-2025
Satyajit Pramanik	Mathematical modelling of flow and transport in porous media: A homogenization approach	SERB	1709400	20-10-2022	24	20-10-2024
Souptick Chanda	Development of the Microwave-Photonic Hybrid Wearable Sensor for in vivo Monitoring of Hip Stem Micromovements	SERB	2035240	21-01-2023	36	21-01-2026
Anamika Barua	Water transformation pathways planning, trans-path-planning.	IHE Delft	23398445	21-01-2023	60	21-01-2028
Utpal Bora	Technology development of vinegar production from indigenous fruits Leteku (Baccaurea motleyana), Kordoi (Averrhoa carambola), Poniyal (Flacourtia jangomas) of Assam	ASTEC	616000	21-02-2022	24	21-02-2024
Pranab Goswami	Development of Low Cost and Portable Field Deployable Methanol and Malaria Sensing Kits	DBT	100.74	21-04-2021	36	21-04-2024

Cota Navin Gupta	Cognitive Interfaces for Software Engineering with Multimodal Brain Imaging	DST	4171719	21-06-2021	36	21-06-2024
Sajal Kanti Deb	Experimental study on cyclic horizontal force-displacement characteristics of prototype U-FREIs with and without rotation	APWD	2833600	21-07-2019	36	22-07-2025
Amaresh Dalal	National Centre of Clean Coal Research and Development	DST	3370000	21-09-2018	60	21-09-2023
Vimal Katiyar	NRL-Centre of Excellence on Sustainable Materials [NRL-COE-SUSMAT] for Development of Biodegradable Plastics from Oil and Bio-Refinery Streams	Numaligarh Refinery, PSU	40000000	21-10-2019	24	31-07-2023
Selvaraju Narayanasamy	Development of an Integrated Water Treatment and fuel Production System using Ceramic Membranes and Microchannel Reactors.	DST	6891752	21-10-2020	36	21-10-2023
Arghyadip Roy	Internet-of-Things Network Scheduling in a Reinforcement Learning-aided Mobile Edge Computing System	SERB	1948470	21-11-2022	24	21-11-2024
Subhamay Saha	Stochastic Games for Continuous-time Stochastic Processes	SERB	660000	22-01-2021	36	22-01-2024
Bibhas Ranjan Majhi	Connecting Navier-Stokes equation with dynamical equations in gravity: a new perspective	SERB	2126894	22-01-2021	36	22-01-2024

Santabrata Das	Study of ejection mechanism from magnetized accretion disk around rotating black holes	SERB	660000	22-01-2021	36	22-01-2024
Manish Kumar	Role of Trigger factor in caseinolytic protease system of <i>Leptospira</i>	DST	5624605	22-01-2021	36	22-01-2024
Gagan Kumar	Dynamically tunable resonances in terahertz metamaterials using 2-D materials.	SERB	7436000	22-01-2021	36	22-01-2024
Pankaj Kalita	Studies on efficacy of upgradation and utilization of north eastern coal and biomass for gasification in a plant prototype and its scale up	Ministry of Power	6594000	22-02-2023	24	22-02-2025
Perumal Alagarsamy	Mechanochemical synthesis of high entropy oxides with tunable entropies for energy harvesting using hybrid nanogenerators	SERB	3542000	22-02-2023	36	22-02-2026
Udit Raha	Precision determination of lepton-proton chiral - radiative corrections in Effective Field Theory	SERB	2388449	22-02-2023	36	22-02-2026
Harsh Chaturvedi	Fall Risk warning system for Elderly by gait analysis using wearable insole-based pressure sensors and integrated IOT	DST	6417410	22-03-2022	24	22-03-2024
Shubhadeep Mandal	Collective dynamics of self-propelled droplets in complex microfluidic environments	SERB	4022355	22-03-2022	36	22-03-2025
Chivukula Vasudeva Sastri	Synthesis and Characterization of novel Dinuclear Metal Complexes for peroxidic epoxidation	SERB	1830000	22-03-2022	36	22-03-2025

Rajesh Kumar Srivastava	Generalization of Cartwright's Theorem	SERB	660000	22-03-2022	36	22-03-2025
Shankar Prasad Kanaujia	Structural and functional studies of a putative membrane protein complex of Mycobacterium tuberculosis involved in invasion and cholesterol transport	SERB	4895264	22-03-2022	36	22-03-2025
Siddhartha Sankar Ghosh	Translational Programme for Developing Diagnostics and Nano-based Sensors (Main Project in continuation of the DBT program Support-II)	DBT	28217320	22-04-2021	36	22-04-2024
Gaurav Trivedi	AI enabled advanced aquaponics ecosystem for the self-reliance of SC community in central and lower Assam	DST	26847040	22-04-2021	36	22-04-2024
Sajan Kapil	Multi-Axis Multi-Material Wire Arc Additive Manufacturing	DST	13252270	22-04-2022	36	22-04-2025
Bipul Bhuyan	Indian Institutions-Fermi Lab Collaboration in Neutrino Physics.	DST	16054000	22-05-2019	60	22-05-2024
Chandan Mahanta	Study of Glacial Dynamics and Sustainable Hydrological Resources in Arunachal Himalaya	DST	26923690	22-05-2020	36	22-05-2023
Vimal Katiyar	Creation of DSIR-Common Research and technology Development Hub (CRTDH)	DSIR	50000000	22-07-2022	60	22-07-2027
Sushanta Karmakar	Game Theory based Intrusion Detection System (IDS) for Cyber Physical System.	DST	30.601	22-08-2019	36	30-09-2023

Dipankar Bandyopadhyay	DNA Aptasensor-Nanomaterial based product development and commercialization for application in Diagnostics and Environment Monitoring	DBT	2988038	22-08-2022	12	22-08-2023
Subramani Kanagaraj	School of Innovations in Biomedical Devices and Systems and Inter-institutional Biodesign Center (SIBDS-IIBC)	DBT	30000000	22-08-2022	36	22-08-2025
Shankar Prasad Kanaujia	Elucidating structural aspects of antimicrobial peptide transporter in Escherichia coli: a study for structure-based drug designing	DBT	7095240	22-08-2022	36	22-08-2025
Biman Behari Mandal	Bioengineered skin equivalent for treatment of burn injuries	DBT	1700000	22-09-2021	36	22-09-2024
Ravindranath Adda	Design, Development, and Demonstration of Solar-PV integrated On-board and Off-board Electric-Rickshaw Charging Infrastructure	DST	6773970	22-09-2021	36	22-09-2024
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	DST	9352886	22-10-2021	36	22-10-2024
Chivukula Vasudeva Sastri	Chemical and Structural Intricacies in the Formation, Stability and Reactivity of Metal-Oxygen Adducts in Non-Heme Synthetic Scaffolds	SERB	4782230	23-01-2020	36	12-06-2023

Kalyan Raidongia	Fabrication of Electrical Actuators with Special Wettability Surfaces for Efficient Handling of Micro/Nano Droplets	SERB	2772000	23-01-2021	36	23-01-2024
Tadikonda Venkata Bharat	Attenuation Ability of Municipal Solid Waste Landfill Liners for Viral Pathogens	SERB	4800000	23-02-2022	36	23-02-2025
Shyamanta Moni Hazarika	Electroencephalographic Characterization of Post-Stroke Motor Imagery Induced Mental Fatigue for Adaptive Neurorehabilitation	DST	4774600	23-06-2020	36	23-06-2023
Kanhaiya Pandey	Towards scalable quantum computer using Yb atoms in an optical lattice	DST	29082000	23-06-2020	36	23-06-2023
Rajaram Swaminathan	Investigating Enzymatic reactions in Crowded Physiological spaces AND Structural changes in SARS-Cov-2 S protein in response to Drug	DST	1500000	23-06-2021	24	23-06-2023
Hanumant Singh Shekhawat	Centre for depression diagnosis and medication adherence	DBT	10522600	23-08-2021	36	23-08-2024
Lalit Mohan Pandey	Shastri Covid-19 Pandemic Response Grant (SCPRG): Call for Innovative Solutions	CPRI	841930	23-11-2021	12	31-05-2023
Amaresh Dalal	Hybrid cooling system design for Li-ion battery pack systems	SERB	660000	24-01-2023	36	24-01-2026
Sumit Kumar	Machine learning augmented minimum miscibility pressure (MMP) prediction for CO2-EOR	IIT Guwahati	500000	24-02-2022	24	24-02-2024

Manas Khatua	AI and IoT based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters	CPRI	1777732	24-02-2022	12	30-09-2023
Lalit Mohan Pandey	Development of Fe and Zn co-doped Hydroxyapatite for the Treatment of Osteomyelitis	DST	4625240	24-02-2022	36	24-02-2025
	Development of signal and channel models, circuits, and antennas for next generation Wireless systems with emphasis on vehicular communication	MIETY	47496000	24-03-2021	36	24-03-2024
P. Muthukumar	Metal hydride materials and systems for the increase of efficiency in renewable and hydrogen energy	DST	3516400	24-04-2019	36	30-09-2023
Satyajit Pramanik	Modeling and simulation of premelting dynamics with impurities	SERB	660000	25-01-2023	36	25-01-2026
Tadikonda Venkata Bharat	Towards Reinstatement of Ancient Soil Classification System	AICTE	1727200	25-01-2023	24	25-01-2025
Sachin Kumar	RECOMBINANT NEWCASTLE DISEASE VIRUS BASED BREAST CANCER THERAPY: A NOVEL ONCOLYTIC VIRAL APPROACH	BBCI	300000	25-05-2021	36	25-05-2024
Ankush Bag	Collaborative Research for Accelerated Development of Materials & devices for Energy harvesting and conservation Technologies	DST-DAAD	8586383	25-05-2022	36	25-05-2025

Subhash Thota	Temperature dependent Micro-Raman Spectroscopy of MnTa ₂ O ₆ and Mn ₄ Nb ₂ O ₉ systems.	DAE	45000	25-05-2022	12	25-05-2023
Siddhartha Singha	Technology Development & Innovation Engineering for Value Chain Development for Citrus Fruits of North East Region	DBT	4250240	26-02-2021	36	26-02-2024
Chandan Mahanta	Study of Glacial Dynamics and Sustainable Hydrological Resources in Arunachal Himalaya	DST	26923690	26-02-2021	36	26-02-2024
Tharmalingam Punniamurthy	Tandem Ring-Opening Cyclization/Cycloaddition of Small Ring Heterocycles with Nucleophiles for the Assembly of Medicinally Important Heterocycles	SERB	335000	26-02-2021	36	26-02-2024
Poulose Poulose	Teachers Associateship for Research Excellence (TARE)	SERB	1005000	26-02-2021	36	26-02-2024
Biplab Mondal	Synthesis of Cobalt -Nitrosyl Complexes having {Co(NO)} ₉ Configuration as a Source of Nitroxyl/HNO	SERB	4356000	27-01-2021	36	27-01-2024
Satyajit Panda	Development of a reduced-basis numerical continuation method	SERB	660000	27-01-2021	36	27-01-2024
Debaprasad Maity	Reheating the universe:Decoding the observational signatures	SERB	1017491	27-01-2021	36	27-01-2024

Rinku Kumar Mittal	Development of a Higher Order Nonlinear MDOF Stability Model for a 5-Axis High-Speed Micromilling of Difficult-to-Cut Materials	DST	3316102	27-01-2022	48	27-01-2026
Uday Narayan Maiti	Development of high-performance supercapacitors in 'water-in-salt' electrolytes with current pulse induced electro-physical modification of metal-organic-frameworks	SERB	3416468	27-03-2023	36	27-03-2026
Dipankar Srimani	Synthesis of mesoporous transition metal doped g-C ₃ N ₄ and Photocatalytic phosphinylation of alkenes and synthesis of biologically relevant heterocycles	SERB	1830000	27-03-2023	36	27-03-2026
Prasenjit Khanikar	Design and development of a bio-inspired hip protector for elderly people made of shear thickening fluid filled 3D-printed metamaterial	SERB	4526764	27-03-2023	36	27-03-2026
Bhisma Kumar Patel	Photoactive Electron Donor-Acceptor (EDA) Complex as Photochemical Synthetic Tools	SERB	6525270	27-03-2023	36	27-03-2026
Sukanya Sharma	Annotated Atlas of the Heritage Sites of Assam: Using GIS	State Innovation and Transformation Aayog (SITA)	4000000	27-03-2023	36	27-03-2026

Anamika Barua	3rd meeting of the reconstituted expert committee (EC) under CCP Division	DST	463644	27-03-2023	12	27-03-2024
Subramani Kanagaraj	Origami-inspired metamaterial composite orthotic insole for foot disorders	TATA STEEL, Jamshedpur	120000	27-04-2021	2	20-09-2023
Praveen Kumar	Design, prototype, testing and control of 30kW high power density motors for EV application.	MEITY	4327000	27-04-2023	24	27-04-2025
Vasundhara Jairath	Political Economy of Land and Development in Assam	ICSSR	600000	27-05-2022	24	27-05-2024
Anil Mukund Limaye	Analysis of genome-wide restoration of estrogen regulated gene expression network post epigenetic reactivation of ERalpha in ER-negative breast cancer cells	ICMR	2468465	27-08-2021	36	27-08-2024
Abhishek Kumar	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	Ministry of Earth Sciences	6236440	27-08-2021	36	27-08-2024
Sanjukta Patra	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	DBT	6841000	27-09-2019	36	03-09-2023

Krishna Pada Bhabak	Enhancement of the Chemotherapeutic Potential of Anticancer Drugs: Biothiol-stimulated Fluorogenic Strategies for Adjuvant Delivery of Anticancer drug and GSTP1 inhibitor	ICMR	1046500	27-09-2021	24	27-09-2023
Ranjith Thangavel	Developing Next-generation High Energy Density Sodium Metal Batteries using Dendrite Free and Safer Sodium Metal Anode	SERB	3080000	27-09-2022	24	27-09-2024
Ashwini Sawant	Generation of non-diverging circular airy orbital angular momentum beams for next generation wireless communication technology.	SERB	2997300	27-10-2022	24	27-10-2024
Raghvendra Gupta	Understanding multiphase flow in curved tubular reactors in the presence of diffusion and reaction	SERB	3406926	27-10-2022	36	27-10-2025
Manish Bhatt	Advanced imaging methods for fatty liver diagnosis with ultrasound elastography	SERB	2002000	27-10-2022	24	27-10-2024
Abhijit Kakati	Study on the role of viscoelastic behaviour of aqueous polymer solution in pore level microscopic displacement of crude oil from reservoir rocks	IIT Guwhati	500000	27-12-2021	12	25-11-2024
Debasis Manna	Ion Therapy: Synthesis and Optimization of Small molecule-based Selective Anionophores for Next-Generation Anticancer Agents	SERB	4694151	27-12-2021	36	27-12-2024

Uday Narayan Maiti	Development of porous, ordered, monolithic MXene based sodium ion hybrid capacitors	BRNS	2834126	27-12-2022	36	27-12-2025
Kaustubha Mohanty	Voltammetric And Conceptual DensityFunctional Studies On Electrocatalysis OfSurfactants At The Graphene Screen-PrintedGraphene Electrode For Detection Of PersistentOrganic Pollutants	SERB	335000	27-12-2022	36	27-12-2025
Meduri Chakravartula Kumar	Precision studies for processes at present and future collider experiments	DST	3016992	28-03-2022	36	28-03-2025
Arunansu Sil	Investigating the post-inflationary era with axions and ALPs	SERB	2396427	28-03-2022	36	28-03-2025
Sharad Bhaurao Gokhale	Health Impacts of Exposure to Particulate Pollution from High-sulfur Coal Mines located in Assam of Northeast India	SERB	5032500	28-03-2022	36	28-03-2025
Pravat Kumar Giri	Development of high performance flexible photodetector array through plasmonic hot-carrier engineering in two-dimensional perovskites	DST	4400301	28-03-2022	36	28-03-2025
Swarup Bag	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	SERB	4961260	28-03-2022	36	28-03-2025

Senthilmurugan Subbiah	Study on the effect of H2 blending in Natural Gas	OIL India Ltd	12839223	28-03-2022	13	07-10-2023
Rajkumar Parshottambhai Thummer	A novel safe strategy to generate integration-free human induced pluripotent stem cells using Newcastle Disease Virus as a gene delivery vector	DBT	5950240	28-03-2023	36	28-03-2026
Vimal Katiyar	Survey and Studies on Remediation of Microplastics on shorelines of Brahmaputra River	...	7740000	28-04-2023	24	28-04-2025
Vimal Katiyar	Development of Biodegradable Polymer based Controlled Release Fertilizers and Pesticides for Sustainable Agro-economy ?BioPolyCRF?	DBT	5172996	28-09-2018	36	31-07-2023
Utpal Bora	Development of animal feed products from Eri Silkworm	DRDO	3307208	28-09-2022	36	28-09-2025
Parameswar K Iyer	Affordable Renewable Energy Materials and Devices	DST	7562390	28-11-2022	36	28-11-2025
Sisir Kumar Nayak	Nanofilled natural ester impregnated surface modified pressboards for suppressing partial discharges in transformers.	SERB	5073024	29-03-2022	36	29-03-2025
Ravindranath Adda	DC side low-frequency ripple reduction in SBI and q-SBI based PV system with non-linear local loads and distorted PCC voltage.	SERB	3509000	29-06-2021	36	29-06-2024

Sukumar Nandi	Traceable Value Chain for safe pork in the North Eastern Region of India	ICAR	4015142	29-11-2022	36	29-11-2025
Praveen Kumar	Intelligent Disturbance Observer based Adaptive Control of DC-DC Power Converter for Nonlinear Loads	DST	3204000	29-12-2020	36	29-12-2023
Biman Behari Mandal	Modeling human liver microarchitecture and cellular physiology in vitro using 3D bioprinting for drug toxicity and high throughput drug screening applications	DST	30635040	29-12-2020	60	29-12-2025
Biman Behari Mandal	SwarnaJayanti Fellowship Grant	SERB	2500000	29-12-2020	60	29-12-2025
Rishikesh Dilip Kulkarni	Development of Configurable Digital Holographic Microscope for Microfluidics Applications	SERB	5270034	30-03-2021	36	30-03-2024
Sandip Paul	Theoretical insight into the structure and functioning of Defensin family of proteins: An all-atom Molecular Dynamics simulation study	DBT	2650000	30-03-2021	36	30-03-2024
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	ICMR	7200000	30-03-2021	36	14-03-2024
Subramani Kanagaraj	Design and Development of Robotic Vaccinator for mass vaccination	OTHER	360660	30-06-2021	3	20-09-2023

Manas Kamal Bhuyan	Development of a prototype of disabled-friendly automatic virtual text-entry keyboard interface system	SERB	2301025	30-06-2022	36	30-06-2025
Rajiv Kumar Kar	Understanding on/off kinetics of LOV-domain proteins to construct optogenetic tools	SERB	28,08,340	30-11-2022	24	30-11-2024
Gaurav Trivedi	Empowering Girls to Reduce the Gender Gap in IT and ITES Sectors in South Asia Region: Training and E-Content Development Programme	TEIN Cooperation Center	385000	30-11-2022	18	30-05-2024
Kingsuk Mahata	Synthesis, supramolecular polymerization and optoelectronics applications of perinaphthoindigo derivatives	SERB	4264634	30-12-2021	36	30-12-2024
Subhendu Sekhar Bag	Synthesis of therapeutically beneficial peptides with expanded genetic codes via a cell-free translation based approach.	SERB	150000	31-08-2022	9	31-05-2023
Nanda Kishore	Combined Catalytic Reforming and Upgrading Technique for Production of Biofuels in Circulating Fluidized Bed Reactor	SERB	3630000	31-10-2019	36	23-09-2023
Biranchi Narayan Panda	Tunable Mechanical properties of Architected Metamaterial Enabled via Multi-Material Additive Manufacturing	SERB	2373000	31-12-2021	24	31-12-2023

Biman Behari Mandal	Nanotechnological interventions in dental and bone metal implants: Tailoring smart, multifunctional interfaces towards improved osseointegrative and anti-bacterial properties	DBT	3825240	31-12-2021	36	31-12-2024
Ratnajit Bhattacharjee		MEITY	47496000	31.03.2021	36	31.03.2024
Sougata Karmakar		MHRD	200000000	23.062014	12	01.01.2026

COMPLETED SPONSORED PROJECTS:

PI Name	Title	Funding Agency	Amount	Start date	Duration (months)	Completion Date
Arup Kumar Sarma	Pilot Project for Integrated Landuse Planning and Water Resources Management	Govt. of ASSAM	1278720	14-02-2018	24	31-03-2023
Uday Narayan Maiti	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	26-08-2022
Shabari Nath	Development of high power density solid state transformer using direct AC to AC power electronic conversion	SERB	3699724	23-08-2018	42	05-05-2022
Shirisha Nagotu	Investigating the role of peroxisomes in Parkinson's disease	DBT	7095360	24-10-2018	36	27-09-2022
Pankaj Kumar Mishra	Numerical and theoretical investigation of different states of turbulence in counterflow superfluid turbulence in a channel.	DST	2181507	15-11-2018	36	05-04-2022
Moumita Patra	Conceptualizing Strategies for Efficient Information Dissemination and Resource Management in Internet of Vehicles	SERB	1852230	08-04-2019	36	08-04-2022
Meena Khwairakpam	Composting/vermicomposting of Mikania micrantha kunth and it's effect on soil properties	DST	4398434	08-04-2019	36	08-04-2022
Sajal Kanti Deb	Experimental study on seismic evaluation of performance of 3 storeyed test structure isolated by U-FREIs	Arunachal Pradesh, PWD	200000	12-04-2019	36	12-04-2022
Nelson Muthu	Computational and Experimental study of damage and failure in carbon/glass fiber reinforced composite materials.	SERB	4959350	12-04-2019	36	12-04-2022

Sukumar Nandi	Archiving, Modelling and Visualization of the Eco-Cultural Heritage of the Majuli River Island of Assam	DST	4950000	07-05-2019	36	31-03-2023
Bhaba Kumar Sarma	A study on highly acyclic matrices with special emphasis on the role of graph labelling in solving some inverse eigenvalue problems for such matrices	SERB	1005000	20-05-2019	36	20-05-2022
Cota Navin Gupta	Data driven neuro-behavioral clusters in adults who were born very preterm using multivariate analysis	Ministry of Education	4442900	29-05-2019	24	31-03-2023
John Jose	Approximate Computing Techniques for Resource Constrained Edge Devices	Ministry of Education	7748935	10-07-2019	24	31-03-2023
Kusum Kumari Singh	Construction of a minigene to analyze the alternative splicing regulation of UPF3B variable exon	CSIR	2000000	28-08-2019	36	31-03-2023
Rishikesh Bharti	RISK ASSESSMENT OF FLOATING DEBRIS DOMINATED FLASH FLOODS IN TRANS-BOUNDARY UPPER HIMALAYAN CATCHMENTS	DTRL	13495020	16-09-2019	36	16-09-2022
Rishikesh Bharti	RISK ASSESSMENT OF FLOATING DEBRIS DOMINATED FLASH FLOODS IN TRANS-BOUNDARY UPPER HIMALAYAN CATCHMENTS	DTRL	13495020	16-09-2019	36	16-09-2022
Sweta Tiwari	Study of nonlocal elliptic and parabolic problems with variable exponents	SERB	600000	04-11-2019	36	04-11-2022
Bhisma Kumar Patel	Probing Annulations in Multi Directing Systems and Development of Multifunctional AIEgens	CSIR	800000	16-01-2020	36	16-01-2023

Souptick Chanda	Investigation on the Influence of Ferromagnetic Coating on Bone Ingrowth in Hip Stems Made of Composite Titanium-Tantalum (Ti-Ta) Foam	Ministry of Education	2726893	16-01-2020	24	30-09-2022
Manas Khatua	Adaptive Cell Scheduling Function of 6TiSCH Network for Efficient Data Communication in Industrial Internet of Things	SERB	2050400	27-01-2020	24	25-06-2022
Arup Kumar Sarma	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	NEEPCO	6193824	06-02-2020	36	06-02-2023
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	SERB	4684648	06-02-2020	36	06-02-2023
Partho Sarathi Gooh Pattader	Investigation of the dynamics of charged particle/macromolecules in gel electrophoresis in presence of external noise	SERB	4664000	12-02-2020	36	12-02-2023
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	Ministry of Education	4992000	12-02-2020	36	12-02-2023
Kusum Kumari Singh	Deciphering the assembly of RNPS1 into the spliceosomal machinery	SERB	4548740	20-02-2020	36	20-02-2023
Arup Chattopadhyay	Trace Formulae and Multivariable Operator Theory	SERB	660000	12-03-2020	36	12-03-2023
Sudarshan Mukherjee	Timing Synchronization in Cell-free massive MIMO Systems	SERB	1279344	04-01-2021	24	04-01-2023

Atul Kumar Soti	Development of an ultra-low head flow-induced vibration turbine	SERB	2871000	23-02-2021	24	23-02-2023
Atul Kumar Soti	A Numerical and experimental investigation of Renewable energy from Flow-induced vibrations	IITG	240000	24-03-2021	24	24-03-2023
Sashindra Kumar Kakoty	Design and devolvement of a solar-powered pottery Chaak	ASTEC	328915	29-11-2021	12	29-11-2022
Biranchi Narayan Panda	3D printed guard room	Indian Army	0	07-09-2022	1	07-10-2022
Perumal Alagarsamy	FIST Phase II	DST	44000000	05-07-2017	60	05-07-2022
Vishal Trivedi	Re-purposing of FDA approved drugs for Tuberculosis treatment.	DBT	21187972	13-09-2018	36	04-09-2022
Siddhartha Sankar Ghosh	Modulation of Connexin-43 and Histone Deacetylase to Comprehend Cancer Therapy.	DBT	3423200	12-10-2018	36	26-09-2022
Subramani Kanagaraj	An affordable lower limb prosthesis with polycentric knee joint, dynamic ankle joint and suction-suspension socket system having advanced features	Ministry of Education	7337818	19-03-2019	36	07-01-2023
Chivukula Vasudeva Sastri	Perspective of Fluctuations in Electron Transfer Reactions in Non-Heme Chemistry	Ministry of Education	7118645	28-03-2019	24	30-09-2022
Tarak Nath Dey	Coherent Control of Wave Front Engineering	SERB	2346850	08-04-2019	36	26-09-2022
Animes Kumar Golder	Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	SERB	9663060	12-04-2019	36	26-09-2022
Kaustubha Mohanty	Innovative Algae Platform for Industrial Wastewater Valorization (InWAP)	DBT	119.0252	07-05-2019	36	19-09-2022
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	Ministry of Education	2134008	15-05-2019	36	10-03-2023
Ashok Kumar Dasmahapatra	Studies on the crystallization of crystalline/crystalline binary polymer blends	SERB	5383000	28-05-2019	36	28-05-2022

Parameswar K Iyer	Hybrid Organic-Inorganic Perovskites for Solar Energy Conversion	Indian Institute Of Technology Guwahati	2639450	10-06-2019	24	31-03-2023
Hemant B. Kaushik	EVALUATION OF BAMBOO HOUSES FOR EARTHQUAKE RESISTANCE	Ministry of Environment, Forest and Climate Change, GOI	1498420	20-06-2019	36	20-06-2022
Anil Kumar Saikia	Synthesis of heterocyclic compounds via activation of C-H, allylic-OH and alkynes by organic and metallic reagents	CSIR	1390000	20-06-2019	36	30-06-2022
Hemant B. Kaushik	Seismic Strengthening of Unreinforced Masonry Buildings using Ferrocement Bands	CSIR	1696000	05-09-2019	36	05-09-2022
Vaibhav Vasant Goud	Enhanced carbonate precipitation of ureolytic and nitrifying microbe treated rubber wastewater	DBT	3756520	26-10-2019	36	26-10-2022
Bithiah Grace Jaganathan	Targeting mechanosensitive ion channel Piezol in metastatic breast cancer	ICMR	2149100	31-10-2019	36	31-10-2022
Nitin Chaudhary	Isolation, synthesis, and structure-function analysis of frog and toad-skin derived antimicrobial, anticancer, and wound-healing peptides	DBT	4801240	04-11-2019	36	04-11-2022
Mihir Kumar Purkait	Development of catalysts and a prototype device for conversion of CO2 to fuels/chemicals	DST	1674000	29-11-2019	36	29-11-2022
Bhubaneswar Mandal	Tailor Made Peptidomimetics Designing Against Human Islet Amyloid Polypeptide (hIAPP) Aggregation: A Therapeutic Approach Associated with Type-2 Diabetes	DBT	2487456	13-12-2019	36	13-12-2022

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	SERB	53099	20-02-2020	36	20-02-2023
Tamal Banerjee	Deep Eutectic Mixtures with Graphene Functionalized Nanofluids for Indirect Solar Desalination using Multistage Flash Approach	DST	4040220	29-02-2020	36	28-02-2023
Vinayak Narayan Kulkarni	Experimental studies on finiteness of a wing	ARDB	3554000	29-02-2020	24	05-08-2022
Partha Sarathi Mandal	Fault-tolerance in Priority Evacuation and Mutual Visibility of Mobile Robots	SERB	660000	29-02-2020	36	28-02-2023
Shreemayee Bora	Eigenvalues of Linear and Non-linear Matrix Valued Functions: A Study of Inclusion Regions, μ -Pseudospectra and Low Rank Perturbations	SERB	660000	29-02-2020	36	28-02-2023
Arnab Kr. De	Dynamics of wake behind 3D tapered and circular cylinder in vortex induced vibration subject to planar and span-wise shear	SERB	660000	04-03-2020	36	04-03-2023
Arnab Kr. De	Numerical investigation on the effect of surface roughness and tilt angle on turbulent Rayleigh-Bénard convection	SERB	1582000	04-03-2020	24	25-08-2022
Sushanta Karmakar	Design and Analysis of Some Fast Steiner Tree Algorithms	SERB	720000	05-03-2020	36	05-03-2023
Siddhartha Pratim Chakrabarty	Stochastic Models for Chronic Myeloid Leukemia	SERB	660000	13-03-2020	36	13-03-2023
Bithiah Grace Jaganathan	To study the mechanosensitive cell surface protein Piezo1 as a target for metastatic colorectal cancer	SERB	3982000	20-03-2020	36	20-03-2023

Amarendra Kumar Sarma	Soliton Dynamics of the Generalized Nonlinear Schrödinger Models In Parity-Time (PT) Symmetric potentials	SERB	660000	20-03-2020	36	20-03-2023
K S R Krishna Murthy	An examination on use of the quarter point elements for the accurate determination of notch stress intensity factors	SERB	1899415	01-05-2020	24	22-07-2022
Sawmya Ray	WOMEN'S LIVES WITHIN LEGAL PLURALISM: A STUDY IN ASSAM	ICSSR	800000	17-09-2020	24	17-09-2022
Mihir Kumar Purkait	Development of Solar power driven water treatment plant	CPRI	3916800	26-02-2021	18	06-11-2022
Anamika Barua	Examining nature-society relations through urban infrastructure (Project-NATURE)	Academic institute-KTH Royal Institute of Technology	842520	22-09-2021	8	31-12-2022
Subashisa Dutta	Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptaTion in India	UK	745416	13-12-2021	6	13-06-2022
Anamika Barua	Support for transboundary hydro diplomacy course	NGO	480700	16-12-2021	12	16-12-2022
Anamika Barua	"Engineered land: terrestrial imaginaries and realities"	Wageningen University, the Netherlands	251892	03-08-2022	4	03-12-2022
Subashisa Dutta	Evaluating the feasibility and efficacy of integrated catchment-scale Nature-based solutions for Climate Change adaptaTion in India	Loughborough University	730800	02-05-2022	6	02-11-2022
Manas Kamal Bhuyan	14 days training of 02 Argentinian trainers at IIT on AR/VR under Ministry of External Affairs, DPA II Division	Ministry of External Affairs	200800	20-06-2022	1	20-07-2022

Biman Behari Mandal	NIRMAN 3D- Novel minimally invasive implants for reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing.	DBT	12363600	03-08-2018	48	03-08-2022
Sisir Kumar Nayak	Dynamic charging of drone using metamaterial including sensors used in IoT for control and communication	DST	6845520	05-04-2019	36	07-03-2023
Soumitra Nandi	Study of the heavy flavour observables for an indirect detection of physics beyond the Standard Model	SERB	2320560	12-04-2019	36	26-12-2022
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	SERB	4983000	12-04-2019	36	12-04-2022
Prabu Vairakannu	Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization	DST	7402047	18-04-2019	36	18-04-2022
Abu Taleb Khan	Synthesis of Heterocycles and Their Biological and Photo-Physical Studies	DST	5942990	28-05-2019	36	30-11-2022
Gaurav Trivedi	An Energy Efficient IOT Processor built using an Optimized Near-Threshold Voltage Standard Cell Library	SERB	4895000	07-05-2019	36	31-12-2022
Soumen Kumar Maiti	Process intensified production of lignocellulosic liquid biofuel by cyclic shifting of the process parameters in a single bioreactor	SERB	2995920	21-06-2019	36	21-06-2022
Poonam Kumari	Experimental and theoretical studies of thermo-elastic response of axially graded beams	SERB	1800000	03-06-2019	36	03-06-2022
Vibin Ramakrishnan	Design and Characterization of peptide based cell targeting domains with live cell and animal imaging methods	DBT	4306240	26-10-2019	36	26-10-2022

Subhaditya Bhattacharya	Multipartite Dark Matter at Direct and Collider Searches	DST	3105300	23-01-2020	36	23-01-2023
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	SERB	6029760	20-02-2020	36	20-02-2023
Poonam Kumari	Development of three-dimensional analytical solutions for elastic laminated and piezoelectric shells subjected to Levy-type boundary conditions using Extended Kantorovich Method	SERB	660000	04-03-2020	36	04-03-2023
Ramesh Kumar Sonkar	Design, Analysis, Modeling, and Fabrication of the Silicon Photonic Devices	DST	2386000	29-07-2020	24	29-07-2022
Manish Kumar	Repurposing endogenous CRISPR-Cas type-I machinery for efficient markerless genome editing tool in <i>Leptospira interrogans</i>	DBT	2375000	28-09-2020	18	28-02-2023
Pankaj Tiwari	Recycling of fiber reinforced polymer composite	TATA STEEL	70800	12-04-2022	3	12-07-2022

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

The Ministry of Education vide its letter under reference D.O. No. 33-2/2021-TS-III (Pt.I) dated 24.08.2021, advised to clear the backlog by filling the vacancies in a Mission Mode within a period of one year starting from 05.09.2021 to 04.09.2022, which was placed in the 108th meeting of the BOG with a status report. The Ministry also advised to include a separate chapter in the Annual Report (starting from 2021-22) depicting the status of filling up of backlog vacancies in tabular format during the year.

IIT Guwahati has started conducting the interviews under the Special Recruitment Drive (SRD) / Mission Mode Recruitment (MMR) for vacancies in positions against all categories as per Ministry Directives and trying to complete the said drives by December 2023. Interviews against pending Regular Recruitment (RR) were also conducted along with SRD / MMR. It may be noted that the Institute had also taken care of the reserved candidates in its regular recruitment process.

The current status of overall vacancy positions in respect of IIT Guwahati is furnished as below:

1. Faculty in Position/vacancy based on Sanctioned Faculty Strength = 696 (as of 05.09.2021, the start date of the period of special recruitment drive on Mission Mode)

	GEN	SC	ST	OBC	EWS	PWD	Total
Faculty in position	372	16	2	13	-	03	406
Vacant position	117	44	22	78	29	4% Reservation will be applied horizontally	290

2. Current Status of Faculty in Position / Vacancy based on Sanctioned Faculty Strength = 743

		GEN	SC	ST	OBC-NCL	EWS	PWD	Total
Filled up in the RR/SRD/MMR (since 05.09.2021)	Internal	43	3	0	1	0	0	47*
	External	39	5	2	8	1	1	56
Superannuated / Released (since 05.09.2021)		13	2	0	0	0	1	16
Faculty in position (as of date)		408	19	4	10	1	3	445
Vacant position (as of date)		121	45	22	80	30	4% Reservation will be applied horizontally	298

*47 Candidates appointed are internal candidates, as such, this number doesn't change the total vacancy positions.

Additional Information:

1.	Any other information	<ul style="list-style-type: none">• Efforts are made to appoint candidates belonging to reserved categories. However, a sufficient number of meritorious candidates were not available in such categories and IIT Guwahati does not want to compromise on the merit/quality of the candidates.• Posts are vacant both in the unreserved as well as reserved categories. This is because of the shortage of good quality candidates in both the unreserved as well as the reserved categories, who aspire for teaching positions.
2.	Preparation for reservation rosters in accordance with Central Educational Institutions (Reservation in Teachers' Cadre) Act-2019	The committee constituted for the same has already submitted its report for perusal and approval.

ADMINISTRATIVE STAFFS (GROUP A)

Name	Designation	Dept./Section
Prof. G. Krishnamoorthy	Registrar (I / c)	Registrar's Office
Mr. Dibya Jyoti Goswami	Joint Registrar	Finance & Accounts
Mr. Dilip Boro	Joint Registrar	Students' Affairs
Mr. Kuntal Bhuyan	Joint Registrar	Stores & Purchase
Mr. Dhruvajyoti Sharma	Joint Registrar	Administration
Mr. T Tongkholun Haokip	Joint Registrar	Establishment
Mr. Prakash Hazarika	Joint Registrar	(On deputation)
Mr. Gunamani Das	Deputy Registrar	EO-cum-SRC. Additional charge of Student Affairs
Mr. Labanu Kishore Konwar	Assistant Registrar	II&SI
Dr. Subhajit Choudhury	Assistant Registrar	Academic Affairs
Mr. Pranab Borgohain	Assistant Registrar	Legal & PIO
Mr. Sanjay Mandal	Assistant Registrar	PRBR & OEP
Ms. Monalisa Kakati	Assistant Registrar	Faculty Affairs
Ms. Nandeeta Das Salhotra	Assistant Registrar	AER
Ms. Amaya Phukan	Assistant Registrar	Director's Office
Mr. Kushal Ch. Das	Assistant Registrar	Finance & Accounts
Mr. Dipon Lal Boishya	Assistant Registrar	Internal Audit
Mr. Dip Jyoti Dutta	Assistant Registrar	Research & Development
Mr. A. Wanshai Shynret	Assistant Registrar	Academic Affairs
Ms. Nibha Devi	Assistant Registrar	Administration
Mr. Jiban Ch. Barman	Assistant Registrar	Establishment
Mr. Ritu Porna Sarma	Assistant Registrar	Students' Affairs
Mr. Jiten Sarmah	Assistant Registrar	Stores & Purchase
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.) 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. Romen Ch. Dutta	APEO	Gymkhana
Dr. Diganta Saikia	APEO	Gymkhana

Mr. Nandan Kanan Das	Assistant 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
Mr. Rakesh Kakati	Students' Counsellor	Student Affairs

TECHNICAL STAFFS (GROUP A)

Mr. Lallan Kumar G Singh	Superintending Engineer	IPM
Mr. Nirupam Roy	Additional Supdt. Engg.	Engineering
Mr. Aditya Kr. Gogoi	Exe. Engineer	Engineering
Mr. Srikanta Senapati	Exe. Engineer (Elect.)	Engineering
Mr. Dibyajyoti Dutta	Exe. Eng. (Civil)	Engineering
Mr. Nayan Kr. Sarma	Asst. Exe. Eng. (Civil)	IPM
Mr. Kumud Barman	Asst. Exe. Engineer (Elect.)	IPM
Mr. Bhaskar Choudhury	Asst. Exe. Eng. (Civil)	IPM
Mr. Amal Sarma	Assistant Executive Engineer	IPM
Mr. Jayanta Sarkar	Assistant Executive Engineer	Engineering
Mr. Hem Chandra Nath	Assistant Executive Engineer	Engineering
Dr. Laxmi Narayan Sharma	Sr. Technical Officer	Electronics & Communication
Dr. Sanjib Das	Sr. Technical Officer	JEE cell
Dr. Pallav Kr. Dutta	Sr. Technical Officer	Director's Office
Dr. Sidananda Sarma	Senior Technical Officer	Physics
Dr. Arun Ch. Borsaikia	Senior Technical Officer	Civil Engineering
Dr. Lepakshi Barbora	Senior Technical Officer	SESE
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 & Communication
Mr. Sanjoy Das	Technical Officer Gr. I	Computer & Communication
Mr. Manab Mohan Borah	Technical Officer Gr. I	Computer & Communication
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 & Communication
Mr. Nanu Alan Kachari	Technical Officer Gr. I	Computer Science
Mr. Bhriguraj Borah	Technical Officer Gr. I	Computer Science
Mr. Pranjol Paul	Technical Officer Gr. I	Mechanical Engineering
Dr. Madhuriya Pratim Das	Technical Officer Gr. I	Electronics & Communication
Mr. Guna Kanta Saikia	Technical Officer Gr. I	Computer & Communication
Ms. Ritumoni Kalita	Technical Officer Gr. I	Chemical Engineering
Dr. Pranjoli Das	Technical Officer Gr. I	Nanotechnology
Mr. Iqbal Inam	Technical Officer Gr. I	PRBR
Md. Jeherul Islam	Technical Officer Gr. I	Computer & Communication
Mr. Harsaraj Biswanath	Technical Officer Gr. I	Chemical Engineering
Ms. Abhilasha Mohan Baruah	Technical Officer Gr. I	Chemistry
Dr. Dolly Gogoi	Technical Officer Gr. I	Central Instruments Facility
Mr. Debarshi Baruah	Technical Officer Gr. I	Energy
Mr. Dhrubajyoti Pathak	Technical Officer Gr. I	Computer & Communication
Mr. Kuldeep Kalita	Technical Officer Gr. II	Civil Engineering
Mr. Samarjyoti Kalita	Technical Officer Gr. II	Civil Engineering
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 & Communication
Mr. Gobinda Chhetry	Technical Officer Gr.-II	Nanotechnology
Ms. Sayanika Das	Technical Officer Gr.-II	Nanotechnology
Dr. Dhrubajyoti Bordoloi	Technical Officer Gr.-II	Mechanical Engineering
Mr. Jyotirmoy Kakati	Technical Officer Gr.-II	Mechanical Engineering
Mr. Deepjyoti Saikia	Technical Officer Gr.-II	Computer & Communication
Ms. Aparna Barik	Technical Officer Gr.-II	Computer & Communication
Ms. Lipika Nath	Technical Officer Gr.II	Chemistry
Mr. Utpal Kr. Sarma	Technical Officer Gr.II	Electronics & Communication
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 & Communication

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.	180101002	ABHAY PRATAP GANGWAR
2.	180101003	ABHISHEK KUMAR
3.	180101004	ADITYA RAJESH PATIL
4.	180101005	ALAY CHIRAG SHAH
5.	180101006	AMAN KUMAR SINGH
6.	180101007	ANIRAJ KUMAR
7.	180101008	ANJALI GODARA
8.	180101009	ANNAPURNE KRISHNA MANIK
9.	180101010	ANSHUL MITTAL
10.	180101011	ANSHUMAN KUMAR SINGH
11.	180101012	ARYAN CHAUHAN
12.	180101013	B VENKATESH
13.	180101014	BEDADA AJAY KUMAR
14.	180101015	BHASKER GOEL
15.	180101016	BHAVISHAYA SAMRIYA
16.	180101017	CHAPPA CHINMAI ANANDH
17.	180101019	DEVANSHI GUPTA
18.	180101020	DHAWAL BADI
19.	180101021	DRISHTI CHOUHAN
20.	180101022	DRISTIRON SAIKIA
21.	180101023	FALAK CHHIKARA
22.	180101024	GADIPALLY PAVAN PREETHAM REDDY
23.	180101025	GALI JAYA PRAKASH REDDY
24.	180101027	HARSH GUPTA

Sl. No	Roll No	Name
25.	180101028	HARSH MOTWANI
26.	180101030	HARSHITA GUPTA
27.	180101031	HIMANSHU
28.	180101032	JAGANA VINEETH
29.	180101033	KARTIKAY GOEL
30.	180101034	KARTIKEYA SAXENA
31.	180101035	KHANDESH SAI LOKESH
32.	180101036	KOMATIREDDY SAI VIKYATH REDDY
33.	180101037	KOTKAR ANKET SANJAY
34.	180101038	KRISHNA PRAVIN PANDE
35.	180101039	MANISH CHANDOLIYA
36.	180101040	MANSHARAM NIGWAL
37.	180101041	MANSHI SHARMA
38.	180101042	MOHAN KUMAR
39.	180101043	MOHIT JAIN
40.	180101044	MUKKANTI VENKATA SAKETH
41.	180101045	MUNINDRA NAIK
42.	180101046	NALABOLU SANDEEP
43.	180101047	NARESH BHARASAGAR
44.	180101048	NIHARIKA BHAMER
45.	180101049	NIKUNJ HEDA
46.	180101050	NISHANK SIDDHARTH
47.	180101051	NISHCHAY MANWANI
48.	180101052	NISHTHA SHARMA
49.	180101053	NIYATI CHAUDHARY
50.	180101054	PAIDIMARRI MANOJ
51.	180101055	PARAM ARYAN SINGH

Sl. No	Roll No	Name
52.	180101056	PARTH DHANANJAY BAKARE
53.	180101057	POOJA GAJENDRA BHAGAT
54.	180101058	PRANAV GUPTA
55.	180101059	PREETI KUMARI KOTIYA
56.	180101060	RAHUL CHOUDHARY
57.	180101061	RAHUL KUMAR
58.	180101062	RAHUL MALA
59.	180101063	RAKSHIT RAJENDRA PATHADE
60.	180101064	RATHOD SAINATH
61.	180101065	RISHIKESH SONGRA
62.	180101066	RITIK MANDLOI
63.	180101067	RITWIK GANGULY
64.	180101068	SAI SUMANTH MADICHERLA
65.	180101069	SANKET KISAN PANDHARE
66.	180101070	SARASWATULA PHANI SAI PRANAV
67.	180101071	SATYENDRA DHAKA
68.	180101072	SAURABH BARANWAL
69.	180101073	SHIVAM BAGHEL
70.	180101074	SHIVAM KUMAR AGRAWAL
71.	180101075	SHIVANGI KUMAR
72.	180101076	SHIVANSH MISHRA
73.	180101077	SHIVRAJ AHIRWAR
74.	180101078	SIDDHARTHA JAIN
75.	180101079	TANNEERU JASWANTH
76.	180101080	TARUN UBA
77.	180101081	TEJAS PRASHANT KHAIRNAR
78.	180101082	TUSHAR JAIN

Sl. No	Roll No	Name
79.	180101083	UJWAL KUMAR
80.	180101084	V ANIRUDH
81.	180101085	VADIGE PRANEETH CHANDRA
82.	180101086	VAIBHAV KUMAR SINGH
83.	180101087	VARHADE AMEY ANANT
84.	180101088	VATSHAL NILESHKUMAR PATEL
85.	180101089	VISHESH KUMAR JYANI
86.	180101090	YOGESH KUMAR
87.	180101091	MILIND B PRABHU
88.	180101092	TANVISH
89.	180101093	PULKIT CHANGOIWALA
90.	180101094	KOUSIK RAJESH
91.	180101095	VEDIKA JITENDRA KULKARNI
92.	180101096	KUSHAL SANGWAN
93.	180101097	SAMAY VARSHNEY
94.	180101098	DODDAVULA LIKHITHKUMAR REDDY
95.	170101004	AJINKYA SHIVASHANKAR SHIVASHANKAR
96.	170101029	KAPIL JANGID
97.	170101042	NAYANJYOTI DEURY
98.	170101072	TIKARAM MEENA

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.	180102001	AADARSH KHANDELWAL
2.	180102003	ADIT JAIN
3.	180102004	ADITYA PRATAP SINGH
4.	180102005	AJINKYA SUDHIR BHANDARE

Sl. No	Roll No	Name
5.	180102006	ALPANA BHUJABALA
6.	180102007	ANDRA SIVA SAI TEJA
7.	180102008	ANISH GUPTA
8.	180102009	ANJALI SONI
9.	180102010	ANKIT KUMAR
10.	180102011	ANKIT RAUSHAN
11.	180102013	ASHISH SUNDRIYAL
12.	180102014	ASHISH VIJAYKUMAR RAI
13.	180102016	BHARATA SAI DHANUSH
14.	180102017	BHARATBHUSHAN EARESH KARHADE
15.	180102018	BOLNENI SAI BHANU
16.	180102019	DHEERAJ MANOJ AGRAWAL
17.	180102022	GUNTAKA TARUNA SAI REDDY
18.	180102024	KAKARA SASI SAKHESH
19.	180102025	KAMBAM ANUDEEP REDDY
20.	180102026	KARINGALA SURAJ RAJ
21.	180102027	KATHERINE BASUMATARY
22.	180102028	KEERTHIVASAN S K
23.	180102029	KOLLURI KRISHNA KAUSHIK
24.	180102031	KUMAR SAURAV
25.	180102032	KUNAL SINGH
26.	180102034	LAUDYA SUSHANTH KUMAR
27.	180102035	MADAKA SRI SURYA HEMANTH
28.	180102036	MADDALA KALYAN VENKATA SAI DURGA RAO
29.	180102037	MADHU PREMVIGNESH
30.	180102038	MALAVATH VIKAS
31.	180102039	MANDEEP CHAUDHARY

Sl. No	Roll No	Name
32.	180102040	MANISH AGARWAL
33.	180102041	MANNAM SRINIVAS SAI
34.	180102042	MENDU SAI KRISHNA
35.	180102043	MODALAVALASA VAMSI KRISHNA
36.	180102044	MONIKA SURESH DHONGADE
37.	180102045	NELAPATI LOKESH
38.	180102046	NISHIT BARODIA
39.	180102048	PRABHJOT SINGH BADHAN
40.	180102049	PRAKASH CHAND
41.	180102050	PRASHANT KHATRI
42.	180102051	PRINCE PRAG
43.	180102052	PUNUMALLI KARTHIK
44.	180102053	PUSAPATI HASITHA HASTA
45.	180102054	RAHUL D
46.	180102055	RAJNEESH MALVIYA
47.	180102056	RENANGI AJAY KUMAR
48.	180102057	RISHABH AWASTHI
49.	180102058	RISHABH SHARMA
50.	180102060	ROHIT RAJ
51.	180102061	SACHIN
52.	180102062	SAIDEEPTHI JAGARAPU
53.	180102063	SAMAKSH TAK
54.	180102064	SAMARTH SARASWAT
55.	180102065	SAMRUDDHI NITIN MARATHE
56.	180102066	SANJIT SAHU
57.	180102067	SHAILENDRA KUMAR
58.	180102068	SHANKARAMPETA ABHILASH REDDY

Sl. No	Roll No	Name
59.	180102069	SHILPA BHATI
60.	180102070	SMITA SAXENA
61.	180102071	SOHAN LAL LOTHIYA
62.	180102072	SONDIP KUMAR ROY
63.	180102073	SOUMITRA DAS
64.	180102075	SREESIDDESH BHAVANASI
65.	180102076	STUTI
66.	180102077	SUSHANT TIMMAPUR
67.	180102078	VAIBHAV NANDAN
68.	180102079	VASHISHTHA SHUKLA
69.	180102081	YASHWANTH M
70.	180102082	VAJRALA PANINDRA REDDY
71.	180102083	SUBHASHIS DAS
72.	180102085	BHAVNICK SINGH MINHAS
73.	180102086	VINAYAK AGARWAL
74.	180102087	JEET MAHESHKUMAR PATEL
75.	180102088	SOUVIK PAUL
76.	180102089	SRICHANDAN DASH
77.	180102090	AKSHAT RANA
78.	180102091	MADHUR PRAKASH
79.	180102092	KESHAV SHARMA
80.	180102093	ANANT BANSAL
81.	180102094	AKSHAT
82.	180102095	SHREY JANI
83.	180102096	VISHAL KUMAR GUPTA
84.	160102003	AKASH KUMAR RAJAK
85.	170102017	B NITISH KUMAR

Sl. No	Roll No	Name
86.	170102018	BHANU PRASAD LOUDYA

List of students who have fulfilled the requirements for award of B.Tech. degree in Mechanical Engineering

Sl. No	Roll No	Name
1.	180103002	ABHISHEK DEKA
2.	180103003	AJINKYA SANDEEP KADAM
3.	180103004	AKASH SUMAN
4.	180103006	AKSHAY HITENDRA SHAH
5.	180103007	AMIT
6.	180103008	AMIT RAI
7.	180103009	AMRIT AYUSHMAN
8.	180103010	ANIL M
9.	180103011	ANKIT RAJ
10.	180103012	ANKITA
11.	180103013	ARIJEET TRIPATHY
12.	180103014	ARPIT AGRAWAL
13.	180103015	ATHARVA SUBHASH MALWADKAR
14.	180103016	AYUSHI RAI
15.	180103018	BAISHNAVI MAHANTA
16.	180103019	BHABANI SHANKAR MOHAPATRA
17.	180103020	BHAVYA AGARWAL
18.	180103022	CHODIPILLI SAI KUMAR
19.	180103023	DEVANUJ BARUAH
20.	180103024	DIKSHANT GANESH PATIL
21.	180103026	ELIAS BRAHMA
22.	180103027	GHANSHYAM SHIVHARE
23.	180103028	HIMPRAKASH DAS

Sl. No	Roll No	Name
24.	180103029	HITESH YADAV
25.	180103030	JAIKISHAN GUL MANSUKHANI
26.	180103031	KHUSHI MEENA
27.	180103032	KHUSHIL YADAV
28.	180103033	KIRAN KONDIBA KOKARE
29.	180103034	KOPAL TRIPATHI
30.	180103035	KOTHA ANANYA REDDY
31.	180103036	KUMAR KARTIKEY
32.	180103037	KUMAR SATYAM
33.	180103038	KUNAL
34.	180103039	KUNAL PRAKASH KOSHTI
35.	180103040	KYATHARI HRUSHIKESH
36.	180103042	MANESHWAR SINGH
37.	180103043	MAYUKH NATH
38.	180103044	MD ADNAN ANSARI
39.	180103045	MITUL JINGER
40.	180103047	MOHAMMED GOUSE NIHAL
41.	180103048	MUDARAKOLA BHASKARA KUMAR
42.	180103051	NIVEDIT SANJAY UKEY
43.	180103053	PRAKHAR SHUKLA
44.	180103054	PRATIK JAISWAL
45.	180103055	PUNUGOTI INDRANEEL KUMAR
46.	180103056	RAGHU GHANAWAT
47.	180103057	RAGINI GOYAL
48.	180103058	RAHUL DEWANGAN
49.	180103059	RAHUL JAKHAD
50.	180103061	RITVIKA NANDI

Sl. No	Roll No	Name
51.	180103062	ROHAN SINGH DHAKA
52.	180103063	SACHIT KALIA
53.	180103064	SAMARTH V KOTAIAH
54.	180103066	SAMISH SANJAY GHOLAP
55.	180103067	SANCHIT SHARMA
56.	180103068	SANDESH KUMAR MEENA
57.	180103069	SHITAL NANDAN
58.	180103071	SHIVANG MEDA
59.	180103074	SHWETA ARYA
60.	180103075	SITANSHU ATUL CHAUDHARI
61.	180103076	SONALI BHIMASHANKAR UTAGE
62.	180103077	SUDESH CHAUDHARY
63.	180103078	SUMAN PATEL
64.	180103080	SURAJ KUMAR
65.	180103081	SURENDRA KUMAR KUMAWAT
66.	180103083	TANMAY ANKUSH SANDBHOR
67.	180103084	BASIREDDY SAI VIKAS REDDY
68.	180103086	UPENDRA KUMAR
69.	180103087	URVI NIRAJ GODHA
70.	180103088	V VENU MADHAV
71.	180103089	VAJJALA PAIDI VIKRAMADITYA
72.	180103091	VEPA VIDYASAGAR
73.	180103092	VORA MANAN SANJAY
74.	180103093	YASHWANT RAWAT
75.	180103094	YUG NAINESHKUMAR KANSARA
76.	180103095	V HARSHVARDHAN
77.	180103096	KUNAL BANSAL

Sl. No	Roll No	Name
78.	180103097	DHRITI DEEPAK DESAI
79.	180103098	ANIKET HEMANT VINCHURKAR
80.	180103099	GOLLA VIJAYA RAGHAVA NARENDRA CHOWDARY
81.	180103100	RUSHABH CHANDRESH PARIKH
82.	180103101	HRITVIK HITESH PATEL
83.	180103102	ASHUTOSH GUPTA
84.	170103011	ASHISH NEGI
85.	170103017	AVINASH BARO
86.	170103025	GEORGE RAHUL PULAPAKA
87.	170103083	KIRAN J CHEMMANATTE

List of students who have fulfilled the requirements for award of B.Tech. degree in Civil Engineering

Sl. No	Roll No	Name
1.	180104001	ABHAY KANDHVE
2.	180104003	ADITYA KUMAR
3.	180104004	ADITYA KUMAR SINGH
4.	180104007	AKSHI MITTAL
5.	180104008	ALAN T THOMAS
6.	180104009	AMAN KALOYIA
7.	180104010	AMAN RAJ
8.	180104012	ANGUKALI N SHIKHU
9.	180104013	ANIMESH TIWARI
10.	180104014	ANKIT KUMAR SINGH
11.	180104015	ANKIT MAURYA
12.	180104016	ANKITA PRIYA
13.	180104019	ASHUTOSH KUMAR
14.	180104021	BATTA SUPRAJA

Sl. No	Roll No	Name
15.	180104022	BHASKAR NANDAN
16.	180104024	BHAVYA CHAUDHARY
17.	180104025	BIMAL KUMAR
18.	180104026	BOBBITI HARIKA
19.	180104027	DEBAJYOTI MANDAL
20.	180104028	DEBANSHI MISHRA
21.	180104029	DEEP RAJ
22.	180104030	ESHWAR NUKALA
23.	180104031	GANNAVAPU SURYAKIRAN RAO
24.	180104032	GAURAANGI ANAND
25.	180104033	GAURAV
26.	180104034	GAURAV MALI
27.	180104036	GOURAV KUSHWAHA
28.	180104037	GOYAL SHREERAM SUBODH
29.	180104039	GURRAM RAVITEJA
30.	180104040	GURRAM VENKATA SAIPARDHIV
31.	180104041	GUSAI NIRAVGAR DILIPGAR
32.	180104043	HIMANSHU CHAUDHARY
33.	180104044	HIMANSHU SINGH
34.	180104045	JUVVALA SRI ROHITHA NAIDU
35.	180104046	KANISHKA
36.	180104048	KOTTANA SREE VISHISHTA
37.	180104049	KULBHUSHAN GOSWAMI
38.	180104050	MAITRI KHANNA
39.	180104052	MAYUR S KULKARNI
40.	180104054	NEERAJ KUMAR MEENA
41.	180104055	NIKHIL RAJPOOT

Sl. No	Roll No	Name
42.	180104057	NIKITA KHATRIYA
43.	180104058	NILAY PANDEY
44.	180104060	OJASV KUMAR
45.	180104061	POTHANOLLA ADARSH REDDY
46.	180104062	PRASOON PRIYADARSHI
47.	180104063	PRATHAM AGRAWAL
48.	180104064	PREETI PRIYA
49.	180104067	RAJESH SARKAR
50.	180104068	ROHIT KUMAR
51.	180104069	ROHIT RANJAN
52.	180104070	SAI VAMSI GAMPALA
53.	180104071	SANTOSH MEENA
54.	180104072	SHUBHAM KHARE
55.	180104073	SUMIT KUMAR
56.	180104074	SUNKARA DEEPIKA
57.	180104075	SWAPNIL HOTA
58.	180104076	TATHAGATA BHOWMIK
59.	180104078	THAMSHING MAREM MARING
60.	180104079	TUSHAR GAUTAM
61.	180104080	UTKARSH KUMAR
62.	180104081	UTKARSH PATEL
63.	180104082	UTKARSH UJJAIN
64.	180104086	VISHWAJEET GUPTA
65.	180104088	VIVEK SHINDE
66.	180104089	YASH RAJ HALDANIYA
67.	180104090	YASHPAL CHARAN
68.	180104091	YASHVENDRA SINGH

Sl. No	Roll No	Name
69.	140104008	AMIT KUMAR
70.	160104060	RAKESH KUMAR
71.	170104004	ADARSH GUPTA
72.	170104023	BHAVYA JAIN
73.	170104025	CHINMAY RAJANIKANT GARUD
74.	170104055	PARASPREET SINGH GILL
75.	170104065	SHARIB TASNEEM
76.	170104069	SHUBHAM DATTATRAY YENNAWAR
77.	170104071	SOMRAJ
78.	180104042	HARDIK SINGH YADAV

List of students who have fulfilled the requirements for award of B.Tech. degree in Biotechnology

Sl. No	Roll No	Name
1.	180106001	ABDULLAH JAMIL AHMAD
2.	180106002	ABHAY PRATAP SINGH KUSHWAH
3.	180106003	ABHAY SINGH
4.	180106005	ABHINANDAN SINGH YADAV
5.	180106006	ABHISHEK KUMAR
6.	180106007	ADITI RAJAN MADKAIKAR
7.	180106008	ADITYA RAJENDRA KANDEKAR
8.	180106009	ADITYA RAMESHRAO WAGH
9.	180106011	AKSHITA BIYANI
10.	180106012	ATHARVA SUDHIR MORE
11.	180106017	DEEPANSHU
12.	180106018	GAJAVELLY VISHAL
13.	180106019	GANESH SAMBHAJI ATTARAWALA
14.	180106020	HIMANJAL NATH

Sl. No	Roll No	Name
15.	180106023	KANHAIYA DINESH GAVIT
16.	180106024	KASHALA KARTHIK
17.	180106025	KUMAR RISHABH
18.	180106026	MAHEETH SATHOOR
19.	180106027	MANISH KUMAR
20.	180106030	MRATUNJAY DWIVEDI
21.	180106031	NAVARUN
22.	180106032	NISHANT BHAT
23.	180106033	NISHCHAL JAIN
24.	180106034	PIYUSH B PRINCE
25.	180106036	PRAKHAR GOYAL
26.	180106038	RATANA JANGIR
27.	180106039	RINDHE SUSHIL SAMADHAN
28.	180106040	RONIT RAJ
29.	180106041	RUHAL DOSHI
30.	180106042	S SIVARAMAKRISHNAN
31.	180106043	SANSKAR KUMAR
32.	180106049	SHUBHAM
33.	180106050	SIDDHANT RAVINDRA JAGTAP
34.	180106051	SOHAM SANJAY KHADILKAR
35.	180106052	SOMYA AGRAWAL
36.	180106053	SUGYAN MISHRA
37.	180106055	TAHIR MANUEL D MELLO
38.	180106056	TEELLA PRAVEEN SAI
39.	180106057	TEJASVI SINGH TOMAR
40.	180106060	YALAKALA PRANEETHA
41.	180106061	YASH MAKARAND CHAPALGAONKAR

Sl. No	Roll No	Name
42.	160106041	SARDAR JAY BHAGWAN
43.	170106022	HANSHRAJ MOSALPURIYA
44.	170106037	NADIGOTLA RAHUL

List of students who have fulfilled the requirements for award of B.Tech. degree in Chemical Engineering

Sl. No	Roll No	Name
1.	180107001	ADITYA GUPTA
2.	180107002	ADITYA VIKRAM SINGH CHAUHAN
3.	180107003	ADRIRAJ CHAUDHURI
4.	180107004	AHEMAD KHAN PATHAN
5.	180107005	AJAY KUMAR NISHAD
6.	180107006	AJAY KUMAR SAINI
7.	180107007	AKASH MEENA
8.	180107008	AKSHITA JAIN
9.	180107010	ASWIN KRISHNA M
10.	180107011	BANODIP DAS
11.	180107012	BASANT KUMAR
12.	180107013	BHAVIKA MALOO
13.	180107014	BIBEKJYOTI BORO
14.	180107017	DIVYA SHEKHAR RAHANGDALE
15.	180107018	DIVYAM RATHORE
16.	180107019	GAURAV AGARWAL
17.	180107021	HARSH U DESHPANDE
18.	180107023	IMRUZ SHAMIM BHUYAN
19.	180107024	KARTIK BANSAL
20.	180107025	KAUSTUBH SHUKLA
21.	180107026	KUNAL AGARWAL

22.	180107028	LOKNATH KUMAR
23.	180107029	M.ANUBHAV RISHIKESH
24.	180107030	MADHAB JYOTI DOLEY
25.	180107031	MARTAND PRAKASH
26.	180107032	MD MODABBIR TARIQUE
27.	180107033	MEKA CHANDRAHAAS PAVAN SURYA
28.	180107034	NEELIMA SAROJ PANNA
29.	180107035	PARTH AJAY DHAGE
30.	180107036	PRANAV RAJVANSHI
31.	180107037	PRANJAL CHOURASIA
32.	180107038	PRATEEK PRAMOD SALUNKHE
33.	180107039	PRIYANK
34.	180107040	PRIYANSHI GUPTA
35.	180107041	RAJ KUMAR
36.	180107042	RAMAVATAR KASWAN
37.	180107044	RIPUDAMAN SINGH
38.	180107046	RIYA AGRAWAL
39.	180107047	ROHIT KARAN
40.	180107049	SAGAR JOLLY
41.	180107050	SAHIL GAUTAM
42.	180107051	SAMEEP JAIN
43.	180107052	SANJIB MEDHI
44.	180107053	SANKALP VIRENDRA DHANVIJAY
45.	180107054	SATKAR JAIN
46.	180107055	SHALIN JAIN
47.	180107056	SHREE KUMAR SUNDARAY
48.	180107057	SHRIDAM MAHAJAN
49.	180107058	SHUBHAM KUMAR GUPTA

50.	180107059	SHUBHAM RAJ
51.	180107061	SOPHIA ANANT
52.	180107064	SUJIT
53.	180107065	SUMAN KUMARI
54.	180107066	SURAJ KUMAR CHANDRA
55.	180107067	SUSHIL MUNDA
56.	180107068	SWARUPA JADHAV
57.	180107069	TALLA PRASHAMSA
58.	180107070	TANU AGARWAL
59.	180107073	VIVEK KUMAR
60.	180107074	YOGESHWAR PRASAD LOHIYA
61.	180107075	PIYUSH CHANDRAKANT KULKARNI
62.	170107013	BHAVESH INANI
63.	170107044	PERAM NANDA GOPALA KRISHNA
64.	170107045	PRABAL SINGH
65.	170107063	SUDIP 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.	180108001	AARYA SHRIVASTAVA
2.	180108002	ABDUL AHAD
3.	180108003	AMAN BANSAL
4.	180108004	AMAN GOGORIYA
5.	180108005	AMULYA DUBEY
6.	180108006	ANAND TREHAN
7.	180108007	ANIMESH ANAND
8.	180108008	AYUSH KUMAR
9.	180108010	DEVANSH AGRAWAL

Sl. No	Roll No	Name
10.	180108011	DEVARUPPULA SAI CHETHAN
11.	180108012	DIVYANSHU
12.	180108014	HARSHIT JAIN
13.	180108015	JATIN GOEL
14.	180108016	JITENDRA PARMAR
15.	180108017	KARTIKAEYA KUMAR
16.	180108018	KODRU ANVITA
17.	180108019	KOMANDURU SRI BALA RATNA UJWALA
18.	180108021	LANKA RAMMOHAN
19.	180108022	MANISH KUMAR BANGARWA
20.	180108023	MULLU BHAVYA
21.	180108024	NAYAN TIWARI
22.	180108025	NIRMAY PATEL
23.	180108027	PATTIGARI VINEETH KUMAR
24.	180108028	PEDDINTI CHANDINI
25.	180108029	PERI SURYA SRIKAR
26.	180108030	PRABHAKAR
27.	180108031	PRAFULL KUMAR SAHU
28.	180108032	PRIYANK
29.	180108033	PRIYANSHU GUPTA
30.	180108034	PRODDUTURI SANKEERTH REDDY
31.	180108036	RAJ SAMAL
32.	180108037	RAJYOTI DOLEY
33.	180108039	SARIT BURMAN
34.	180108040	SHUBHAM CHAUHAN
35.	180108042	SUDHEER RANJAN
36.	180108043	SUKRIT BAGARIA

Sl. No	Roll No	Name
37.	180108044	SUMAN KUMAR
38.	180108047	YASHODHAR YELAMANCHILI
39.	180108049	SWAYAM BUKHARIA
40.	180108050	HARSH GOVIL
41.	180108051	AYUSH JAIN
42.	180108052	DIBYAKANTI KUMAR
43.	180108053	VATSAL SINHA
44.	180108054	SHISHIR MISHRA
45.	180108055	CHANDRAKANTA MOHAPATRA
46.	180108056	BHASWAT RAJ
47.	180108057	UJJWAL RUSTAGI
48.	180108058	ABHISHEK KUMAR
49.	170108011	CHINKA NAGA SRIHARI

List of students who have fulfilled the requirements for award of B.Tech. degree in Engineering Physics

Sl. No	Roll No	Name
1.	180121001	ADITYA SINGH DANGI
2.	180121002	AMAN KUMAR
3.	180121003	AMAN KUMAR SAINI
4.	180121005	ANISH NITIN CHANDRACHUD
5.	180121006	ARUSHI SANJAY AGRAWAL
6.	180121007	ASHISH SIVADAS
7.	180121009	AYUSH VARDHAN SINGH
8.	180121010	AYUSH YADAV
9.	180121012	DEEPAK KUMAR
10.	180121013	GAURANG RAMAKANT KANE
11.	180121014	GHIVARGHESE XAVIER KALANGARA

Sl. No	Roll No	Name
12.	180121016	HARSH KUMAR AGRAWAL
13.	180121017	HARSH MEENA
14.	180121018	HRITIK MEENA
15.	180121020	LOCHAN SAI MANTHENA
16.	180121022	MAYANK SHARMA
17.	180121023	MUDDASANI SRINITHA
18.	180121024	NAVEEN KUMAR
19.	180121025	NEERAJ KUMAR
20.	180121026	NISHANT
21.	180121027	NITHIN K RAJENDRAN
22.	180121028	POOJAN SANJAYKUMAR THUMAR
23.	180121029	PRAJAPATI DHIREN JITENDRAKUMAR
24.	180121030	PRATIK MANKAR
25.	180121031	RAKESH KUMAR
26.	180121032	RAUNAKK BANERJEE
27.	180121034	RITVIK PANDEY
28.	180121035	ROHIT NANDWANI
29.	180121036	SAKET KUMAR
30.	180121037	SANDRA
31.	180121038	SANYA SHARMA
32.	180121039	SAURABH AGARWAL
33.	180121040	SHAH SAUMYA AMIT
34.	180121041	SHLOK BUM
35.	180121042	SIDDHARTH GAUTAM
36.	180121043	SRISTY SHARMA
37.	180121044	SUDEEP DEEPAK WALKAR
38.	180121046	VEDANSH NEHRA

Sl. No	Roll No	Name
39.	180121048	VINITA SHARMA
40.	180121051	YOKESH S
41.	170121003	AMAN DEO
42.	170121009	ATUL KUMAR
43.	170121016	DUSHYANT MEENA
44.	170121023	MANIK MITTAL
45.	170121028	NIKHIL KUMAR
46.	170121033	RAHUL M
47.	170121037	ROHAN MANGATT
48.	170121038	RUKALP DE
49.	180121047	VIJAY MALVYA

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.	180122001	ABDUL HAKIM IQBAL SHAIKH
2.	180122002	ABHISHEK SAHARIA
3.	180122003	ABHYUDAYA KANCHANKUMAR PATIL
4.	180122004	AKHIL SONI
5.	180122005	AKHIL SONI
6.	180122006	AKSHIT PRASAD
7.	180122007	ALLURU JAYDEEP REDDY
8.	180122009	ARPIT KUMAR JAIN
9.	180122011	BEETU MAAN
10.	180122014	DIPANGSHU PAUL
11.	180122015	DIVYAM BANSAL
12.	180122017	GEEDULA RUSHI PHANEENDRA
13.	180122018	HARSH ANAND

Sl. No	Roll No	Name
14.	180122019	HARSHAN M
15.	180122020	HRITHIK KUMAR VERMA
16.	180122021	JANHAVI SAVITRY KASHYAP
17.	180122022	JATIN KUMAR
18.	180122023	LAKSHYA UPADHYAY
19.	180122025	MAYANK MALVIYA
20.	180122026	MAYUR SAMNANI
21.	180122027	MD SAGIR HUSSAIN
22.	180122028	MOHIT SINGH
23.	180122029	NISHU RANJAN KUMAR
24.	180122030	PARTH HIREN SHAH
25.	180122031	PAYAL SONI
26.	180122032	PIYUSHA JAISWAL
27.	180122033	PRANAY MORESHWAR DONGRE
28.	180122034	PRATYUSH KUMAR MUDULI
29.	180122035	PRINCY ASAWA
30.	180122036	PURANSHU
31.	180122037	RAJ KUMAR ROUL
32.	180122038	RAJEEV RANJAN
33.	180122039	RANUVA AASHRITH VATHSAL RAO
34.	180122041	SHASHANK SHARMA
35.	180122042	SHUBHAM SINGH
36.	180122047	UTKARSH GUPTA
37.	180122049	YAGYAMITRA VERMA
38.	180122050	YOGESH KUMAR MEENA
39.	170122020	KANISHK ARORA
40.	170122036	RISHABH SARKAR

Sl. No	Roll No	Name
41.	170122046	SWAGATAM DAS

List of students who have fulfilled the requirements for award of B.Tech. degree in Mathematics and Computing

Sl. No	Roll No	Name
1.	180123001	ADITI BIHADE
2.	180123002	AKSHAT GUPTA
3.	180123003	ANISH KUMAR
4.	180123004	ANMOL CHOUDHARY
5.	180123005	ANSH RAJIV BHATT
6.	180123006	ASHISH KUMAR BARNAWAL
7.	180123007	AYAZ ANIS
8.	180123008	BHARGAB GAUTOM
9.	180123009	BINEETA ORAM
10.	180123010	DAMAYANTI R SAMBHE
11.	180123011	DHOOLAM SAICHANDAN
12.	180123012	DRIGESH ANURAGI
13.	180123013	GURRAM JOSEPH SPOURGEON
14.	180123014	HARSH VARDHAN SINGH YADAV
15.	180123015	HARSH YADAV
16.	180123016	HIMANSHU YADAV
17.	180123017	J.NEERAJA
18.	180123018	JAY CHHAJED
19.	180123019	JAY VIKAS SABALE
20.	180123020	KARTIKEYA KUMAR GUPTA
21.	180123021	KARTIKEYA SINGH
22.	180123023	KAUSHAL CHHALANI
23.	180123024	KRITIKA RAJ

Sl. No	Roll No	Name
24.	180123025	KUSHAL JHANWAR
25.	180123026	MANAV CHIRANIA
26.	180123028	MRIDUL GARG
27.	180123029	NAMAN GOYAL
28.	180123030	NILESH KUMAR MEENA
29.	180123031	PANKAJ KUMAR
30.	180123032	PRAGATI RAMESH MAHAMUNE
31.	180123033	PRATHAPANI SRAVYA
32.	180123034	PRIYA GULATI
33.	180123035	RAHUL KRISHNA
34.	180123036	RASHI MOHTA
35.	180123037	RATHOD VIJAY MAHENDRA
36.	180123038	RAUNAK TIWARI
37.	180123039	ROHAN MODI
38.	180123040	SAMIKSHA SACHDEVA
39.	180123041	SATYADEV BADIREDDI
40.	180123042	SHASHANK GOYAL
41.	180123043	SHASHANK RAJESH THOOL
42.	180123044	SHIVAM KUMAAR ARYA
43.	180123045	SHREYANK SNEHAL
44.	180123046	SHUBHAM GANDHI
45.	180123047	SIDHARTH BANKUPALLE
46.	180123048	SUBHAM KUMAR
47.	180123050	TANMAY JAIN
48.	180123051	TRINAYAN DAS
49.	180123052	VAARSHIK REDDY C
50.	180123053	VISHISHT PRIYADARSHI

Sl. No	Roll No	Name
51.	180123054	VIVEK KUMAR
52.	180123055	YASHWANTH K
53.	180123057	MOHAMMAD HUMAM KHAN
54.	180123058	SOURAV GOEL
55.	180123059	AADI GUPTA
56.	180123060	JATIN DHINGRA
57.	180123061	TEJUS SINGLA
58.	180123062	A B SATYAPRAKASH
59.	180123063	UDANDARAO SAI SANDEEP
60.	180123064	KARAN GUPTA
61.	180123065	EKLAVYA JAIN
62.	160123034	SAGAR MEWAR
63.	170123005	ANKIT KUMAR KANOJIYA
64.	170123014	BARISH BHAGAT
65.	170123050	SUMEDH RAVI JOURAS

List of students who have fulfilled the requirements for award of B.Des degree

Sl. No	Roll No	Name
1.	180205002	ADITHYANAND M S
2.	180205003	ADITI RATHI
3.	180205004	ANANT AJAIDEEP
4.	180205006	AYUSH KIRAN
5.	180205007	BAIDANTIKA MANDAL
6.	180205008	CHANDAN NALE
7.	180205009	CHHAVI UIKEY
8.	180205010	DISHA
9.	180205011	HERAMB KINIKAR

Sl. No	Roll No	Name
10.	180205013	HRISHIKESH NANDA
11.	180205014	JOEL ISHAAN VALENTINE
12.	180205015	MANASI MEDHA
13.	180205016	MAVIKA BOYINI
14.	180205019	MOHAMMED SHAMIL K M
15.	180205020	NEHA DARGAR
16.	180205021	NUEMAN HANIF
17.	180205022	PONSANG TAMANG
18.	180205023	PRAGNYA RAMJEE
19.	180205024	PRAKASH CHANDRA
20.	180205026	RISHAB GUPTA
21.	180205027	RISHI SHAH
22.	180205028	RITHWIK JAYASIMHA IYENGAR
23.	180205029	ROHIT RAMACHANDRAN
24.	180205030	ROOPA SATHYAN
25.	180205031	SAUMYA GOYAL
26.	180205032	SAUMYA MEHTA
27.	180205033	SHAGUN MASKARA
28.	180205034	SHALMALI GAIKWAD
29.	180205036	SHRADHA SHAJU
30.	180205040	SUBIDIT DASGUPTA
31.	180205042	VIDHI BHATI
32.	180205043	VIJAY RAKSHAN
33.	180205044	VISHNU SURESH
34.	180205045	VISHWAPRASANNA HARIHARAN
35.	170205034	SARTH BORADE

List of students who have fulfilled the requirements for award of M.A. Degree in Development Studies

Sl. No	Roll No	Name
1.	202241001	AARCHITA SHARMA
2.	202241002	AMAN
3.	202241003	AMEENA ANSARI
4.	202241005	BEDANTA DIHINGIA
5.	202241011	FYROOSE J
6.	202241017	LAKHAN DAGADU MALI
7.	202241018	LOPAMUDRA GOGOI
8.	202241019	MEGHNA HAZARIKA
9.	202241020	MUHAMMED THWOYYIB KP
10.	202241023	PIJUSH NATH
11.	202241024	PRAFULL SATPUTE
12.	202241025	RITESH KUMAR
13.	202241026	ROHIT JAIN
14.	202241027	SACHIN BHIMRAO BANSOD
15.	202241029	SANDRA V KURIAN
16.	202241030	SAURABH ARUN DHABARDE
17.	202241033	SONAM GUPTA
18.	202241035	SUVRONEEL SAHA
19.	202241036	SWARAJ MANOHAR
20.	202241039	YASH VINAY SOMKUWAR
21.	202241040	YEDUKRISHNAN V
22.	202241041	AMITA RAM KULKARNI
23.	202241044	ANJALI SHAJI
24.	202241046	DEEKSHA SINGH
25.	202241047	NARSIM JAYANTH KUMAR
26.	202241050	SAMEEKSHA

Sl. No	Roll No	Name
27.	202241051	SATYAKI MUKHERJEE
28.	202241052	SONAL SHARMA
29.	202241053	SUNANDA AICH
30.	202241056	UJALA MENGHANI
31.	202241048	PRANITA DEKA

List of students who have fulfilled the requirements for award of M.Sc. Degree in Physics

Sl. No	Roll No	Name
1.	202121002	ABHIJEET MISHRA
2.	202121003	ABHINOVE NAGARAJAN S
3.	202121004	ADITYA SHARMA
4.	202121005	AKSHAY SUBHASH METRY
5.	202121006	ALOK RAJ
6.	202121009	ARJYAMA BORDOLOI
7.	202121010	ARUNABHA MONDAL
8.	202121011	BALDEV SINGH
9.	202121012	BHUKYA LAKSHMI DEEPAK RATHOD
10.	202121013	DEEPTI SINGH
11.	202121014	DEV YADAV
12.	202121015	DHARMENDRA VISHWAKARMA
13.	202121016	GAURAV
14.	202121018	KAJAL SHARMA
15.	202121019	KAUSHIK KASHYAP
16.	202121020	KEYURKUMAR RAJESHBHAI BODAR
17.	202121022	MANAV HALDAR
18.	202121024	MAYANK SINGH
19.	202121025	NILOTPAL DEKA

Sl. No	Roll No	Name
20.	202121027	P GEORGE CHRISTOPHER
21.	202121030	PRADEEP MACHARA
22.	202121031	PRAKHAR VASHISHTHA
23.	202121032	PRIYANKAR BANERJEE
24.	202121033	RAHUL ADHIKARY
25.	202121034	RAJESH MAITI
26.	202121037	RIYA PATHAK
27.	202121038	SAGNIK GHOSH
28.	202121039	SANDEEP T S
29.	202121040	SHARMISTHA BAIDYA
30.	202121041	SHASHWAT CHATURVEDI
31.	202121044	SHREYASI JANA
32.	202121045	SHUBHADEEP KUNDU
33.	202121046	SHUBHAM SARMA
34.	202121047	SOMNATH DAS
35.	202121049	SOURAV SARKAR
36.	202121050	SOUVIK KUMAR NASKAR
37.	202121052	TARANGA BORGOHAIN
38.	202121054	VIKHYAT SHARMA
39.	202121056	VIVEK KHOLA
40.	202121057	VIVEK KUMAR
41.	202121058	AJAY KUMAR
42.	202121059	SRILAKSHMI VENKATAKRISHNAN
43.	192121030	RAHUL VERMA

List of students who have fulfilled the requirements for award of M.Sc. Degree in Chemistry

Sl. No	Roll No	Name
1.	202122001	ABHAY KUMAR SHARMA
2.	202122002	ADITYA KUMAR SINGH
3.	202122003	AGRIM SINGHAL
4.	202122004	ANANTA KUMAR BEHERA
5.	202122005	ANGSHUMAN PALAI
6.	202122006	ARNAB GHOSH
7.	202122007	ARNAB MONDAL
8.	202122008	ARPAN GHOSH
9.	202122009	AVISHEK PAN
10.	202122010	AYUSH AGARWAL
11.	202122011	BADAL MALPANI
12.	202122012	BANTESH NAGAR
13.	202122013	BIKRAM MONDAL
14.	202122014	BIKRAM PAL
15.	202122015	CHIRAG BANSAL
16.	202122016	DEEPAK
17.	202122017	DIBAKAR HALDER
18.	202122018	DINESH KUMAR
19.	202122019	DIPANJAN SHAW
20.	202122020	GYANESH KUMAR MISHRA
21.	202122021	HIMANSHU GUSAIN
22.	202122022	HUNMOINA PHUKON
23.	202122023	ILIAS KHAN RANA
24.	202122024	JATIN GUPTA
25.	202122025	KALPITA MUDOI
26.	202122026	KAMLESH MEWARA

Sl. No	Roll No	Name
27.	202122027	KOUSIK DAS
28.	202122028	MONOTOSH MONDAL
29.	202122029	MUSKAN BHARGAVA
30.	202122030	NIRALI NAMDEV
31.	202122031	PABITRA KANDAR
32.	202122032	POULAMI MUKHERJEE
33.	202122033	PRASAD PRAVIN THOMBARE
34.	202122034	PRIYANKA PATIDAR
35.	202122035	RAKESH ROUTH
36.	202122036	RITASMITA BORAH
37.	202122037	RITURAJ SAIKIA
38.	202122038	SAGAR PAL
39.	202122039	SAMSUNG RAJA DAIMARI
40.	202122040	SAURABH KUMAR
41.	202122041	SHARMILA DAS
42.	202122042	SHREYA DEBNATH
43.	202122043	SONU CHHIPA
44.	202122044	SOUMIK KUNDU
45.	202122045	SOUMYA DUTTA
46.	202122046	SUBHAJIT JANA
47.	202122047	SUBHAMOY BHOWMIK
48.	202122048	SUBHRAJIT KARMAKAR
49.	202122049	SUBHRANEEL MUKHERJEE
50.	202122050	SUJAN MANDAL
51.	202122051	SUMAN MAITY
52.	202122052	TANYA SEHGAL
53.	202122053	THEOPHIL INBUON

Sl. No	Roll No	Name
54.	202122054	TRIASHA PAL
55.	202122055	TUSHAR KANTI ROY
56.	202122056	UTSAB DAS
57.	202122057	VIRENDRA KUMAR
58.	202122058	VIVEK KUMAR AGRAHARI
59.	202122059	YOGESH KUMAR VERMA
60.	192122015	KANAVENI RAJKUMAR

List of students who have fulfilled the requirements for award of M.Sc. Degree in Mathematics and Computing

Sl. No	Roll No	Name
1.	202123002	ABHIJIT GAYEN
2.	202123003	ABHISHEK
3.	202123005	DESHMUKH AKASH CHANDRAKANT
4.	202123006	ANINDITA SAHA
5.	202123010	AYUSHMAN TIWARI
6.	202123011	CHIRAG BANSAL
7.	202123013	DEBASISH GOCHHAYAT
8.	202123014	DHIRAJ BARAL
9.	202123015	DRASHTI SAHU
10.	202123016	GAURAV
11.	202123018	HAROSH KUMAR
12.	202123019	KRITIKA GULATI
13.	202123021	MAHIPAL DIDEL
14.	202123024	MANTU BHUE
15.	202123025	MAYANK VARDANI
16.	202123029	MUSKAN
17.	202123030	OMENDRA GANGWAR

Sl. No	Roll No	Name
18.	202123031	PARAS GAUTAM
19.	202123034	PRIYANSHU GUPTA
20.	202123036	RITWIK PRABIN KALITA
21.	202123037	ROHIT RAKESH GUPTA
22.	202123040	SARUP HUSSAIN
23.	202123041	SASHIBHUSHAN BHUE
24.	202123042	SAYAN ADHIKARI
25.	202123043	SEULI BARAI
26.	202123045	SHAYAK HALDER
27.	202123046	SHIVANI AGRAHARI
28.	202123047	SHREYA SATIJA
29.	202123048	SHRUTI JOSHI
30.	202123049	SHYAM SUNDAR JANA
31.	202123050	SONIKA
32.	202123053	SUMAN PATTANAYAK
33.	202123054	SUSHIL KUMAR
34.	202123055	SWATI
35.	202123057	VANSHIKA PAHWA
36.	172123033	RANJEET KUMAR MISHRA
37.	192123013	JIBAN SARKAR
38.	192123017	MANINDER SINGH
39.	192123019	MD SHAHNWAJ HUSSAIN
40.	192123020	MOHAMMAD ASIM
41.	192123022	MURARI KUMAR
42.	192123036	SHASHANK YADAV
43.	192123040	SUBRATA KUMAR RANA
44.	192123043	SUMIT KUMAR

Sl. No	Roll No	Name
45.	192123049	YASHWANT KUMAR BHUSHAN

List of students who have fulfilled the requirements for award of M.Tech. Degree in Computer Science and Engineering

Sl. No	Roll No	Name
1.	204101002	ABHISHEK RANJAN
2.	204101003	ADITYA TANDON
3.	204101004	AJAY GAHLOT
4.	204101005	AMBUJ GUHEY
5.	204101006	AMIN DHRUVIL RAMESHCHANDRA
6.	204101008	ANKIT KUMAR JATIYA
7.	204101011	ANUJ KUMAR
8.	204101012	ANURAG YADAV
9.	204101013	ARPIT SINGH
10.	204101015	ASHISH KUMAR
11.	204101016	AVIK SAMANTA
12.	204101017	BALLANI RAJU RAHUL
13.	204101018	BHASKAR SHARMA
14.	204101019	CHETAN PRALHAD INGLE
15.	204101020	DAN SINGH PRADHAN
16.	204101021	DEEP BHUINYA
17.	204101022	FARHAN MOHAMMAD
18.	204101023	GALETI NISHANTH
19.	204101024	GANDHI PREET RAKESHBHAI
20.	204101026	HARSHWARDHAN DUBEY
21.	204101027	HEMANT REGAR
22.	204101028	HIMANSHU BISHT

23.	204101029	HIMANSHU PATEL
24.	204101030	KETAN KARNAKOTA
25.	204101031	KULKAR PRATIK RAJARAM RAJESHRI
26.	204101034	MUKESH KUMAR GANDHARVA
27.	204101036	NALADALA JESHWANTH
28.	204101037	NALLAGATLA NAGA SIVA KUMAR REDDY
29.	204101040	PANKAJ PANWAR
30.	204101041	PATIL SANKET KRUSHNA
31.	204101042	PINAKI DASH
32.	204101043	PRABHAT SINGH
33.	204101047	RONAK RAMESH CHABUKSWAR
34.	204101049	SARTHAK AGARWAL
35.	204101051	SHAANTANU MISHRA
36.	204101052	SHAH NIHAR DARSHANBHAI
37.	204101053	SHIVANK THAPA
38.	204101057	SUSHIL KUMAR
39.	204101059	VIKASH RAGHUWANSHI
40.	204101061	VIVEK SINGH
41.	204101062	YASHWANT PATIDAR
42.	204101068	GAURAV KUMAR
43.	204101069	SAMIKSHA AGRAWAL
44.	204101070	KUNAL SHRIKANT WANIKAR
45.	204101071	KAUSHAL DEWANGAN
46.	204101072	BIDYANATH JHA
47.	194101001	AAYUSH JAISWAL
48.	194101003	AJAY YADAV
49.	194101004	ANASUYA JANA
50.	194101005	ANIMESH RANJAN

51.	194101007	ARSHDEEP KAUR
52.	194101009	ASHISH KUMAR
53.	194101013	BARAHATE PRAYAS GUNVANT
54.	194101018	DHANANJAY SHUKLA
55.	194101024	KUKREJA KAPIL HARESH
56.	194101025	LAKHARA KAMAL SAVARMAL
57.	194101029	MANOJ DEKA
58.	194101032	MD AMIR KHAN
59.	194101034	MUDRAGADA LOHITH SURYA ANJANEYA KUMAR
60.	194101036	NAVNEET KUMAR
61.	194101037	PRACHI SHRIVASTAVA
62.	194101038	RAHUL VATS
63.	194101039	RAJAT SHUKLA
64.	194101042	SAKSHI G SHARMA
65.	194101052	SWEETY TARACHANDJI DHALE
66.	194101055	VANDANA MISHRA
67.	204101032	MANISH SEMWAL
68.	204101039	NISHANT BHARTI
69.	204101058	UTKARSH KHATI
70.	204101060	VISHAL JAISWAL

List of students who have fulfilled the requirements for award of M.Tech. Degree in Electronics and Electrical Engineering

Sl. No	Roll No	Name
1.	204102004	MATTAPARTHI S S V SRI KRISHNA MANIDEEP
2.	204102010	RAKESH PAL
3.	204102014	JERRY K SIBY
4.	204102017	YELLAMOLLA NAVEEN
5.	204102018	SACHIDANAND PRAJAPATI

Sl. No	Roll No	Name
6.	204102020	KANAGARLA SURYA VENKATA NARASIMHA SAIKUMAR
7.	204102022	A VINAY KUMAR
8.	194102008	GULLIPALLI RAJESH KUMAR
9.	194102010	NITESH KUMAR AGRAHARI
10.	194102016	VENNA VENKATESH
11.	194102017	SANI KUMAR
12.	194102019	PRAVESH SHARMA
13.	194102020	RUPINDER SINGH BHAMRA
14.	194102021	AKASH GUPTA
15.	194102023	ASHUTOSH KUMAR
16.	194102024	NARAYAN HAZARIKA
17.	194102027	THODUPUNURI MANISH
18.	194102028	CEBIL T A
19.	194102029	RATNADEEP CHATTERJEE
20.	194102030	KARAM ILAHI KHAN
21.	174102031	AYUSH MATHUR
22.	174102032	ANURAG LALITKUMAR LAUMAS
23.	204102101	ARUNESH SINGH
24.	204102103	DADI NOOKA SAI KEERTHI
25.	204102105	JAI
26.	204102107	JYOT KAUR ARORA
27.	204102114	SHASHIKANT RANJAN
28.	204102116	VOODIKALA ASLESHA SATYA RAHUL
29.	194102101	ABHINAV SINGH RAO
30.	194102104	DHANANJAY KUMAR
31.	194102105	JEESNU ANAND NEKHERA

Sl. No	Roll No	Name
32.	194102109	SUBHAM BHOWAL
33.	194102110	SUJEET KUMAR
34.	194102112	SIBUSISO LUSANDA NGIDI
35.	174102031	AYUSH MATHUR
36.	174102032	ANURAG LALITKUMAR LAUMAS
37.	204102113	SHANTANU GUPT
38.	204102202	RAGHUNANDAN GURURAJ KALIBHAT
39.	204102204	MAYANK AGRAWAL
40.	204102209	AFZAL HUSSAIN
41.	204102301	AVI KHANDELWAL
42.	204102302	CHAVITI VASANTHA LAKSHMI
43.	204102303	DHEERAJ KUMAR BHARTI
44.	204102306	MANPREET SINGH
45.	204102313	SHIVAM MODI
46.	204102314	SONU KUMARI
47.	204102317	TANYA CHAUDHARY
48.	194102301	AKSHAI JAMES
49.	194102303	ANUJ KUMAR TIWARI
50.	194102304	BHARAT MOHAN
51.	194102312	MAYANK KUNWAR
52.	194102315	PREM KUMAR D
53.	194102324	KILLA KISHORE BABU
54.	204102502	BITTU KUMAR
55.	204102507	PRATIK KUMAR RANA
56.	204102511	SUHAIB BIN YOUSOUF
57.	194102509	TIMJIM K MOMIN
58.	204102401	ANJALI

Sl. No	Roll No	Name
59.	204102404	CHIRAG JAIN
60.	204102405	GADIPELLI SRIHARSHA SATYANARAYAN
61.	204102412	MALLAKKAGARI MAHENDRA REDDY
62.	204102413	MUDIGONDA SIVA PRASAD
63.	204102415	PARICHARLA MANOJ KUMAR
64.	204102416	SAKET SAURAV
65.	204102419	SWARAJ KOSHTA

List of students who have fulfilled the requirements for award of M.Tech. Degree in Mechanical Engineering

Sl. No	Roll No	Name
1.	204103003	AMIT KUMAR
2.	204103004	ANURAG SINGH SIKARWAR
3.	204103006	NISHANT SHARMA
4.	204103008	RAJ KISHORE
5.	204103011	HEMANTH KRISHNA KOMMU
6.	204103110	NAREN M
7.	204103204	AJEET PRATAP SINGH
8.	204103210	CHITTE RUSHIKESH LALASAHEB
9.	204103211	DEBOJYOTI NATH LASKAR
10.	204103214	KARANJEET GOHAIN
11.	204103215	KUMAR SREE SAI SID DHARTH LOLLA
12.	204103221	PRANAV MURALI
13.	204103222	RAJAT KAPATIA
14.	204103225	SANJAY SONI
15.	204103227	SHARMA VEDANT
16.	204103310	KUNAL KUMAR
17.	204103316	NARNAWARE SOURABH SOPANDAS

18.	204103318	PATEL DHARMIK GOVINDBHAI
19.	204103325	RAKESH KIRAN
20.	204103329	SANJIB SAIKIA
21.	204103333	SINGH MAYUR JAIPRAKASH
22.	204103335	T JEEVAN
23.	204103338	TRIVENDRA RAHI
24.	204103403	AMBATI MOHAN KUMAR
25.	204103411	JADHAV DHEERAJ NAIK
26.	204103412	KOSURI VINEETH SAI RAM VARMA
27.	204103413	NAND KISHORE SAH
28.	204103420	SARTHAK PATIDAR
29.	204103424	TANDIN WANGDI
30.	204103425	PRASHANT
31.	204103429	SANTOSH KUMAR
32.	204103431	TEKEE SURYA SAI
33.	184103426	SUPRATIM SARKAR
34.	194103003	JAGPREET SINGH
35.	194103006	LOVEKESH AZAD
36.	194103011	ASWIN P
37.	194103015	ANIRUDH YADAV
38.	194103105	KUSHAL PAUDEL
39.	194103111	ASHISH RANJAN
40.	194103206	DANGUDUBIYYAM TARAHA HANUMA
41.	194103210	SUMIT KUMAR
42.	194103211	SURAJ KUMAR
43.	194103215	MIRSAIDIN HUSSAIN
44.	194103218	KAUSTAV MANDAL
45.	194103221	RANAMAY SAHA

46.	194103225	BHARGOV BHATTACHARYYA
47.	194103228	YADAV SANJEEVKUMAR SURENDRABHAI
48.	194103230	PALADUGU RAKESH
49.	194103231	SHIVANSH VERMA
50.	194103232	SHWETA MARKAM
51.	194103233	ROHIT SARMA
52.	194103308	BHAVESH DHAPOLA
53.	194103309	CHIRANJIT RAY
54.	194103310	DESAI UTKARSH ULHAS
55.	194103312	KOHINOOR DEBBARMA
56.	194103315	ROHIT KUMAR KESHARWANI
57.	194103316	SANJEEV KUMAR
58.	194103317	SATYENDRA KUMAR YADAV
59.	194103318	SHARANJIT SINGH
60.	194103324	AVANISH ANAND
61.	194103326	HARISH KUMAR TOMAR
62.	194103327	SONULE NIRAJ VILAS
63.	194103329	PRASEN JEET SIKDAR
64.	194103330	SHUBHAM BASANT
65.	194103331	JITENDRA PATEL
66.	194103333	RAKESH KUMAR YADAV
67.	194103334	RAHUL PRAJAPATI
68.	194103337	BAVIRISETTI SAI SAMPATH KUMAR
69.	194103338	YUBARAJ DAS
70.	194103339	KAMESH PRATAP SINGH
71.	194103402	ALOK KUMAR
72.	194103403	AMIT MAURYA
73.	194103412	GAURANGA KUMAR SAIKIA

74.	194103414	JADHAV ANIKET ARUN
75.	194103415	JEDHE YASHWANT VILAS
76.	194103421	MD SHAHZAD ADIL
77.	194103422	MUNENDRA
78.	194103424	OMANG SAXENA
79.	194103428	SAURABH KUMAR MODI
80.	194103429	SHAFEEQUE E S
81.	194103431	SHASHANK NEGI
82.	194103432	SILLA LAKSHMI NARAYAN
83.	194103438	AMIT KUMAR
84.	194103439	KISHAN KUMAR SONI
85.	194103440	VALLABHANENI JAYA PRAKASH
86.	194103441	ABHINAV SINGH
87.	194103442	BHANDARE VISHAL KONDIBA
88.	194103443	YENGALA SASIBHUSHAN

List of students who have fulfilled the requirements for award of M.Tech. Degree in Civil Engineering

Sl. No	Roll No	Name
1.	194104001	POOJA AJAY GATAGAT
2.	194104002	ABHINAB BORA
3.	204104105	HIMANSHU KUMAR
4.	204104114	RISHIKESH KUMAR
5.	204104118	BHAGWATI SHARAN DHEKLA
6.	204104120	SURENDRA KUMAR YADAV
7.	194104104	BADAL
8.	194104105	CHIRANJIB DEBBARMA
9.	194104106	LIJA GIRI
10.	194104107	MANJAY KUMBLE

Sl. No	Roll No	Name
11.	194104108	MANJEET RAJ
12.	194104110	RISHABH
13.	194104113	SHARNYA
14.	194104115	SUBHAM MEHER
15.	194104116	SUMIT BARASKAR
16.	194104117	THATIPALLI AKSHAY KUMAR
17.	194104119	VAIBHAV KABDWAL
18.	194104120	PARTHO MUKHERJEE
19.	194104121	UJJWAL KUMAR
20.	194104122	ANWESHA BANERJEE
21.	194104123	NILADRI CHOWDHURY
22.	194104124	RASHMI DEVI
23.	204104201	AASHISH PANWAR
24.	204104206	AMAN UJJWAL
25.	204104208	GURUSAMY K
26.	204104211	KESHAV KAMBOJ
27.	204104212	LUIT BARO
28.	194104201	CHARAKHO N. CHAH
29.	194104211	ARUNSIVA R
30.	194104217	HARMANJEET SINGH
31.	194104219	SHAMIM HOQUE
32.	194104220	BISWAJYOTI DEKA
33.	194104221	MITANSHA
34.	204104216	RAJ KAMAL
35.	204104301	AMEY SHASHIKANT CHAUDHARI
36.	204104305	P ABHISHEK
37.	204104306	PRAKASH CHANDRA SINGH

Sl. No	Roll No	Name
38.	194104301	ANKIT KUMAR
39.	194104303	PRABHAT KUMAR RAJPUT
40.	194104304	REENA BISHT
41.	194104305	SHUBHODIP PAN
42.	194104307	UTKARSHA AWASTHI
43.	194104308	AMELIN LALLAWMPUII CHAWNGTHU
44.	194104309	VISLAVATH HARIPAN
45.	194104310	ARUN REDDY KUKUNOORI
46.	204104401	ABHAY HEMANT RANGOONWALA
47.	204104412	DHAMANE SHRAVANI BAHUBALI ARCHANA
48.	204104423	NAWNEET DINIYA
49.	184104408	DEBARSHI SAIKIA
50.	194104401	ABHINAY JAIN
51.	194104403	ANUJ KUMAR
52.	194104406	DENDRO MIHU
53.	194104407	GOPA DAS
54.	194104408	KANCHERLA NAVEEN KUMAR REDDY
55.	194104409	KANIKE SREEKANTH
56.	194104412	NAGRALE PARAG RAJENDRA
57.	194104415	RAMEES A
58.	194104416	ROHIT SAINI
59.	194104417	SANJAY KUSHWAHA
60.	194104419	SHIVANK MITTAL
61.	194104420	SOORAJ SUSEELAN
62.	194104421	SOURABH
63.	194104423	YAMINI G
64.	194104424	YOGENDRA JAISWAL

Sl. No	Roll No	Name
65.	194104426	MOHAMMED HASHMAT AHMED
66.	194104428	SWASTIK PANDA
67.	204104506	AYUSH VERMA
68.	204104508	DIVYANSHU
69.	204104515	SANJIB GHOSH
70.	204104519	VIPUL DUBEY
71.	194104502	ABHISHEK KUMAR
72.	194104503	ARADWAD SHARAYU SATISH
73.	194104504	ARJUN SINGH
74.	194104507	MOHAMMAD ABDUR REHMAN MAJID
75.	194104509	NIKHIL KUMAR SINGH
76.	194104510	NITISH KUMAR
77.	194104517	HARSH PRAKASHKUMAR HARKHANI
78.	194104519	AHMAD NAWAZ
79.	194104520	KESAMREDDY MUKUNDA REDDY
80.	194104522	VIKAS KUMAR
81.	204104514	SANISETTI AMARNATH
82.	194104604	LOKESH KUMAR
83.	194104605	NABAJYOTI DEKA
84.	194104609	SUBIR KUMAR SAHA
85.	194104610	MRINAL ROY
86.	194104611	VEDANT JHA
87.	194104613	SHIVAPRASHANTH KUMAR B
88.	194104614	SANJANA JAIN
89.	194104615	SHUBHAM KR RAI
90.	194104616	SOUMYA GUCHHAIT
91.	194104617	SHIVANI GUPTA

Sl. No	Roll No	Name
92.	194104618	BHASWATEE BAISHYA
93.	194104619	BIMAN KALITA
94.	194104620	MUMPI PERTIN
95.	194104621	THAVANILA N
96.	194104622	ABDUR RAHAMAN
97.	194104623	VIKASH KUMAR
98.	194104624	LICHA AMA
99.	194104625	SOURYA ROY

List of students who have fulfilled the requirements for award of M.Tech. Degree in Biotechnology

Sl. No	Roll No	Name
1.	204106001	AGRADEEP MUKHERJEE
2.	204106002	AMIT BHANDARI
3.	204106003	AMRITHA BHAT K
4.	204106004	ANKITA JINGAR
5.	204106006	ARAVIND R
6.	204106009	AYESHA SANOVER
7.	204106011	CHAGANTI SRI SATYA SAI VEERA KRISHNA ARUN
8.	204106013	DAS BEDADEEP
9.	204106014	GANESH MOHAN T
10.	204106016	KARTHIK SWAMINATHAN
11.	204106017	KHADIIJA
12.	204106018	KUMAR SARVESH
13.	204106019	KUNDAN KUMAR SINGH
14.	204106022	MANSHI SINGH
15.	204106023	MANU SANKAR V
16.	204106025	MOHAMED IMDHIYAS A

Sl. No	Roll No	Name
17.	204106026	MOHAMMAD JUNAID
18.	204106027	MUTHU ISWARYA G S
19.	204106028	NIDA PARVEEN
20.	204106029	NIRVESH
21.	204106030	PRIYARAJ AINISH MINJ
22.	204106031	PUSHP RANJAN
23.	204106032	RAHUL DAS
24.	204106035	RUPAM KHATUA
25.	204106038	SANKET MUKHERJEE
26.	204106040	SHUBHA SINGH
27.	204106043	SOUMYADEEP SARKAR
28.	204106044	SUBHAMOY PATRA
29.	204106045	SUCHANDRA ROY ACHARYYA
30.	204106046	SUVAM SEN
31.	204106047	TALAGADADEEVI NIRUPAMATEJA
32.	204106048	TANIA SARKAR
33.	204106049	TIRTHANKAR SEN
34.	204106050	VINOD KUMAR
35.	204106051	VISHAL BHARTI
36.	204106053	WALAWALKAR NEHA PRAFUL PRANOTI

List of students who have fulfilled the requirements for award of M.Tech. Degree in Chemical Engineering

Sl. No	Roll No	Name
1.	204107001	AAQUIF MANZOOR
2.	204107004	ARJUN
3.	204107005	ASHUTOSH KUMAR
4.	204107006	AYUSH BANSAL

Sl. No	Roll No	Name
5.	204107007	G HARISH
6.	204107008	GIDUTURI MOHINI
7.	204107009	HEMANT KUMAR NAYAK
8.	204107014	MANOJ YADAV
9.	204107016	MOHD TAUHID KHAN
10.	204107018	NISHI TYAGI
11.	204107020	PRAVIN JAIPRAKASH DANGE
12.	204107021	PRIYANUJ BANIA
13.	204107022	RAJ KUMAR KUMAWAT
14.	204107023	RAVEENDRA GOUD THOTTA
15.	204107024	RUPAM KUMARI
16.	204107027	SHANKU PRATIM BORAH
17.	204107028	SHREYA TIWARI
18.	204107033	VIPUL SARKAR
19.	204107103	ARNAB KARAK
20.	204107104	B D PRABHUTOSH
21.	204107106	CHETAN DHONGDIYA
22.	204107107	DALVIR SINGH
23.	204107108	DEO PARTH PUSHKAR
24.	204107111	HARSH THAKUR
25.	204107112	IFTAQUL ISLAM
26.	204107115	MANGAL
27.	204107119	NARRA THEJASWINI
28.	204107120	PATHARI YASH SUBHASH
29.	204107121	RAHUL AGARWAL
30.	204107122	RAMAKANT
31.	204107128	SMITA GUPTA

Sl. No	Roll No	Name
32.	204107130	VIKIN PRAKASH DAHEKAR
33.	204107131	VINAY KUMAR
34.	194107005	DIKSHA JAISWAL
35.	194107017	SHASHI BHUSHAN SINGH
36.	194107018	SHIKHA SOLANKI
37.	194107020	SUDHA UPADHYAY
38.	194107024	YADAV SHUBHAM VEDPRAKASH
39.	194107027	MUKESH KUMAR SHARMA
40.	194107101	AAKASH RAJPOOT
41.	194107110	DILEEP KUMAR
42.	194107112	HIMANSHU SINGH
43.	194107116	LADDAD RUSHANK DURVESH
44.	194107117	MAHESH YALESH MEDAR
45.	194107118	MANINDER SINGH
46.	194107120	MUDRIKA SINGHAL
47.	194107121	MUKESH BHARTI
48.	194107122	MUSADDIQUE MAHFUZ AHMED
49.	194107123	OM PRAKASH CHOUDHARY
50.	194107128	RINKI SINGH
51.	194107130	SIDDHARTH RATH
52.	194107131	SIRASANAGANDLA VENKATA ARAVIND
53.	194107135	BADOLE NIKHIL UDAYBHAN
54.	194107138	VIVEK KUMAR

List of students who have fulfilled the requirements for award of M.Tech. Degree in Rural Technology

Sl. No	Roll No	Name
1.	204154003	ARNAB PAUL CHOUDHURY

Sl. No	Roll No	Name
2.	194154001	ASHMITA KUNDU
3.	194154002	DHEEJYOTI KALITA
4.	194154004	GAURISHANKAR BHATTACHARYYA
5.	194154005	KUMAR SHANU
6.	194154006	NIHAL PATEL
7.	194154008	SHUCHI SAUMYA
8.	194154009	SRESHTHA BAIDYA
9.	194154010	SUGATO PANDA

List of students who have fulfilled the requirements for award of M.Tech. Degree in Data Science

Sl. No	Roll No	Name
1.	204161001	ABHISHEK KUSHWAHA
2.	204161004	ALPNA KUMARI
3.	204161007	GARIMA SINGH
4.	204161008	HEMANT SINGH
5.	204161010	MUKKAMALA MADHUKAR
6.	204161012	POOJA
7.	204161016	SURAJ KESHARWANI
8.	204161017	TANUJ SHARMA
9.	194161002	B MONISH KUMAR
10	194161004	GAGAN GAYARI
11	194161008	MEGHNA SINGH
12	194161011	REWATKAR KARNA RAJESH
13	194161015	SODUMU DEVANANDA REDDY
14	194161018	HARIMOHAN
15	204161013	RAJAT MAHESHWARI

List of students who have fulfilled the requirements for award of M.Tech. Degree in Food Science and Technology

Sl. No	Roll No	Name
1.	204162002	JAYANT CHAUHAN

List of students who have fulfilled the requirements for award of M.Des.

Sl. No	Roll No	Name
1.	204205001	AASMITA DAS
2.	204205002	ABHIJITH.S
3.	204205003	ADITYA WADHER
4.	204205004	AMIT KUMAR
5.	204205006	ARNAB PATRA
6.	204205008	ELISHAN JAMI
7.	204205009	G GURUNATH REDDY
8.	204205010	HIMANI SHARMA
9.	204205011	KANIKA MEENA
10.	204205012	LOKHANDE PRANAV RAVINDRA
11.	204205013	MRIGANK MOHAN HALEANGADI
12.	204205014	MUSKAN
13.	204205015	NANDITA SINGH DHINDSA
14.	204205016	PHUNTSOK CHOEPHEL
15.	204205017	PRIYANK SAHGAL
16.	204205018	SAGAR PURUSHOTTAM CHIRANKAR
17.	204205019	SHYAM KUMAR SINGH MUNDA
18.	204205020	SIDDHARTH KUMAR
19.	204205021	SMRITI
20.	204205022	SONU
21.	204205023	SPANDAN DAS
22.	204205024	SPANDAN DAS

Sl. No	Roll No	Name
23.	204205025	SREDHA PAVITHRAN
24.	204205026	THORIGSO LUIKHAM
25.	204205027	VISHNUDATH P
26.	204205029	ANJALI VENUGOPAL
27.	204205030	AASTHA BHAT
28.	204205031	KARTIK
29.	204205032	AMAN KUMAR
30.	204205033	JOEL MONIRAM ENGTI
31.	204205034	NIDHI MEENA

List of students who have fulfilled the requirements for award of M.S(R). Degree in Energy

Sl. No	Roll No	Name
1.	204351002	ANGANA CHAUDHURI
2.	204351004	DEZI SHRIVASTAV
3.	204351006	JOYSHREE KONWAR
4.	204351007	MAHAJAN MAHESH RAJMAL
5.	204351008	MORE SHUBHAM MOHAN
6.	204351012	ILA ABHAY KULKARNI
7.	204351013	SHUBHAM SHARMA
8.	204351015	VAIBHAV BANDUJI INGLE
9.	194351004	DUSHYANTA MADHAV SHARMA
10.	194351005	JYOTIRMOY SARMA
11.	194351011	SATHISH V H
12.	194351012	SIDDHARTH VASHISHTH
13.	194351014	VIVEK KUMAR

List of students who have fulfilled the requirements for award of M.S(R). Degree in E-Mobility

Sl. No	Roll No	Name
1.	204363001	AJAY SINGH
2.	204363004	DON VINIT X V
3.	204363008	PRIYA
4.	204363009	SANABOYINA PRUDHVI
5.	204363010	VISHAL MAURYA
6.	204363003	BASANT KUMAR MISHRA

List of students who have fulfilled the requirements for award of PhD. Degree in Computer Science and Engineering.

Sl. No	Roll No	Name
1.	126101002	DURGESH KUMAR
2.	146101003	HEMA KUMAR YARNAGULA
3.	146101009	PUNEET BAKSHI
4.	146101016	SURAJIT DAS
5.	156101001	PALASH DAS
6.	156101002	APARAJITA DUTTA
7.	156101006	BRIJESH SINGH
8.	156101015	SWARUP RANJAN BEHERA
9.	156101017	MADHURIMA BURAGOHAIN
10.	156101018	ABHIJIT DAS
11.	156101020	PRANAV KUMAR SINGH
12.	156101023	ABDALGANIY KEBEDE WAKJIRA
13.	166101001	DIPIKA DEB
14.	166101009	CHINMAYA KUMAR SWAIN
15.	166101017	MOUSTAFA NAJM
16.	166101018	LENIN LAITONJAM
17.	176101005	PRASEN KUMAR SHARMA
18.	176101012	LOITONGBAM GYANENDRO SINGH
19.	176101102	ALAKESH KALITA

List of students who have fulfilled the requirements for award of PhD. Degree in Electronics and Electrical Engineering

Sl. No	Roll No	Name
1.	126102025	KARNIKA BISWAS

2.	136102003	P ANOOP
3.	136102025	MOHD MANSOOR KHAN
4.	136102029	ANIRUDDHA MAZUMDAR
5.	146102003	INDRAJIT DAS
6.	146102005	HIMAKSHI CHOUDHURY
7.	146102006	VIJITH KUMAR K.P.
8.	146102017	KAMAKSHI MANJARI
9.	146102024	ALEX PAUL KAMSON
10.	146102032	MRIGANKA BISWAS
11.	146102035	PROTIMA NOMO SUDRO
12.	146102037	GAYATRI NAYAK
13.	156102010	SATYAJIT BORA
14.	156102012	ARIJIT BHATTACHARJEE
15.	156102015	BIKASH SAH
16.	156102017	ARIJIT ROY
17.	156102022	TEFERA KITABA TOLESA
18.	156102023	DEEPIKA GUPTA
19.	156102029	RAJENDRA KUMAR
20.	166102003	UPASANA SARMA
21.	166102009	MANMOHAN SHARMA
22.	166102012	VINEETA DAS
23.	166102020	SUSHANTA BORDOLOI
24.	176102006	SAMI AL ISSA
25.	186102019	RAVEESH S

List of students who have fulfilled the requirements for award of PhD. Degree in Mechanical Engineering

Sl. No	Roll No	Name
1.	136103001	SAILEN DUTTA
2.	136103003	DEVARSHI KASHYAP
3.	136103011	SUNIL KUMAR SINGH
4.	136103032	DIPANKAR DAS
5.	136103036	NGANGKHAM DEVARANI
6.	136103038	SIBANANDA MOHANTY
7.	146103015	SAIBAL KANCHAN BARIK
8.	146103035	MIRZAUL KARIM HUSSAIN
9.	156103004	ABHAY GUPTA
10.	156103006	AJIT KUMAR SAHU
11.	156103008	SHRANISH KAR
12.	156103012	SAURAV KUMAR DUTTA
13.	156103014	GARGI MAJUMDER
14.	156103018	NILAKSHI SARMAH
15.	156103023	BIKASH KUMAR

16.	156103030	HIRAKH JYOTI DAS
17.	156103043	R. SIVA SRINIVAS
18.	166103001	SHAILENDRA KUMAR
19.	166103009	SANGHAMITRA DAS
20.	166103017	UPASANA SARMA
21.	166103031	SAURAV SUMAN
22.	176103021	MANJESH KUMAR

List of students who have fulfilled the requirements for award of PhD. Degree in Civil Engineering

Sl. No	Roll No	Name
1.	146104021	JYOTISH KUMAR DAS
2.	146104043	REGULUS DOMINIC K SHALLAM
3.	156104002	BONISHA BORAH
4.	156104009	ABHINAY KUMAR
5.	156104023	BHASKAR PRATIM DAS
6.	156104025	DHANESH SING DAS
7.	156104029	MOHAMED SAJEER M.
8.	156104030	PRANJAL TAMULY
9.	156104035	A ANJANEYULU
10.	156104038	CHEJARLA VENKATESH REDDY
11.	166104013	SIDDHARTH GARIA
12.	166104026	ANDE BHUVANESWARI DEVI
13.	166104028	SUVIN P.V.
14.	166104034	ABHISEKH SAHA
15.	166104040	RUBI CHAKRABORTY
16.	166104046	SHIFERAW EROMO CHAEMISO
17.	166104103	ANUPAL J BARUAH
18.	166104105	JEFFREY DENZIL K. MARAK
19.	176104003	SANTANU PATHAK
20.	176104004	SIDDHANT DASH
21.	176104022	JYOTISMITA TAYE

List of students who have fulfilled the requirements for award of PhD. Degree in Design

Sl. No	Roll No	Name
1.	146105012	HITESH SHARMA
2.	146105016	PANKAJ UPADHYAY
3.	146105017	ABHISHEK SINGH
4.	156105012	SAURAV KHUTTIYA DEORI
5.	156105017	ABHIJIT PADUN
6.	166105001	SACHIN SHIVAJI JADHAV
7.	166105008	MD SARFARAZ ALAM

List of students who have fulfilled the requirements for award of PhD. Degree in Biosciences and Bioengineering

Sl. No	Roll No	Name
1.	136106022	VARTIKA SRIVASTAVA
2.	136106023	SIDDHARTH NIMKAR
3.	136106027	BETHSEBIE LALDUSAKI SAILO
4.	136106028	KHWAIRAKPAM AMRITA DEVI
5.	146106004	SURAJ KUMAR MANDAL
6.	146106009	GANESH N
7.	146106026	VINAY KUMAR BELWAL
8.	146106029	BIBHAS KUMAR BHUNIA
9.	146106030	SHREYA MEHROTRA
10.	146106032	JAHNU SAIKIA
11.	146106033	KISHORE BANIK
12.	146106037	AJEET KUMAR
13.	146106038	SURJITH RAMASAMY
14.	146106043	SATENDRA SINGH GURJAR
15.	146106044	YOGENDRA PRATAP SINGH
16.	146106045	HARSHA CHOUDHARY
17.	156106004	PRIYA MULLICK
18.	156106007	MANISHA PANDEY
19.	156106008	MUTHUVEL J
20.	156106011	KRISHAN KUMAR THAKUR
21.	156106015	RICHA SRIVASTAVA
22.	156106019	ANSHUMAN MOHAPATRA
23.	156106020	SUBBI RAMI REDDY TADI
24.	156106029	PRERAK GUPTA
25.	156106030	VARUN SAXENA
26.	156106033	ABHISHEK KUMAR
27.	166106002	RAJIB SHOME
28.	166106003	VIVEK PRAKASH
29.	166106006	SMITA DAS
30.	176106007	MANOJ KUMAR

List of students who have fulfilled the requirements for award of PhD. Degree in Chemical Engineering

Sl. No	Roll No	Name
1.	136107004	ATANU KUMAR PAUL
2.	136107043	TELLAGORLA RAMESH
3.	156107004	SIDDHARTH THAKUR

4.	156107005	ANKUR PANDEY
5.	156107006	SATARUPA DUTTA
6.	156107012	BARNALI BHUI
7.	156107015	AANISHA AKHTAR
8.	156107018	MAHBOOB ALAM
9.	156107024	RUPAM SINHA
10.	156107027	BIKASHBINDU DAS
11.	156107031	ARITRA DAS
12.	156107034	BITANG KWRUNG TRIPURA
13.	156107043	DEVIPRIYA GOGOI
14.	166107005	ANUSUYA TALUKDAR
15.	166107006	MULCHANDANI NEHA MANOJKUMAR
16.	166107012	KUSHAGRA AGRAWAL
17.	166107013	SURABHI PATEL
18.	166107014	NAGARGOJE MAHESH SHAHADEO
19.	166107101	BHARATH VELAGA
20.	166107111	JINESH SUBHASH MACHALE
21.	186107007	KAKALI PRIYAM GOSWAMI

List of students who have fulfilled the requirements for award of PhD. Degree in Physics

Sl. No	Roll No	Name
1.	136121003	ARUN MATHEW
2.	146121024	SAGARIKA ADHIKARY
3.	146121030	SASMITA BEHERA
4.	156121006	RISHAV ROSHAN
5.	156121012	ANIRBAN SIKDAR
6.	156121024	NAGENDRA KUMAR
7.	156121025	KARUNA SINDHU MALIK
8.	156121026	SUMIT GOSWAMI
9.	156121031	DOLLY TAPARIA
10.	166121003	KAJAL SAMANTA
11.	166121012	LOPAMUDRA MUKHERJEE
12.	166121013	DIBYENDU NANDA
13.	166121018	PRIYANKA SINHA
14.	166121021	ABDELSALAM HASSAN MUHAMMAD ABDELAZIZ
15.	166121102	SAYAN LAHIRI
16.	166121103	RAKESH SARKAR

List of students who have fulfilled the requirements for award of PhD. Degree in Chemistry

Sl. No	Roll No	Name
1.	136122024	KAHEEL AHMAD
2.	146122023	SOURAV KALITA

3.	146122035	ILA
4.	146122038	TAPASI KALITA
5.	156122003	SUBRATA MONDAL
6.	156122004	KUNDAN SAHA
7.	156122016	CHANDAN GHARUI
8.	156122035	KRISHNA GOPAL CHATTARAJ
9.	156122036	ANISHA PURKAIT
10.	156122037	MAIMUR HOSSAIN
11.	156122042	JUMI DEKA
12.	156122044	SOUNAK BHATTACHARYA
13.	156122045	SUJAN KALITA
14.	156122046	PRASENJIT SARKAR
15.	156122052	AVIJIT DAS
16.	156122054	NIRMALYA PRADHAN
17.	166122001	NANDITA BISWAS
18.	166122011	CHIRANJIB GOGOI
19.	166122014	MIHIR MANNA
20.	166122015	RABINDRANATH GARAI
21.	166122019	SUHAIB ALAM
22.	166122020	SATYAJIT MAHATA
23.	166122026	RABINDRANATH PAUL
24.	166122027	TUKHAR JYOTI KONCH
25.	166122033	DIPANJAN BHATTACHARYYA
26.	166122034	KOUSIK MAJI
27.	166122035	BASAB KANTI DAS
28.	166122036	NASIM AKHTAR
29.	166122037	SENJUTI HALDER
30.	166122039	PAYEL DOWARI
31.	166122040	ADIT KUMAR SHAH
32.	166122041	MOHD SHAVEZ
33.	166122042	KAUSTAV BANERJEE
34.	166122101	ASESH DAS
35.	176122105	SAGHIR ALI
36.	176122110	SANTA MONDAL

List of students who have fulfilled the requirements for award of PhD. Degree in Mathematics

Sl. No	Roll No	Name
1.	126123003	SWAPNENDU PANDA
2.	136123010	TANUSHREE RAY
3.	146123001	PAPRI ROY
4.	146123012	NANDITA ROY
5.	156123009	RAKESH JANA
6.	156123015	SHANTIRAM MAHATA

7.	156123016	RAM MANOHAR
8.	156123019	BANDITA ROY
9.	156123020	RUPAK KUMAR DALAI
10.	156123021	NILAY MONDAL
11.	166123002	AYAN CHANDA
12.	166123003	SHAMIK DAS
13.	176123005	AVIJIT DAS
14.	186123002	AJIT SINGH

List of students who have fulfilled the requirements for award of PhD. Degree in Humanities and Social Sciences

Sl. No	Roll No	Name
1.	9614101	KANAK KANTI BERA
2.	146141002	KONINIKI MUKHERJEE
3.	146141003	PRARTHANA SAIKIA
4.	146141004	BANDANA CHOWDHURY
5.	146141018	TRIPTI DAS
6.	146141021	S. NENGNEITHEM HAOKIP
7.	146141022	JIMMY SEBASTIAN DAIMARY
8.	156141006	BISWAJIT SARMAH
9.	156141009	SANGAY TAMANG
10.	166141004	SUMIT KUMAR SARMA
11.	166141107	TANIA SEN
12.	176141005	SUNU KALITA

List of students who have fulfilled the requirements for award of PhD. Degree in Energy

Sl. No	Roll No	Name
1.	136151008	FIRDAUSA AHMED
2.	146151005	PRIYANKI DAS
3.	156151002	MADONNA ROY
4.	156151004	PHILIP BERNSTEIN SAYNIK
5.	156151006	PRABIN KUMAR SHARMA
6.	156151010	VISWANTH RAMBA
7.	166151103	MRINAL BHOWMIK
8.	166151109	ANIL KUMAR ROUT
9.	176151012	HARRISON HIHU MUIGAI

List of students who have fulfilled the requirements for award of PhD. Degree in The Environment

Sl. No	Roll No	Name
1.	146152007	NIBEDITA GHOSH

2.	146152008	SMRUTI RANJAN DASH
3.	146152010	RAJNEESH KUMAR
4.	156152003	SAYANTI GHOSH
5.	156152004	POULAMI DATTA
6.	156152005	JAYAKRISHNAN U
7.	156152007	ANUPAMA BORA
8.	156152009	TANMAY DUTTA
9.	156152011	JINAT AKTAR
10.	166152001	NIVEDHITHA S
11.	166152104	DEEPA SACHAN
12.	166152105	MODALAVALASA SURESH

List of students who have fulfilled the requirements for award of PhD. Degree in Nanotechnology

Sl. No	Roll No	Name
1.	146153004	SIDDHANTA ROY
2.	146153005	PRITAM ROY
3.	156153001	NIRMAL CHANDRA ROY
4.	156153003	THOMAS T DANIEL
5.	166153004	RITESH KANT GUPTA
6.	166153005	ANITHA T SIMON

List of students who have fulfilled the requirements for award of PhD. Degree in Nanotechnology

Sl. No	Roll No	Name
1.	146153004	SIDDHANTA ROY
2.	146153005	PRITAM ROY
3.	156153001	NIRMAL CHANDRA ROY
4.	156153003	THOMAS T DANIEL
5.	166153004	RITESH KANT GUPTA
6.	166153005	ANITHA T SIMON

List of students who have fulfilled the requirements for award of PhD. Degree in Rural Technology

Sl. No	Roll No	Name
1.	166154001	PRANAY KUMAR SARKAR
2.	166154002	IMDADUL HOQUE MONDAL
3.	166154104	NIHAL GUJRE

List of students who have fulfilled the requirements for award of Dual M.S. + PhD. Degree in Electronics and Electrical Engineering

Sl. No	Roll No	Name
1.	156302003	NIHARIKA BARUAH
2.	156302009	MANORANJAN MINZ
3.	176302003	ASHISH KUMAR CHOWDHARY

PROGRESS OF CONSTRUCTION WORKS

Sl. No.	Works	Cost of works (₹ in lakhs)	Physical progress			This Year
			Up to 31.03.2022	During 2022-2023	Total	
	<i>Hostel Building</i>					
1.	Economically weaker section students' Hostel (500 seater, 11890 sqm)	3897.98	5%	40%	45%	<p>All the piling works has been completed.</p> <p>In Block A Super Structure work 90%, Wall and Plastering work 70%, floor tiling works 60% and Cupboard 40% completed.</p> <p>In Block –B Pile cap works is in progress.</p> <p>The other finishing works, site development works etc. are in progressing and building is expected to be completed by January 2024</p>
	<i>Academic Complex</i>					
2.	Academic Phase VI (6559.00 sqm)	3272.00	35%	40%	75%	<p>All the structural work of the building has been completed except the roof of B- block which is a CGI sheet roofing. 90% of plastering work, POP, flooring and internal electrification has been completed. The Air conditioning work, Ceiling work, external plastering work, door and window fixing work and site development works are going on. The building is expected to be completed by 31.07.2023.</p>
	<i>Residential Building</i>					
3.	F-Type (Phase-V) (5186.08 Sqm)	13686.00	68%	17%	85%	<p>Two towers have been taken over out of which on tower is already occupied.</p>

4.	Research Park (19663 sqm)	7500.00	80%	20%	100%	The work has been completed in December 2022
5.	Data Centre at Central Library Centre for Computer & Communication Centre (CCC) Building	213.94	90%	10%	100%	The work is completed and was inaugurated by the Hon'ble President of India on 13.10.2022
6.	SAMEER Building (2935 sqm , G+1)		--	--	--	The draft MoU received from the Society for Applied Microwave Electronics and Research(SAMEER) is under the finalization state from the Institute. The design, drawing and estimate of the SAMEER building was approved by 91 st meeting of B&WC held on 18.07.2022. The same was sent for Administrative approval to SAMEER. However, they requested to modify the earlier conceptual design and drawing. Accordingly, Architect has been intimated to modify the conceptual drawing and SAMEER has also approved the modified drawing. Now the Architect is ordered to submit the design drawing and estimate of the new assignment. The same will be placed in the coming B&WC for approval to execute the work.
7.	Bio Science & Bio Engineering (BSBE) Building (12500 sqm for G+5 storey)		--	--	--	The work is held up due to boarders at 4.5m level.
8.	Core Laboratory for 1 st yearities (3630 Sqm)		--	5%	5%	Piling work is in progress.

9.	International students' Hostel (3310 sqm)		--	10%	10%	The work has been awarded to M/s Ganapati Construction Company, Guwahati-781001 vide LOI no. IITG/IPM/CAP/FY22-23/LOI/16 dated 09.12.2022. The work is now on progress and 70% of foundation work has been completed.
10.	Extension of Mechanical Department (1760 sqm)		--	30%	30%	The work has been started from November'2022. Structural work of one floor is completed and in the other floor about 30% completed. Brickwork in one floor is completed
11.	Extension of Research building, SAC, Class room		--	60%	60%	The finishing work is in progress in Research building and New SAC building The work shall be expected to be completed by September 2023 in all respect. For the work of classroom complex, MOU has been signed between IITG APWD (B&NH) to complete the finishing work including augmentation HVAC, Electrical and Audio Visual system
12.	Mehta Family school of data science and artificial intelligence (4784 sqm)		--	--	--	Architect selection is already over and conceptual plans has been forwarded to Mr. Rahul Mehta for his consent.

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
GUWAHATI - 781039, ASSAM

BALANCE SHEET AS AT 31ST MARCH 2023

[Amount in ₹]

SOURCES OF FUNDS	Schedule	Current Year	Previous Year
CORPUS/CAPITAL FUND	1	12,11,61,05,918	11,86,26,84,459
DESIGNATED/ EARMARKED / ENDOWMENT FUNDS	2	2,17,09,80,902	1,89,17,56,373
CURRENT LIABILITIES & PROVISIONS	3	8,15,77,05,735	7,38,73,91,348
TOTAL		22,44,47,92,555	21,14,18,32,180
APPLICATION OF FUNDS	Schedule	Current Year	Previous Year
FIXED ASSETS	4		
Tangible Assets		14,09,26,35,140	14,17,77,17,963
Intangible Assets		17,79,04,976	10,50,75,168
Capital Works-In-Progress		1,58,96,10,985	1,05,49,96,690
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5		
Long Term		1,10,41,87,228	98,77,95,140
Short Term		0	0
INVESTMENTS - OTHERS	6	60,98,17,037	48,83,11,280
CURRENT ASSETS	7	3,95,83,22,007	3,53,39,64,061
LOANS, ADVANCES & DEPOSITS	8	91,23,15,184	79,39,71,879
TOTAL		22,44,47,92,555	21,14,18,32,180

SIGNIFICANT ACCOUNTING POLICIES 23
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INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
GUWAHATI - 781039, ASSAM

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2023

[Amount in ₹]			
Particulars	Schedule	Current Year	Previous Year
INCOME			
Academic Receipts	9	62,69,42,790	56,22,72,693
Grants / Subsidies	10	3,98,73,42,046	3,01,36,88,023
Income from investments	11	8,25,79,923	10,73,88,478
Interest earned	12	4,17,51,881	2,46,46,263
Other Income	13	10,68,75,356	7,99,60,286
Prior Period Income	14	33,51,557	60,99,342
TOTAL (A)		4,84,88,43,554	3,79,40,55,086
EXPENDITURE			
Staff Payments & Benefits (Establishment expenses)	15	2,68,86,97,089	2,29,54,42,265
Academic Expenses	16	80,91,16,152	79,43,77,161
Administrative and General Expenses	17	46,27,69,496	30,23,51,079
Transportation Expenses	18	1,93,55,311	2,02,31,440
Repairs & Maintenance	19	31,96,74,899	31,43,64,170
Finance costs	20	5,72,70,336	5,82,86,013
Depreciation	4	82,15,51,162	75,00,08,941
Other Expenses	21	0	0
Prior Period Expenses	22	14,16,10,023	48,64,56,492
TOTAL (B)		5,32,00,44,468	5,02,15,17,560
Balance being excess of Income over Expenditure (A-B)		-47,12,00,914	-1,22,74,62,474
Add : Transfer Corpus/Capital for equivalent amount of Depreciation on Assets Purchased from Capital Grant/ Projects/ transfer of ownership/earmarked et		82,15,51,162	75,00,08,941
Transfer to / from Designated Fund			
Earmarked / Endowment Funds		-13,52,08,437	-11,14,20,022
Less: Excess of Capital Expenditure		-2,06,71,943	
Less Amount Transferred to HEFA		-30,31,03,875	-29,73,50,000
Balance Being Surplus / (Deficit) Carried to Capital Fund		-10,86,34,007	-88,62,23,555

Significant Accounting Policies 23
Contingent Liabilities and Notes to Accounts 24

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
GUWAHATI - 781039, ASSAM

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2023

[Amount in ₹]

RECEIPTS		Current Year	Previous Year	PAYMENTS		Current Year	Previous Year
I.	Opening Balance			I.	Expenses		
	a) Cash Balances	3,13,000	2,63,000		a) Establishment Expenses	2,16,78,96,742	1,85,33,01,628
	b) Bank Balance		0		b) Academic Expenses	71,29,09,463	77,44,10,502
	i. In Current accounts	73,78,24,970	97,43,73,607		c) Administrative Expenses	2,58,88,252	64,60,429
	ii. In Savings accounts	2,70,01,05,045	2,48,27,10,834		d) Transportation Expenses	9,91,729	7,02,436
	iii. In Deposit accounts	9,57,21,046	5,41,32,533		e) Repairs & Maintenance	4,41,768	56,52,217
II.	Grants Received		0		f) Prior period expenses	6,83,47,851	58,02,695
	a) From Government of India	4,59,73,22,303	4,70,98,12,409		g) Finance Cost	5,72,70,927	3,99,04,131
	b) From State Government		0	II.	Payments against Earmarked/ Endowment Funds	7,43,10,545	6,89,96,053
	c) From others		0	III.	Payments against Sponsored Projects/Schemes	74,48,00,740	48,13,98,403
	d) Grants in aid receivable for 2020-2021 received during the year		20,71,00,000	IV.	Payments against Sponsored Fellowships/Scholarships	14,97,93,302	9,44,78,274
III.	Academic Receipts	94,25,55,618	75,02,06,997	V.	Investments and Deposits made		0
IV.	Receipts against Earmarked/ Endowment Funds	20,70,06,180	8,58,28,643		a) Out of Earmarked/Endowments funds		0
V.	Receipts against Sponsored Projects/Schemes	1,15,57,26,095	1,01,75,17,686		b) Out of own funds (Investments- Others}	74,54,28,805	0
VI.	Receipts against sponsored Fellowships and Scholarships	16,82,11,760	9,48,16,487	VI.	Term Deposits with Scheduled Banks		0
VII.	Income on Investments from		0	VII.	Expenditure on Fixed Assets and Capital Works - in- Progress		0
	a) Earmarked/Endowment funds	4,02,91,461	2,75,80,836		a) Fixed Assets	9,87,28,120	4,31,64,005
	b) Other investments	62,67,861	3,70,92,002		b) Capital Works- in- Progress		0
VIII.	Interest received on		0	VIII.	Other Payments including statutory payments	1,28,40,21,613	1,29,12,66,235
	a) Bank Deposits		0	IX.	Refunds of Grants	3,65,30,758	1,38,39,55,802
	b) Loans and Advances		0	X.	Deposits and Advances	2,31,85,15,130	1,78,74,12,719
	c) Savings Bank Accounts	4,11,44,828	2,38,16,755	XI.	Other Payments	31,28,33,385	1,47,65,400
IX.	Investments encashed	54,59,14,661	0	XII.	Closing balances		0
X.	Term Deposits with Scheduled Banks encashed		0		a) Cash in hand	3,19,000	3,13,000
XI.	Other income (including Prior Period Income)	3,92,18,746	3,27,56,723		b) Bank balances		0
XII.	Deposits and Advances	44,47,62,548	10,66,58,836		In Current Accounts	97,34,18,376	73,78,24,970
XIII.	Miscellaneous Receipts including Statutory Receipts	94,07,48,702	74,51,27,422		In Savings Accounts	2,96,45,85,970	2,70,01,05,045
XIV.	Any Other Receipts - Fixed Asstes/ Direct-Indirect expenses	9,38,85,568	3,58,40,220		In Deposit Accounts	1,99,87,916	9,57,21,046
	TOTAL	12,75,70,20,392	11,38,56,34,990		TOTAL	12,75,70,20,392	11,38,56,34,990



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