

## Director's Report



**Twenty Second Convocation**

**22 September, 2020**



**Indian Institute of Technology Guwahati**



Hon'ble, Prime Minister of India Shri Narendra Modi ji; Hon'ble, Education Minister of India Shri Ramesh Pokhriyal 'Nishank" ji; Hon'ble, MoS for Education, Gol Shri Sanjay Dhotre ji; Hon'ble, Chief Minister of Assam Shri Sarbananda Sonowal ji; Dr. Rajiv I. Modi, Chairman of the Board of Governors, Members of the Board of Governors; Members of the Senate; faculty members, invited dignitaries, guests; graduating students and their family members; members of the media; officers and staff of the Institute; ladies and gentlemen – it is my pleasure to welcome all of you to the Twenty Second Convocation of IIT Guwahati.



Hon'ble, Prime Minister of India Shri Narendra Modi



Education Minister of India Shri Ramesh Pokhriyal 'Nishank'



Hon'ble, MoS for Education, Gol Shri Sanjay Dhotre



Hon'ble, Chief Minister of Assam Shri Sarbananda Sonowal ji



Dr. Rajiv I. Modi, Chairman of the Board of Governors



I take this opportunity to express our solemn gratitude to Hon'ble, Prime Minister of India Shri Narendra Modi ji for accepting our invitation to be the Chief Guest of this Convocation and for kindly agreeing to deliver the Convocation Address.

I am also thankful to Hon'ble, Education Minister of India Shri Ramesh Pokhriyal 'Nishank' ji; Hon'ble, MoS for Education, Shri Sanjay Dhotre ji; Hon'ble, Chief Minister of Assam Shri Sarbananda Sonowal ji; for sparing very valuable time from their busy schedules to be present and grace this function of IIT Guwahati.

On behalf of the IIT Guwahati, I wish to thank the Ministry of Education (formerly Ministry of Human Resources Development) for their continued support to enhance the academic and research programmes and infrastructure of the Institute, and the faith reposed on us. Ministry's excellent support for the growth of this Institute since its inception in 1994 has enabled us to achieve a number of milestones and has allowed us to set new targets for the future.

Dear parents of the students, I am pleased to inform you that IITG is ranked as one of the top universities of the country in 2020 and among the best in the world. IIT Guwahati attracts the brightest students from the country for its Bachelor's, Master's and Doctoral programmes. In the 26 years of its existence, about 15,000 students have graduated from IIT Guwahati. The alumni of the Institute have made their alma mater proud through their achievements and contributions in diverse fields. IITG has engaged with its Alumni and this relationship is steadily growing. Innovation, Entrepreneurship and Research, along with its translational opportunities, is an increasing focus of activity of IITG. The Institute has been able to attract outstanding faculty members from not just India but other parts of the globe also. Today, I am happy to inform you that we have 412 faculty members on roll – with many of them globally acknowledged for their research contributions. We have also been able to further our links with international and national peer universities and institutes and in particular CFTI's and Universities in the north east of India, enabling us to enhance



research and educational programmes of IITG. The progress of IIT Guwahati on all fronts has been extremely laudable in the past year despite the unforeseen difficulties faced due to the current pandemic. I would like to acknowledge the devoted efforts of the faculty, staff, students and administration of the Institute towards these goals. Within this short span of 25 years of existence, IIT Guwahati has been the only academic institution from India that occupied a place among the top 100 (61 -70) world universities – under 50 years of age – published by QS Young Universities ‘Under 50 years’ and continues to do well in various International Rankings. IIT Guwahati has also been ranked at 470 in the QS World ranking 2021. IIT Guwahati ranks 3<sup>rd</sup> among the leading science and research institutions in India in terms of research citation in QS Rankings, ranked 350th in the Overall World Category and 6th in Overall India Category in the Academic Sector of Nature Index Annual Ranking 2020. While in Subject-wise Rank in India, IITG has been ranked within top 10 in four subjects of Nature Index. IIT Guwahati has been ranked 7<sup>th</sup> both in Engineering and Overall categories in the NIRF ranking conducted by MHRD in the year 2020. IIT Guwahati has also been ranked 3<sup>rd</sup> in the “Swachhata Ranking 2019” conducted by the Gol and is the only centrally funded technical institute to be among the top 5 consistently for the past three years ever since these rankings were launched.

### **MHRD-NIRF India Rankings 2020**

A major achievement for the Institute came through the announcement of MHRD, National Institutional Ranking Framework (NIRF), India Rankings 2020 in which IIT Guwahati improved its rank to **seventh** among the top engineering institutions and participating universities of the country.

### **‘NIRF’ RANKING**

Engineering	: 7
Overall	: 7



### **'QS' RANKING**

QS Top 50 Under 50 Ranking 2019 : 71-80

QS World University Ranking 2020 : 470

### **SWACHHATA RANKING**

The Indian Institute of Technology, Guwahati (IITG) has been ranked third in the cleanliness ranking for higher educational institutions organised by Union HRD Ministry (now higher education ministry).

The IITG was ranked 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 credit for this success entirely goes to the faculty members, students, research scholars as well as the officers and staff members and well-wishers of the Institute. The Institute shall tirelessly strive in the coming days to achieve higher rank.

Here at IITG we have employed an array of new strategies including project based learning, student internships, industry externships, employing on part-time industry experts as practicing professors to teach some portion of the courses, student entrepreneurship/start-ups to encourage job skilled focused education in their respective courses in specific disciplines, electives, specialized laboratories courses and real world projects. To handle this we at IITG have created a new group Industry interactions and Special Initiatives, Internships will help in many ways for the students to learn the job skills. This time we have done even online internships with the companies during this pandemic, Further, we at IIT Guwahati have industry advisors for each department to modify the curriculum with the suggestions from industry representatives to increase the presence of the job skilled focused education. Here teachers have been asked to implement curricular innovations taking input from industry expert. Students/ research scholars will experience more in skill training





specific to a job sometimes. We have setup the Incubation Centers to do innovative research leading to creation of intellectual property and we fund completely for filing of patents. A Research Park is established with MHRD support and faculty Entrepreneurship is being permitted. Joint degree programmes and Joint appointments of Industry experts – enabling researchers to learn the need of industry and this will also teach the teachers to engage in industrial / applied research.

I feel delighted to share with you that 288 PhD students, 687 undergraduate students and 829 postgraduate students will receive their degrees. I extend my heartiest congratulations to all of them.

This is not a normal time, though, so our experience today is not strictly traditional. We do not have the pomp and ceremony of a grand auditorium, or the shared enthusiasm of family members and friends sharing with each other in applauding and cheering for their success as a graduate on the beautiful campus of IIT Guwahati. But today, we've moved our time-honored tradition into the virtual realm, and I am speaking to you from the Mini Hall with the backdrop. I would have liked to see you all face-to-face for this last time by attending the convocation in IITG campus but COVID-19 virus had a different plan altogether. The essence is celebrating graduates, and we are pleased to celebrate you and your accomplishments through virtual mode. For keeping the essence of the tradition, we have specially created a virtual reality-based award distribution in this convocation where you will be experiencing personally created avatars of awardees collecting medals & certificate from my own avatar surrogating me, from the comfort of your home. Possibly this is the most advanced version of online convocation for any institute. Further, there will be photo booths to take your pictures in virtual presence at IITG campus. The tele-presence module of the virtual convocation is to be carried out through an online portal, which IITG faculty and students have developed. It is similar to zoom or any other meeting software, but



with a big difference that the interface is like a game where we look around for fun as these are the final moments the students who we think will enjoy the portal a lot.

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 with Industry collaboration and colocation of Industries in the research Park at IITG. IIT Guwahati is trying to leap forward by embracing the rising demands of newer and interdisciplinary areas of research and technology development by incorporating industry participating in offering courses in futuristic areas. The strategic commitment of the administration of IITG provides the road map of the long journey for IITG. The strategies include the Mission, Vision, Goal and Values that would be instrumental in placing IIT Guwahati among the top academic institutions of the world. These strategies will create new opportunities for the faculty and the students for enhancement of knowledge, performing cutting edge research and development of professional skills. The ultimate aim is to provide the students with an educational training that emphasizes innovation, social awareness and professional ethics while promoting the spirit of creativity amongst our researchers. In a renewed drive towards community impact, developmental activities are essential. Some of these encompass intra-institutional collaborations to bring together the best of resources in the national interest and moving from tower of excellence to network of excellence.

I will now present a brief report on the activities and achievements of the Institute during the year 2017-2018.



## THE BOARD OF GOVERNORS

Prof. Diganta Goswami, Professor, Department of Computer Science & Engineering, IIT Guwahati joined the Board in January 2020 as a nominee of the Senate. Prof. Bhaba Kr. Sarma, Professor, Department of Mathematics, has completed her tenure as the nominee of the Senate in December 2019. On behalf of the Board, I welcome Prof. Goswami to the Board and thank Prof. Sarma for her valuable contributions.

## NATIONAL PROJECTS

Indian Institute of Technology Guwahati and the All India Council for Technical Education (AICTE) signed a Memorandum of Understanding (MoU) on 27 September 2019 to implement the Prime Minister's Special Scholarship Scheme for Jammu and Kashmir students. The main objective of the collaboration is to provide some exposure to the students of Jammu and Kashmir and also to advance the academic culture at the higher learning institutes in India. The MoU was signed at the IIT Council meeting between Prof. T. G. Sitharam, Director of IIT Guwahati and Prof. Anil D. Sahasrabudhe, Chairman of AICTE in the presence of Union Minister for Human Resource Development, Ramesh Pokhriyal and Minister of State for Human Resource Development (HRD), Sanjay Dhotre.



### **Signing a Memorandum of Understanding (MoU) on 27 September 2019**

**Global Initiative of Academic Networks (GIAN)**, an initiative of Govt. of India for Higher Education, was started in 2016. The major aims of GIAN are to tap the international pool of talented scientists/entrepreneurs with an objective to encourage their engagement with the institutes of Higher Education in India. The initiative is aimed to augment the country's existing academic resources, accelerate the pace of quality reforms, and elevate India's scientific and technological capacity to global excellence. In the reporting year, 4 such courses were conducted by erudite scholars from international universities/institutions at the Institute.

The Institute is also engaged in creating e-course contents for the MHRD flagship programme **Central Sector Scheme-Massive Open Online Courses (CSS-MOOCs)** where 79 numbers of courses were delivered through NPTEL online portal under the reporting year.

The Institute organised teacher training programmes under **Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMNMTT)** – an MHRD, Govt. of India Initiative – for in-service teachers of Assam and other states of India in three phases where a total of 1572 teachers were given training.

## ACADEMIC ACTIVITIES

The Institute offers

- Bachelor of Technology (BTech) Programmes in Biotechnology (BT), Chemical Engineering (CL), Chemical Science and Technology (CT), Civil Engineering (CE), Computer Science and Engineering (CS), Electronics and Communication Engineering (EC), Electronics and Electrical Engineering (EE), Engineering Physics (EP), Mathematics and Computing (MC), and Mechanical Engineering (ME);
- Bachelor of Design (BDes) programme in Design (DD);
- Master of Technology (MTech) programmes in BT, CL, CE, CS, EE, ME, RT;
- Master of Design (MDes) programme in Design;
- Master of Science by Research [MS(R)] programme in Energy(EN)
- Master of Science (MSc) programmes in Chemistry (CH), Mathematics and Computing (MC), and Physics (PH);
- Master of Arts (MA) programme in Development Studies (DS) in the Department of Humanities and Social Sciences (HS);
- Doctor of Philosophy (PhD) programmes in all the Departments and in the Centre for Energy (EN), Centre for the Environment (EV), Centre for Nanotechnology (NT), Centre for Rural Technology (RT) and Centre for Linguistic Science and Technology (CLST);
- Dual (MTech + PhD) programme in the Department of Computer Science and Engineering (CS); and

- Dual [MS (Eng.) + PhD] programme in Electronics and Electrical Engineering (EE).
- International Joint Master and PhD Degree Programmes with GIFU University, Japan.
- Interdisciplinary M.Tech Programme in Data Science
- Interdisciplinary MS (R) Programme in E-Mobility
- Interdisciplinary PhD Programme

The total number of enrolled students in 2019-20 is 6419. Of these, 54.41% are postgraduate students. The detailed break up is –

#### Preparatory Programme: 8

#### Four-year BTech and BDes: 2926

Batch	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME	Total
Fourth Year (2014 Batch)	49	72	61	87	39	42	78	45	38	49	81	641
Third Year (2015 Batch)	53	72	63	88	42	43	80	47	42	60	85	675
Second Year (2016 Batch)	44	79	66	97	44	42	89	53	44	63	93	714
First Year (2017 Batch)	67	94	83	101	55	56	90	56	60	64	106	832
From earlier batches												64
<b>Total</b>												<b>2926</b>

#### Two-year MSc: 287

Batch	CH	MC	PH	Total
Second Year (2016 Batch)	49	38	42	129



First Year (2017 Batch)	55	45	46	146
From earlier batches				12
<b>Total</b>				<b>287</b>

**Two-year MA: 82**

Batch	DS	Total
Second Year (2016 Batch)	28	28
First Year (2017 Batch)	54	54
From earlier batches		0
Total		82

**Two-year MTech: 960**

Batch	BT	CE	CL	CS	EE	ME	RT	DS	FST	Total
Second Year (2016 Batch)	40	92	48	46	59	95	8	0	0	388
First Year (2017 Batch)	52	120	68	59	96	122	12	20	8	557
From earlier batches										15
<b>Total</b>										<b>960</b>

**Two-year MDes: 60**

Batch	DD	Total
Second Year (2016 Batch)	26	26
First Year (2017 Batch)	34	34
Total		60

**Two-year MS(R): 24**

Batch	EN	Total
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Second Year (2016 Batch)	11	11
First Year (2017 Batch)	13	13
From earlier batches		0
<b>Total</b>		<b>24</b>

<b>Dual Degree: 28</b>	
<b>(MTech + PhD) in CS</b>	8
<b>[MS(Eng.)+PhD] in EE</b>	20
<b>Total</b>	<b>28</b>

#### PhD: 2044

BSBE	CE	CH	CL	CS	DD	EE	EN	EV	HS	MA	ME	NT	PH
219	208	255	174	101	79	187	89	65	118	81	223	40	145
RT	CLST	FST	Integrated ME										
34	22	2	2										

The academic session: 2019-2020 commenced from July 2019. 1997 students were admitted in various programmes across all the Departments/Academic Centres during the reporting year. The department/centre-wise details of new admissions, excluding the preparatory students, are given in the table below:

Department/Centre/Program	BTech/ BDes	MSc/ MA	MTech/ MDes	MS (R)	PhD	Dual Degree
Biosciences and Bioengineering (BSBE)	67	-	52	-	33	-
Chemical Engineering (CL)	83	-	68	-	25	-
Chemistry (CH)	55	55	-	-	48	-
Civil Engineering (CE)	94	-	120	-	30	-





Department/Centre/Program	BTech/ BDes	MSc/ MA	MTech/ MDes	MS (R)	PhD	Dual Degree
Computer Science & Engineering (CS)	101	-	59	-	8	0
Design (DD)	56	-	34	-	11	-
Electronics and Electrical Engineering (EE)	146*	-	96	-	28	2
Humanities & Social Sciences (HS)	-	54	-	-	23	-
Mathematics (MA)	64	45	-	-	21	-
Mechanical Engineering (ME)	106	-	122	-	45	-
Physics (PH)	60	46	-	-	37	-
Centre for Energy (EN)	-	-	-	13	13	-
Centre for the Environment (EV)	-	-	-	-	11	-
Centre for Nanotechnology (NT)	-	-	-	-	9	-
Centre for Rural Technology (RT)	-	-	12	-	12	-
Centre for Linguistic Science and Technology (LST)	-	-	-	-	5	-
Data Science (DS)			20			
Food Science and Technology (FST)			8			
<b>Total</b>	<b>832</b>	<b>200</b>	<b>591</b>	<b>13</b>	<b>359</b>	<b>2</b>

\* BTech in Electronics and Communication Engineering: 90, and BTech in Electronics and Electrical Engineering: 56.

Today, **1803** students, who have successfully completed their programmes will receive their degrees in the following disciplines:

**Number of students obtaining degrees in September 2020 is 1803**

#### Four-year BTech and BDes

Total	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME
<b>687</b>	51	78	68	99	38	46	79	46	41	57	84

#### Two-year MA

Total	DS
<b>27</b>	<b>27</b>

### Two-year MSc

Total	CH	MC	PH
146	49	51	46

### Two-year MTech/MDes

Total	BT	CE	CL	CS	DD	EE	ME	RT
637	55	157	76	59	27	82	168	13

### Two-year MS(R)

Total	EN
18	18

### Dual (MTech +PhD) Degree in CS

Total	CS
3	3

### PhD

Department/Centre	No. of Students
BSBE	36
CE	36
CL	23
CH	37
CS	15
DD	14
EE	26
EN	5
EV	4
HS	13
MA	7
ME	39
NT	5
PH	25
<b>Total</b>	<b>285</b>



Due to the COVID-19 pandemic, the institute had to suspend all academic activities from 16.03.2020. However, Jan-May 2020 semester was successfully completed by conducting ONLINE teaching and assessment and results were declared timely. IIT Guwahati has prepared itself for conducting July-Nov 2020 semester on ONLINE mode. All PG + PhD interviews for admission were conducted ONLINE and the admission process has been completed.

### 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:

- " Fully Motorized inverted fluorescence microscope
- " High-Performance Liquid Chromatograph
- " High speed and High capacity centrifuge
- " Parallel Fermenter with Accessories
- " Ultracentrifuge
- " PSU, Zeta Board for ZEN 3600, DSP board, Microprocessor board
- " Ultimaker 3FDM 3D printer, Multi-Filament pack, Modified 3D Tool Kit, UTM Cleaning Filament
- " Basic Plasma Cleaner, PYREX SAMPLE TRAY for the PDC, Thermocouple Vacuum Gauge Assembly
- " Full set of optical alignment including power meter for Dilase 250



Lakshminath Bezbaroa Central Library created state-of-the-art facilities to offer innovative services for teaching, learning and research activities. The library has a

fast growing collection of books, journals, magazines both in print and digital format. It has a collection of about 1.81 lakhs of printed books and bound volumes of journals, 2.03 lakhs of e-books and 27,557 online and print journals along with a substantial number of other documents. During the reporting year, the library has subscribed to some of the world's most renowned abstract/full-text/utility database like ACS Web Edition, EBSCO Business Source Complete, EBSCO Discovery Service, eHRAF Database, IEC Standards, IOP Science Collection, ISO Standards, Royal Society of Chemistry Gold Collection, SciFinder Scholar, Scopus, Turnitin, etc. and some well-known national database i.e. BIS Standards, CMIE ProweesIQ, Economic Outlook, EPWRF Time Series, etc.

For better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently the library subscribes to 16,667 journal titles across all academic areas of which 16,638 are online journals. In addition, Institute has access to 8,824 online journals through the 'e-ShodhSindhu Consortium' and the 'DeLCON: DBT- Electronic Library Consortium'. Library has also developed a reasonably good collection of Assamese language books and the literary works of Sahityarathi Lakshminath Bezbaroa.

Due to ongoing pandemic, students and research scholars staying beyond the Institute Campus faced severe difficulties to access subscribed online contents. To mitigate this challenge, Library immediately developed and deployed well-structured remote access facility of online contents of more than 20 world renowned publishers.



## RESEARCH AND DEVELOPMENT

The other component of our research program is sponsored (or directed) research. There are 291 research projects in progress with a total sanctioned value

of about ` 437.00 crore. In the year under report, we received 131 new projects with a sanctioned value of ` 183.00 crore. The R&D projects are mainly sponsored by Government Ministries and Departments with major support coming from the Ministry of Human Resource Development (MHRD), 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. 343 personnel are engaged in various research projects at the Institute with 101 Principal Investigators involved.

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, Hindustan Gum & Chemicals Ltd, HPCL, MRPL, Himalaya Drug company, K. P. Tech Machine India Pvt. Ltd., Purple Patch Services (an International company), Elint Technologies, Power Grid Corp. of India, Numaligarh Refinery Limited, ONGC, OIL, etc.

The Institute has applied for 31 patents in 2019–2020.

Some of the major research projects received during the year are:



Project Title	Principal Investigator	Funding Agency	Dept./ Centre	Amount Sanctioned (Rs.)
Technologies for Underwater exploration: Technology Innovation Hub under National Mission on Interdisciplinary Cyber-Physical Systems	Dr. T.G. Sitharam and Dr. Santosh Kumar Dwivedy	DST	Institutional Project	1,35,00,00,000
NRL-Centre of Excellence on Sustainable Materials [NRL-COE-SUSMAT] for Development of Biodegradable Plastics from Oil and Bio-Refinery Streams	Dr. Vimal Katiyar	Numaligarh Refinery, PSU	Chemical Engineering	4,00,00,000
Study of Glacial Dynamics and Sustainable Hydrological Resources in Arunachal Himalaya	Dr. T. G. Sitharam and Dr. Chandan Mahanta	DST	Civil Engineering	2,69,23,690
Low-cost innovative technology for water quality monitoring and water resources management for Urban and rural water systems in India (LOTUS)	Dr. Senthilmurugan Subbiah	DST	Chemical Engineering	2,32,71,000
DST-Energy Storage platform on hydrogen	Dr. P. Muthukumar	DST	Mechanical	1,65,94,920
Indian Institutions-Fermi Lab Collaboration in Neutrino Physics	Dr. Bipul Bhuyan	DST	Physics	1,60,54,000
Integrated solar-photocatalytic and biological treatment of pharmaceutical wastewater	Dr. Animesh Kumar Golder	SERB	Chemical Engineering	96,63,060



Assembly of Nanoscale Particles for Theranostic and Energy Applications	Dr. Arun Chattopadhyay	SERB	Nanotechnology	95,00,000
Approximate Computing Techniques for Resource Constrained Edge Devices	Dr. John jose	MHRD	Computer Science and Engineering	77,48,935
Dynamics and Control of Two and Three-dimensional Excitation Waves	Dr. Sumana Dutta	SERB	Chemistry	77,19,154
Functional Mechanism of CRISPR RNA Maturation in an Atypical CRISPR-Cas Adaptive Immune System	Dr. Anand Baskaran	SERB	Biosciences and Bioengineering	74,48,760
Experimental and power plant simulation studies on co-chemical looping combustion of coal and biomass in the context of clean fuel utilization	Dr. Prabu Vairakannu	DST	Chemical Engineering	74,02,047

In addition to sponsored research projects, IIT Guwahati undertakes consultancy assignments for various State Government Departments, the Railways, the National Highways Authority of India, the Oil and Gas Sector, construction and infrastructure companies, the power sector, educational institutes, health and pharmaceutical industries and financial institutions.

Consultancy projects make significant contributions to the industrial, economic and social growth of the country with special emphasis on this region.

A total of 153 new consultancy projects were carried out during the year. The total value of consultancy projects undertaken during this year is ` 10.76 crores and ` 11.27 crores was received for all consultancies.

## FACULTY AND STAFF

The faculty strength at the end of March 2019 was 411. The number of non-teaching staff at the end of March 2019 was 515.

## RESEARCH PUBLICATIONS

The faculty members of the Institute have been actively publishing research papers in international and national journals. The number of publications during the past one year is:

Research Publications: 2112 (Scopus 2019)

In the previous year 1853 (Scopus 2018) research papers were published by the faculty of the Institute. The increase in research papers in journals is encouraging.

## CONFERENCES/WORKSHOPS/SYMPOSIA

Various conferences, seminars and workshops were organized by the Departments and Centers of the Institute during the year. A few of them are:

- “ India-EU ICT Supported Workshop on oneM2M Standard for IoT; April 13, 2019
- “ AIRTF - ASEAN-INDIA Research Training Fellowship; June 30– May 15
- “ Workshop on Advanced Mathematical Modeling for Bioengineering Applications; May 17-18, 2019
- “ ISEA Sponsored Workshop on Advances in Hardware Security; May 24-29, 2019
- “ Symposium on Sustainable Polymers; August 23-25 August 2019
- “ ASP-19 - Fifth International Symposium on Advances in Sustainable Polymers; October 14-18, 2019
- “ North East Green Summit – 4th Edition; November 1-3, 2019
- “ NCUPE-2019 - National Conference on Upstream Petroleum Engineering; November 2-3, 2019
- “ ICANN2019 - 6th International Conference on Advanced Nanomaterials and





Nanotechnology; December 18-21, 2019

- “ Colloquium on "Truth and Non-Violence: Gandhi in the Post-Truth Era"; January 8-9, 2020
- “ 2nd Rural Dialogue on Rural Development; January 20-21, 2020
- “ WATER 2020 - National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment; January 23-25, 2020
- “ DST-UKIERI supported workshop cum symposium on "Bio-inspired Nanomaterials for Environmental Applications"; February 12-13, 2020
- “ RECYCLE 2020 - 3rd International Conference on Waste Management; February 13-14, 2020
- “ ISEA-ISAP 2020 - Third ISEA Conference on Security and Privacy 2020; February 27-March 1, 2020

## **INTERNATIONAL COLLABORATIONS**

### **ACADEMIC AND RESEARCH COLLABORATIONS**

#### **SUZUKI ENDOWED COURSE & SUZUKI INTERNSHIP PROGRAM**

Following the MoU that IIT Guwahati signed with Suzuki Motor Corporation, Japan; Maruti Suzuki India Limited & The Association for Overseas Technical Cooperation and Sustainable Partnership, Japan, the **Suzuki Endowed Course** was started at IIT Guwahati whereby the top 10 students registered for the *Japanese Language* and *Automobile Engineering* courses would be selected for the **Suzuki Internship Program** at the Maruti Suzuki offices in Japan and India. The classes for the same started on February 08, 2020 and continued till March 08, 2020 after which it had to be postponed due to the spread of the Covid-19 pandemic. A total of 43 students from IIT Guwahati had applied for the course.

The formal inaugural ceremony of the Japanese Endowed Course and exchange of the MoU was held in the august presence of the Hon'ble Ambassador of Japan to India, H.E. Mr. Satoshi Suzuki IIT Guwahati on March 03, 2020.



### **TRAINING ON ICT FOR FACULTY FROM SHERUBTSE COLLEGE, ROYAL UNIVERSITY OF BHUTAN**

A team of faculty members from Sherubtse College, Royal University of Bhutan had undergone a Training Programme on 'Role of ICT in Teaching' at IIT Guwahati during January 20-23, 2020. The Training Programme was organized by the Alumni & External Relations office in collaboration with the Centre for Educational Technology, IIT Guwahati. The Training Programme for the 20 faculty members included 10 lectures by faculty of IIT Guwahati and visits to various labs and other facilities of IIT Guwahati. All the participants were awarded Certificates of Participation by Prof. T.G. Sitharam, Hon'ble Director, IIT Guwahati.



### **JOINT DEGREE PROGRAMMES WITH GIFU UNIVERSITY, JAPAN**

- a. **The Joint Degree programs with Gifu University, Japan have been highlights of the collaborative efforts the Institute has had with foreign universities. The formal launch of the program was held in Japan during a Joint Degree Symposium held at the Nagaragwa Convention Center, Gifu City, Japan on October 07-08, 2019. The launch was inaugurated by Prof. T G Sitharam, Director of IITG, Prof. Ir. Dr. Mohd Hamdi Bin Abd Shukor, Vice-Chancellor of UKM, Prof. Hisataka Morikawi, President of Gifu University, Dr. Fumiaki Suzuki from Gifu University, delegates from IIT Guwahati, other overseas partner universities, representatives from various industries, Gifu Chamber of Commerce and Industry, academic staff and students.**



- b. The following students from Gifu University Japan, had registered at IIT Guwahati in the July-November 2019 semester as part of the Joint Master Degree Programme in Food Science & Technology
- i. Ms. Yume Saito
  - ii. Ms. Ayaka Tsuchiya
  - iii. Mr. Tatsushi Aoyagi
  - iv. Ms. Haruka Maruyama
- c. The following students from IIT Guwahati have enrolled for the Joint Master Degree Programme in Food Science & Technology and were supposed to undertake the semester exchange at Gifu University, Japan in April 2020.
- i. Sanjay Raghuwanshi (194162006)
  - ii. Rupesh Kumar (194162005)
  - iii. Mayank Sharma (194162004)
  - iv. Priyanka Korgaonkar Vilas (194162003)

- d. The following students from IIT Guwahati are currently enrolled under the International Joint Ph.D programme in Food Science & Technology
  - i. Mr. Mohammed Rafi Uz Zama Khan (BSBE)
- e. The following student from IIT Guwahati is currently enrolled under the International Joint Ph.D programme in Integrated Mechanical Engineering
  - i. Mr. Rishiraj Purkayastha (Centre for Energy)
- f. The following students have been selected for enrolment under the Joint Ph.D programme in Food Science & Technology & Integrated Mechanical Engineering for the year 2020.
  - i. Ms Imnanaro (FST)
  - ii. Mr Kamal Narayan Baruah (FST)
  - iii. Mr Subhash Pratap (IME)

### **COLLABORATIVE DOCTORAL PROGRAMME WITH CURTIN UNIVERSITY, AUSTRALIA**

The following students have enrolled for the Collaborative Doctoral programme with Curtin University, Australia

- i. Mr. Anant Aishwarya Dubey (Civil Engineering)
- ii. Md. Shakeel Iqbal Saikia (Computer Science & Engineering)
- iii. Mr. Arindam Dutta (Chemical Engineering)
- iv. Mr. Jinesh Subhash Machale (Chemical Engineering)
- v. Ms. Sikha (Chemical Engineering)



### **NATIONAL CHUNG HSING UNIVERSITY, TAIWAN**

The Faculty of National Chung Hsing University (NCHU), Taiwan Prof. Wen-Ling Deng, Director, Division of Foreign Student Affairs & Prof. Mu-Min Chen, Vice President of International Affairs along with their team visited IIT Guwahati and

attended the interactive session with student, faculty and staff members of IIT Guwahati on **November 18, 2019**. Faculty of NCHU interacted and introduced the students with Student and Faculty Bi-lateral mobility, Internships, Research Collaboration and various scholarship opportunities available for students. Such as Taiwan Government Scholarships by Ministry of Education, Foreign Affairs and Science & Technology. Apart from government scholarships, NCHU also provide institute scholarships such as NCHU Elite scholarships.

The session was followed by the **Taiwan Tea Ceremony**, where the officials from Taiwan Tea Industry participated, they prepared the Taiwanese Tea themselves and served the gathering also distributed tea samples as a part of promoting their Tea Industry.

### **MoUs**

#### **CHONNAM NATIONAL UNIVERSITY, SOUTH KOREA & NATIONAL INSTITUTE FOR MATERIALS SCIENCE, JAPAN**

MoUs were signed with the above two institutions with the objective to enhance mutual relations and develop academic interchange in the areas of education and research. The areas of cooperation will include exchange of students, exchange of faculty members and researchers, Joint research projects, Joint cultural programs, Internship opportunities, etc.



### **NXP INDIA PRIVATE LIMITED**

An agreement is proposed with NXP India Private Limited to encourage jointly guided doctoral research with part of the work done using NXP eco-system. The proposed agreement among other things also envisages to enable IITG M.Tech/ B.Tech students to get exposure to practical R&D scenario in semiconductor industry through collaborative M.Tech projects guided jointly by IITG faculty and NXP personnel and to enable IITG M.Tech students to get the experience of working in an industrial

environment through internships at NXP. It is also proposed that every year NXP will invite applications for NXP-Ph.D fellowships.

## **INTERNATIONAL COOPERATIVE GRADUATE PROGRAM WITH NATIONAL INSTITUTE FOR MATERIALS SCIENCE, JAPAN**

The purpose of the proposed Cooperative Graduate Program Agreement is to provide a mechanism for the acceptance of PhD students of Indian Institute of Technology Guwahati, to the National Institute for Materials Science, Japan and for exchanging key researchers within the partnering institutions.

## **KYOTO INSTITUTE OF TECHNOLOGY, JAPAN**

The Institute has finalized the Agreement for renewal of the MoU with Kyoto Institute of Technology (KIT) which will expire on June 2020. IIT Guwahati has already seen robust collaborative activities with Kyoto Institute of Technology which included bilateral movement of a number of students and annual symposiums. The most recent symposium with KIT titled, 5<sup>th</sup> International Symposium on Advances in Sustainable Polymers (ASP-19) was held in October 14-18, 2019, at Kyoto.

## **ERASMUS+ AGREEMENT (UNIVERSITY OF ICELAND)**

The Institute has finalized the Inter-Institutional Agreement with University of Iceland under the Erasmus+ Programme to cooperate for the exchange of students and/or staff in the context of the Erasmus+ programme. The programme aims at Mobility for Higher Education Student and Staff for the period 2020-2023. The programme is fully funded by the European Commission.

## **SEMESTER EXCHANGE PROGRAMME WITH UNIVERSITY CARLOS III DE MADRID**

- ***INBOUND MOBILITY***



The following foreign students had registered for the semester exchange programme for July-November 2019 as part of the Semester Exchange programme with

#### **University Carlos III de Madrid**

- I. Mr. Victor Fernandez Sanchez Pascuala (UC3 Madrid) registered in the Department of Mechanical Engineering
- II. Mr. Francisco Javier Martinez Parra (UC3 Madrid) registered in the Department of Mechanical Engineering
- III. Mr. Simon Ulshoefer, TUM, Germany, registered in the department of Electronics and Electrical Engineering

#### **• OUTBOUND MOBILITY**

22 students of IIT Guwahati have undertaken their semester exchange / research internships with partner universities abroad in Germany, Japan, Taiwan, Canada, UK, USA and Czech Republic.

#### **WINTER SCHOOL, GIFU UNIVERISTY, JAPAN**

The Annual Winter School at Gifu University was held in December 2019 at Gifu University, Japan. Mr. Aakash Agarwal (Roll No: 160122001) attended the same from IIT Guwahati.

#### **DBT-TWAS and ASEAN-INDIA RESEARCH TRAINING FELLOWSHIP (AI-RTF)**

A total number of 4 students from Indonesia, Cameroon, Iran and Egypt had enrolled at IIT Guwahati under various fellowships such as DBT-TWAS fellowship, ASEAN-INDIA Research Training Fellowship.



#### **(SPARC)**

Prof. Peter Comba from University of Heidelberg, Germany visited IIT Guwahati in August 2019 to carry out the project under SPARC titled, "Perspective of Fluctuations



in Electron Transfer Reactions in Non-Heme Chemistry” in collaboration with Dr. Chivukula Vasudeva Sastri, Department of Chemistry, Indian Institute of Technology Guwahati.

### **NAMASTE+ PROGRAMME WITH GERMAN INSTITUTIONS**

NAMASTE+ is a mobility and research cooperation project of the Georg-August Universität Göttingen with 12 Indian Higher Education Partner Institutions of which IIT Guwahati is one. The project is financed by the DAAD and the German Ministry of Education and Research within the Program “A New Passage to India”. Ms. Karishma Rubab, JA, AER office was selected for the Namaste+ Staff Training Programme and scheduled to visit Georg-August Universität Göttingen during May 10-16, 2020. The mobility has now been postponed to 2021 due to the worldwide pandemic caused by Covid-19.

### **DUO-INDIA FELLOWSHIP PROGRAMME**

The Ministry of Human Resource Development (MHRD), Government of India, had announced the launch of the DUO-India Fellowship Programme in July 2019 to encourage research collaboration and exchange of faculty and students between India and European countries. 14 European countries namely Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and UK are part of this programme. As part of the application process, faculty and student applicants had to jointly apply for the fellowship with their counterparts from European institutions.

The following five faculty members from IIT Guwahati were awarded the 2020 DUO-India Professor Fellowship Award:



Director's Report 2020

1. Dr. Amit Shelke	-	University of Tromsø, Norway
2. Dr. Partha Sarathi Mandal	-	Universite Grenoble-Alpes, France
3. Dr. Priyadarshi Satpati	-	Uppsala University, Sweden
4. Dr. Poonam Kumari	-	Loughborough University, UK



### **HERITAGE NETWORK ANNUAL GENERAL ASSEMBLY**

Its an academic network of 13 Indian and 13 European Institutions. IIT Guwahati is one of the partners of the Heritage Network, a body of HEIs from India and Europe. The Annual Heritage Network General Assembly was scheduled to be hosted by IIT Guwahati, India, during **19-20 March, 2020**. The same however had to be postponed due to the worldwide pandemic caused by Covid-19.

### **RTG SUMMER SCHOOL WITH HEIDELBERG UNIVERSITY**

IIT Guwahati has Joint Degree MoU with Heidelberg University. RTG Summer School 2020 was to be hosted at IIT Guwahati in collaboration with Heidelberg University, Germany, from March 23-27, 2020 as part of the Joint Degree program in Big Data Research. The same however had to be postponed due to the worldwide pandemic caused by Covid-19. In a development related to the IITG-Heidelberg Joint Degree Program in Big Data Research, a tandem with Dr. Navin Gupta, BSBE as PI from IIT Guwahati and another faculty from Heidelberg University has been formed facilitating the way for a student to enroll for the program as part of the MoU.

### **RENEWAL/NEW MoUs During Pandemic**

IIT Guwahati has continued its outreach related to global collaborations even during this pandemic period. Agreements for academic collaborations and renewal of MoUs were undertaken with the following institutions:



1. Renewal of MoU with Gifu University, Japan
2. Renewal of MoU with Kagawa University, Japan
3. Renewal of MoU with University of Central Lancashire, UK
4. Renewal of MoU with the University of Nottingham, UK

5. Renewal of MoU with Ecole Centrale De Nantes, France
6. Erasmus+ Agreement with University of Iceland, Reykjavik, Iceland
7. Agreement with Mariano Marcos State University, Philippines
8. Tripartite MoU between IIT Guwahati, NOVA University Lisbon and NOVA.ID.FCT
9. Agreement for Academic Collaboration with UiT, the Arctic University of Norway
10. Agreement for Academic Collaboration with Edith Cowan University, Australia
11. Agreement for Academic Collaboration with Edith Cowan University, Australia

### **SUPERNUMERARY SEATS FOR FOREIGN STUDENTS:**

The creation of Supernumerary seats for foreign students was approved by the Board of Governors, IIT Guwahati in its 98<sup>th</sup> meeting held on 19 August, 2019. As per the approval, five seats in Masters Programme and five seats in PhD Programme for each department/centre shall be created as supernumerary seats to admit foreign students. This initiative was undertaken keeping in mind the need to attract more foreign students to the Institute as it also has a direct bearing in matters related to international perceptions and rankings.

### **INTERNATIONAL STUDENTS (FULL TIME)**

41 International students from Ethiopia, Nepal, Syria, South Africa, Bangladesh, Nigeria and Japan are registered at IIT Guwahati for full-time Master's and PhD programmes for the year 2019-2020.



### **PROFESSOR OF PRACTICE**

For the purpose of globalization / internationalization, vision, perception and excellence of the Institute, the Instituted has initiated from the year 2020 to offer faculty positions to external experts from leading internationally accredited Educational Institutions, R&D organizations and Industries, on open-ended-contract

basis and on mutually agreed terms and conditions. The duration of such appointments shall vary between one semester to six semesters (upto 3 years) and as may be decided by the Institute. Engagement Positions are:

1. Adjunct Faculty (Assistant Professor / Associate Professor / Professor)
2. Visiting Faculty (Assistant Professor / Associate Professor / Professor / Distinguished Professor)
3. Professor of Practice (PoP)
4. Honorary Faculty

## **INTERCULTURAL ACTIVITIES**

### **JAPAN CARAVAN 2019 (A JAPANESE LANGUAGE AND CULTURE WORKSHOP)**

A Japanese Language and Culture Workshop, titled, Japan Caravan 2019 was held in IIT Guwahati on November 07, 2019. The event was jointly organised by IIT Guwahati and the Japan Foundation, New Delhi. The event was aimed at initiating students to the different aspects of Japanese language and culture.

More than 350 students had registered for the programme out of which 100 students were shortlisted on a 'first-come first-served basis'. The participating students were introduced to different aspects of Japanese Culture such as Japanese Origami or paperwork workshop which was followed by a Japanese Calligraphy session

mentored by an expert from the Japan Foundation, New Delhi.



Dr.



### **LATIN AMERICAN MUSIC AND DANCE FESTIVAL**

Indian Institute of Technology Guwahati (IITG), in collaboration with the Indian Council for Cultural Relations (ICCR), Ministry of External Affairs, Government of India, hosted the "Latin American Music and Dance Festival" on November 08, 2019 at the Dr. Bhupen Hazarika Auditorium, IIT Guwahati on November 08, 2019. The event saw participation of musical and dance groups from Bolivia and Columbia.

The event was inaugurated by the Chief Guest, H.E. Dr. Shah Mohammad Tanvir Mansoor, Asst. High Commissioner and Head of Mission, Assy. High Commission of

Bangladesh in Guwahati in the presence of Prof. T.G. Sitharam, Director, IIT Guwahati and Smt. Madhurima Baruah Sen, Secretary, Cultural Affairs, Govt. of Assam as Guests of Honour.

## **ALUMNI ACTIVITIES**

### **1. ALUMNI INITIATIVES DURING COVID-19 PANDEMIC**

#### **MARUT DRONETECH PRIVATE LIMITED**

Marut Dronetech Private Limited ([www.marutdrones.com](http://www.marutdrones.com)), an organisation set up by IIT Guwahati alumni, Mr Prem Kumar Vislawath has been playing an integral role in the fight against the spread of the Covid-19 virus in the state of Telangana. In line with the Telangana state government's efforts to combat the coronavirus pandemic, Karimnagar Municipal Corporation (KMC) has deployed Marut Drones for spraying disinfectants in public areas. This drone technology was brought in by KMC from an IITG Alumni Mr Prem Kumar Vislawath, Co-Founder and CEO of Marut Dronetech Private Limited.

Marut drones have also developed Public Monitoring and Warning Drones which are fitted with a camera and speaker. These can be used by personnel to monitor places especially with high disease prevalence for crowd gathering and give appropriate instructions to people using fitted loud speakers. In additions, Marut drones have developed technology drone technology for thermal imaging for temperature checks of human beings and also for swift and efficient delivery of medicines and critical medical supplies.



### **IZAKE DESIGN AND CONSULTANCY PRIVATE LIMITED**

Izake Design and Consultancy Private Limited, a design company inducted at IIT Guwahati and founded by Mr. Himujall Sarmah, an Alumnus of IIT Guwahati has been manufacturing high grade quality of Face Shields to fulfill the need for face shields locally for the hospitals in Assam & Northeast India. Despite the logistical challenges, Izake Design and Consultancy Private Limited has successfully been able to manufacture & distribute around 12,000 Face Protection Shields in 28 days' time period, since 16<sup>th</sup> April 2020 and supplied to 118 direct clients like GMCH, GNCR,



Dispur Hospital, Apollo Hospital, Dr B Borooah Cancer Institute. Etc. More than 800 Doctors/Nursing staff & individuals throughout Assam currently using the face shields and they have also donated 2000 Face Shields to Govt. officials/NGOs/GMCH-Guwahati for COVID-19 response.

## **YOURDOST**

YourDOST, co-founded by IIT Guwahati alumna, Ms. Richa Singh is India's first and the largest online mental health and emotional wellness coach. IIT Guwahati has now collaborated with YourDOST to provide this facility to its students whereby expert advice from 900+ Experts, with complete privacy, confidentiality and anonymity on a range of subjects is available to all the students. Amidst this pandemic, YourDOST has also started initiatives to deal with mental health issues called 'Covid-19 Resources'.

## **2. OTHER NOTABLE ACTIVITIES RELATED TO IIT GUWAHATI ALUMNI**

### **Telford Premium 2020 Prize for IIT Guwahati Alumni**

The British Institute of Civil Engineers (ICE) has been conferring the prestigious Telford Premium 2020 Prize for the last 50 years to authors from both industry and academia who have produced work judged by their peers to be of exceptional quality and benefit to the civil engineering, construction and materials science community. This year the award was given to IITG alumnus, Dr. Sanandam Bordoloi, of the department of Civil Engineering Department for his collaborative work with the department of Civil Engineering, Shantou University, China, where another IIT Guwahati alum Dr. Ankit Garg, Associate professor also played an instrumental role.

### **Alumni Mentorship Program (AMP)**

The Alumni Mentorship Program (AMP) is a mentorship program where the alumni of IIT Guwahati act as mentors to the currently registered students of IIT Guwahati. This initiative which started in 2018 has been continuing and being coordinated by the Student Alumni Interaction Linkage (SAIL) team. The academic year 2019-20 has seen the launch of AMP 3.0.2.

### **IIT GUWAHATI ALUMNI MEET HELD IN GIFU, JAPAN (OCTOBER 09, 2019)**

An Interactive session was held at Gifu City, Japan, between IIT Guwahati Alumni based in Japan and the delegates from IIT Guwahati on October 09, 2019. The meet was presided over by Prof. T.G. Sitharam, Director and also attended by Prof. Gautam Biswas, Former Director IIT Guwahati and Shree Ram Muivah, Secretary, North Eastern Council, India. Among the Alumni present were, Dr Pradyut Dhar, Dr Amit Pandey, Dr Himangshu Jha and Dr Devendra Marawi.

Prof. T.G. Sitharam, Director, IIT Guwahati, addressed the gathering and stressed on the role of Alumni as Ambassadors of IIT Guwahati and the role and impact of Alumni in Institution Building. He welcomed the initiative of the AER office and encouraged all to contribute in strengthening the alumni-institute bonding. The meeting concluded successfully with an idea to be connected to the Alma Mater and to participate actively on Alumni Connect Campaign in order to establish strong and robust Institute–Alumni relationship. All the alumni present congratulated and welcome the initiative of IIT Guwahati to connect and establish a strong alumni linkage.





## INTERACTIVE SESSION WITH ALUMNI OF 2000 GRADUATE BATCH OF IIT GUWAHATI

A group of the 2<sup>nd</sup> batch of IIT Guwahati alumni of the 2000 graduating batch from the departments of Computer Science and Engineering, Mechanical Engineering and Electronics and Electrical Engineering, visited IIT Guwahati campus during 27-29 December 2019. In the evening of 27<sup>th</sup> December, a get-together was organized in the institute guest house and it was attended by the faculty members from the above three departments. The alumni also wished to interact with some of the faculty members who taught them during their initial years of academic journey.

## FACULTY ACHIEVEMENTS

A number of faculty members received awards and brought accolades for the Institute during the year. Some of them are:

- Prof. Arun Chattopadhyay has been elected as a Fellow by the Indian National Science Academy for his fundamental contributions to nanoscale material science and technology by way of devising new methods of synthesis as well as applications in submicron scale color lithography and tunable luminescence of quantum dot complexes



- Dr. Uttam Manna has received the INSA Young Scientist Medal 2019 in Chemical Sciences.
- Prof. Tamal Banerjee, Department of Chemical Engineering, has been declared as one of the top five Indian Authors of ACS *Omega* which is an interdisciplinary journal publishing new findings in chemistry and interfacing areas of science and engineering. Prof. Banerjee's research is aimed at both emerging aspects namely environmental remediation and energy generation. His publications in ACS *Omega* ranges from areas such as Cellulose-Xylan Hydrogel for Vitamin B12 release and reprocessing of spent nuclear fuel



involving cesium ions. Further he has also reported the hydrogen production from chemical hydrides; and Deep Eutectic Mixtures as novel thermal fluids for Concentrated Solar Power

- Prof. Biman Mandal, Department of Bioscience & Bioengineering has been awarded the Young Scientist Award 2019 by the Asian Polymer Association (APA). Prof. Mandal has been invited to receive the APA Young Scientist Award (YSA) in Goa during APA-2019 conference in 16-18 October, 2019. He shall also be delivering an Invited talk on this occasion.
- Prof. Vimal Katiyar, Dept. of Chemical Engineering has been
  - Elected as the Vice-President of 'Association of Sustainable Polymers' in the meeting in Japan
  - Honoured as NRL-Chair-Professor by Numaligarh Refinery Limited
  - Honoured as Chair Professor by Hindustan Gums & Chemicals Limited, M P Birla Groups
  - Honoured as Visiting Professor at Gifu University, Japan
- Prof. Lingaraj Sahoo, Dept. of BSBE has been Honoured as Visiting Professor at Gifu University, Japan.
- Prof. Arun Chattopadhyay, Professor Department of Chemistry, IIT Guwahati has been recommended for the Award of J. C. Bose Fellowship.
- Prof. Parameswar K Iyer, Dept. of Chemistry, has been selected to receive the MRSI Medal for 2020 at the Annual General Meeting of Material Research Society of India to be held at Kolkata, during 11-14 February 2020.
- Prof. Pravat Kumar Giri, Dept. of Physics, has been selected to receive the MRSI Medal for 2020 at the Annual General Meeting of Material Research Society of India to be held at Kolkata, during 11-14 February 2020.
- Prof. Mohammdd Qureshi, Dept. of Chemistry, has been awarded Sakura Science Fellowship to visit Kyushu Institute of Technology Japan from 1-10 December



2019.

- Mr. Rabindranath Garai, PhD Scholar, Dept. of Chemistry, has been awarded Sakura Science Fellowship to visit Kyushu Institute of Technology Japan from 1-10 December 2019.
- Dr. Pranjal Chandra, Dept. of Bioscience & Bioengineering, has been appointed as the Associate Editor of the Journal "Sensors International", published by the joint venture of ELSEVIER and CSPM China (Publishing arm of Chinese Academy of Sciences)
- Prof Biman Mandal of the Dept. of BSBE has been selected for Prestigious BM BIRLA SCIENCE PRIZE 2018 in BIOLOGY . The award comes with a citation and 1 lakh cash prize. For Institute and in particular for Dept. of BSBE this is a great news starting of New Year 2020 as this is second time that a faculty member of Dept. of BSBE has bagged this very prestigious award where in faculty are selected every alternate year through an extensive peer review process.
- Dr. Dipankar Narayan Basu of Dept. of Mechanical Engineering has received an international fellowship from Chinese Academy of Sciences under CAS President's International Fellowship Initiative (PIFI) 2020, which will enable Dr. Basu to work as a Visiting Scientist at Institute of Engineering Thermophysics, Beijing, for 6 months.

Congratulations to all.



## CONSTRUCTION AND CAMPUS DEVELOPMENT

The Institute has been continuously developing since its inception. The development of infrastructure to meet the fast expanding ACADEMIC Activities along with accommodation facilities for the students as well as faculty members, officers and staff in the campus has been a great challenge. The Institute has been successfully implementing projects in order to fulfill all the requirements.

**1. Construction of Boys' Hostel-11:** There are presently ten hostels for boys accommodating about 5000 boys' students. In addition to this the 11<sup>th</sup> boys' hostel of capacity 1152 is under construction. The work was taken up in March 2015 at a total value of ₹. 9665.00 lakhs. Works of 580 rooms has been completed and are under occupation since Dec'2018. Remaining works including kitchen & dining hall area is expected to be completed by March 2021.



**2. Expansion of academic complex Phase-V:** The handing over of the completed parts is going on. The development of Nano-center is going on, will be handed over shortly.

**3. Expansion of Academic Complex Phase-VI:** Under this phase, expansion works in the Centre for Education Technology (CET) and Centre for Instrumentation Technology (CIF) are taken up. The work comprises of two parts (i) upto G+4 for CET



and (ii) above from 5<sup>th</sup> to 7<sup>th</sup> floor for CIF. The works have already been awarded for a value of 36.65 crore lakhs in August, 2018 by UPRNN to PSK Construction Co. Ltd. and the work was commenced from April'2019. The work is in progress and almost 60% of pile foundations works has been completed.

**4. Construction of 160 units of F-type residential quarters:** In order to meet the requirement of residential quarters for the faculty members the Institute took up construction of F-type residential buildings. The present scope of work shall cover construction of 160-units of F-Type residential quarters in 4 blocks having 40 units in each tower having all basic amenities. It is a G+9 Storied building with 42.35m height. The approved cost of the project was `13686.01 Lakhs. The work has been awarded to UPRNNL. Total area of 5186.08 Sqm, was handed over to M/s Uttar Pradesh Rajkiya Nigam Limited (M/s UPRNNL) on May, 2018. M/s UPRNNL after tendering allotted the work to M/s Badri Rai & Co, Duliajan(Assam). The execution of the work started on July, 2018.The piling work has already been completed and the raft foundation, plinth beam work is on progress. The total progress achieved so far is 23%. The schedule date of completion of the tower is March 2021. Due to outbreak



of Covid-19, the progress of work has been suffered. Now construction of sample flat is under process

**5. Boundary wall Phase-V:** The construction of boundary walls to secure the Campus has been in progress in phases. The construction of boundary walls phase (V) of 10 ft. height from the main entrance gate to the Ghorajan Nallah near Sewerage Treatment plant is in progress. The work has been split in two groups (Group-A & Group-B) as per advice of B&WC. Group-A has completed 1430 m out of 1812 m and Group-B has almost completed the total length of 2076 m including additional 250 m boundary wall in the southern part of the campus. The painting work and providing and fixing of concertina coil under group –B is under progress. The work is expected to be completed within October 2020.

**6. Dormitory for Security:** The Institute engages number of security personals to maintain security of the campus. In order to provide them accommodation inside the campus dormitories have been constructed at different places inside the Campus. Two such buildings were taken up at the cost of ` 808.00 lakhs. One building has been handed over to the Security for occupation. However, the second one was modified for Transit accommodation of Faculty members because of shortage of quarters for faculty members and 12 faculty members have been accommodated

**7. Dormitory for Guest House:** The building has been renamed as Transit accommodation 3 and it is planned to use for project staff and student. 95% work has been completed till date. Due to lock down period of balance work could not be completed in time. Now it is expected to be completed by end of June 2020.

**8. Estate Building:** Due to the space constraint of the Engineering Section in the Administrative Building Institute proposed to construct an estate office for accommodating of engineering section including the supporting staff near the Central Library building. The construction work of estate office was allotted in October 2016 at a cost of ` 1011.51 lakhs. The building is proposed for G+3 however in this phase G+2 shall be taken up for construction. The G+2 has been made ready and both the Engineering and Maintenance section has been shifted and started functioning from this building since August 2019. It a pleasure for the Institute that the Building has been formally inaugurated by the inaugurated by Shri Ramesh Pokhriyal 'Nishank', Hon'ble Minister, MHRD, Govt. of India in Presence of our Director Prof. T.G. Sitharam, on 14<sup>th</sup> February 2020.





**9. 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 HRD Ministry had allocated ` 7500.00 lakhs for the construction of the Research Park at IITG. The building has been planned with total built up area of 21380.00 sqm. This will house one Research Block of G+ 9 floors and an Office block of G+7 floors.

The first phase of construction work has been started with the following scope:

1. RCC superstructures of research block up to G+8 level (out of G+9) and total superstructure of office block upto G+7 level.
2. Complete external finishes of both the blocks.

Complete internal finishing including electrical and HVAC of both the blocks upto G+2 level.

The work upto plinth level has been completed. The scheduled date of completion of the work is December 2021.

**10. Electrical infrastructure:** Expansion of academic complex of IIT Guwahati is considered from time to time. Therefore, it is necessary to augment the electrical infrastructure to meet the power requirement in the institute. Presently there is one 33 KV substation with capacity of 17.5 MVA comprising of 1 X 7.5 MVA and 2 X 5 MVA transformers installed in the campus to cater the Electrical load to the whole IIT G campus. This 33 KV substation is connected to the 132 KV substation of APDCL near Sishugram. We have 10 numbers of 11KV distribution substations installed in various locations of the campus through which the electrical power is mainly supplied to the areas like academic complex, residential areas, hostels, Director bungalow, guest houses etc. These substations are well connected to the 33Kv substations through two ring main system by using 33KV/11KV grade underground cables.





Upgradation of electrical infrastructure is considered from time to time as per requirement of the institute.

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

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

Moreover, there are another 1000TR capacity of allied AC systems comprising of window splits Ductable ACs are also installed in admin building, central workshop, B type community hall, Technology complex, old guest house and some labs in Academic complex.

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

## INSTITUTE EXPENDITURE

The details of expenditure (provisional) during the year 2019–2020 are as follow (in crores):

Revenue expenditure	: 369.57
Capital	: 50.28
R&D	: 146.58
Total Expenditure	: 566.43



In comparison, in 2018–2019, 566.6 crores were spent.

## **EQUAL OPPORTUNITIES**

### **Educational Guidance**

EOCSR Cell facilitated on various aspects of education/co-curricular activities to 471 PWDs/SCs/STs students during the year 2019-20 as compared to 385 PWDs/SCs/STs students during the year 2018-1019.

This office links between Departments/ Sections of the Institute and all SCs/STs/ PWDs students for various academic and non- academic matters.

### **Assistantship and their Extension**

“Assistantship and their Extension” under this programme assistantship were provided to such regular SC/ST PhD students who could not complete their PhD programme as per IIT Guwahati, norms but continuing the same. There were 32 beneficiaries from December 2013, July 2014 batches.

### **Distribution of Laptops as Learning Equipment:**

As a part of welfare scheme for SC/ST/PWDs this office had distributed total 161 Laptops to SC/ST/PWDs students 2019 July batch undergraduate, MSc & MA (Development Studies) under Scheduled Castes Sub Plan (SCSP) and Tribal Sub Plan (TSP) programme.

### **Book Allowances**

In July-November 2019 semester fifty-eight (58) and January –May 2020, forty (40) SC/ST/PWDs undergraduate students, MSc & MA (Development Studies) have benefited under “Book Allowances” scheme.

### **Celebration of International Day for Persons with Disabilities**

In the light of the Rights of Persons with Disabilities Act, 2016 (RPwD Act 2016) to create awareness/ sensitize people about significance of International Day for Persons with Disabilities on 3<sup>rd</sup> December 2019 a poster campaign was arranged in campus. This office continues to undertake public awareness programmes such as printing of posters, publishing information materials for general public to address issues on disabilities.

To celebrate International Day for Persons with Disabilities on 13.11.2019 Mr. Kausar Jamil Hilaly, ACS, the Commissioner for Persons with Disabilities, Assam was the chief guest and Deputy Director, Prof. P.S. Robi the guest of honour. Mr. Kausar Jamil Hilaly, delivered a lecture on ***“Understanding Disability-National Frameworks and Role of Technology”*** and a large number of students, faculty and employees actively participated. A young special achiever Ms. Princy Gogoi was felicitated on this day.



### Training

A training programme was organized on 4<sup>th</sup> to 7<sup>th</sup> April 2019 for the employees of the Institute on “**Reservation Policy in Services for SC/ST/OBC &PWD, Recruitment Rules & DPC**”. Approximately about 80 employees benefitted out of this programme in two batches. Resource persons were from SERT, Delhi to conduct in-house training.



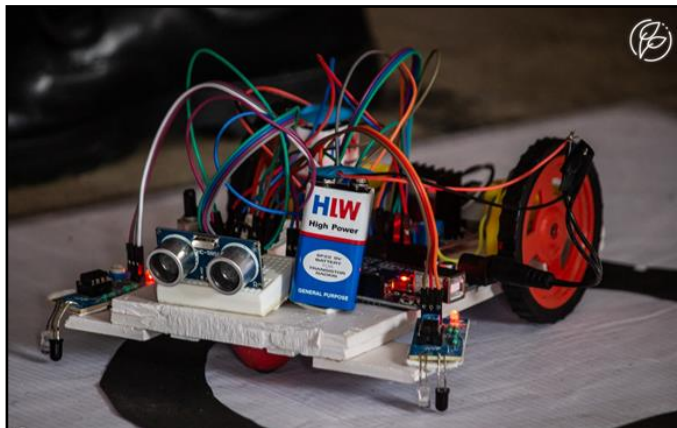
## STUDENTS' ACTIVITIES

**Technique 2019** - the annual Techno-Management Festival of the Institute - was organized from 29 August to 1 September, 2019. From its beginning in 1999, Technique has grown to become one of the premier Techno-Management festivals of the nation. With a reach of thousands of colleges and school students from across the country, Technique plays a phenomenal role in bringing out the true potential of the young generation.

This editions lecture series saw eminent personalities from various fields as keynote lectures, sharing their experiences and stories. They included Padma Vibhushan Dr. V.K. Aatre, former Director General, DRDO on the topic Battle field technologies, Dr. Murli Manohar Joshi, former Union Minister of HRD, Mr. Pete Michels, Director of shows like Rick and Morty, Family Guy and The Simpsons, Mr. Paul Arion, VFX Head for movies like Avengers, Jungle Book.

The 21st edition of the annual techno-management also witnessed various events like Panel Discussion on Artificial Intelligence: Morals, machines and robot reign, various Workshops, Funniche, Robotics, NEXUS, CORPORATE, Techolympics, Techexpo, Exhibitions.

Techniche 2019 ended with Pronites, an event with mix of comedy, music and dance, featuring Comicstaan winning comedian Nishant Suri and popular Bollywood singer Amit Mishra.



**Alcheringa**, the annual cultural festival of Indian Institute of Technology Guwahati entered its 24<sup>th</sup> incarnation and was spread over three days and four nights from 30 January to 2 February.

The inaugural night saw the much awaited classical night Saaz with performances by U. Rajesh (Mandolin), Giridhar Udupa (Ghatam), Dany Ali Khan (Violin), Hafeez Ahmed Khan (Tabla), Gino banks (Drums), Mohini Dey (Bass Guitar).

North East Social Summit (NESS), a conference held over two days during Alcheringa, aimed to tackle and bring awareness about the social, political and economic problems of North East India by means of case study competitions and round table discussions. It provided a confluence of the sharp students minds with the experience of experts in the concerned issue.

In Crescendo 2020, Alcheringa bought one of the biggest names of Bollywood to IIT

Guwahati. With chart-busting numbers such as 'Tujhe Kitna Chahein Aur Hum', Kabil Hoon', 'Zindagi kuch to bata' \_Jubin Nautiyal swayed the crowd his way with his absorbing and soulful music.

Other interesting attractions in this 24<sup>th</sup> edition were, Fashion Shows, Fashion Designing Competition, Fashion Design and Photoshoot Competition; Rock-O-Phonix, Rap Battle, Acoustic Band Competition, Parliamentary Debate, Online Doodle Designing Competition, Stage Play Competition, various Sporting events, and many others events attracted participation in huge numbers.

Other regular student events like Manthan, Spirit, Spardha were successfully organised by the students during the year. Moreover, there have been regular events and competitions organised by the various clubs and societies of the Institute.





## STUDENTS' ACHIEVEMENTS

- ▮ Best Poster Award for Manasari Muralidharan “Characterization of Essential Riboswitches in Mycobacteria” May 2-4, 2019, 10th RNA Group Meet, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram
- ▮ Mr. Pratik Nag (PhD student) got selected for ‘DBT sponsored BIRAC-National Biopharma Mission in association with Biotech Consortium India Limited Training program’ for a hands-on training in ‘Medical Device Prototyping’ held at IIT, Kanpur from Jan 13 – 17, 2020
- ▮ Ms. Adeline S Vio War (PhD student) won Best Screening Device for Novelty award in ‘Medical Device Innovation Camp’ organized by BETIC, IIT Bombay from Sep 28 to Oct 2, 2019
  
- ▮ Mr. Jaideep Singh Bhardwaj (M.Tech student) got selected for ‘DBT sponsored BIRAC-National Biopharma Mission in association with Biotech Consortium India Limited Training program’ for a hands-on training in ‘Operation and Testing of Medical Devices’ held at CSIR-CSIO, Delhi from Feb 24 – 28, 2020
- ▮ Best Ph.D. Thesis Award (2019-2020) to Dr. Sharbani Kaushik (PhD graduate from Center for Energy) from the International Society for Energy, Environment and Sustainability (ISEES). Dr. Sharbani completed her PhD in Oct 2018. The title of her thesis was: Cyanobacteria Based Photosynthetic Microbial Fuel Cell: Development and Application for Sensing Alcohol
- ▮ Sanjay Manoharan, MTech project student (completed 2019) has received 1st prize for his research proposal, OPTISENSE- A simple smartphone based fibre optic biosensor for detection malaria in human serum sample submitted to Guwahati Biotech Park (GBP) at Assam Start-up Talent Search Contest on Nov 20, 2019
- ▮ PhD student Phurpa Dema Thungon has received prestigious Overseas Visiting Doctoral Fellowship (OVDF) from SERB (DST)-UAlberta Partnership scheme to carry out a part of the PhD work at University of Alberta (UAlberta), Canada for a period of one year (May 2019-Apr 2020)
- ▮ Kedar Sharma received IUCr Young Scientist Award and AsCA and DST travel grants to attend 16th Conference of the Asian Crystallographic Association, Dec 17-20, 2019, NUS, Singapore
- ▮ Kedar Sharma received best poster award for research work entitled “Isolation and characterization of glucuronoxylan from Babool as substitute of commercial xylan for xylanase activity evaluation”. International Carbohydrate Conference on Emerging Frontiers in Carbohydrate Chemistry and Glycobiology, Dec. 5-7, 2019, University of Lucknow, UP, India
- ▮ Kedar Sharma received best poster award for research work entitled Molecular organization and protein stability of the *Clostridium thermocellum* glucuronoxylan endo- $\beta$ -1,4-xylanase of family 30 glycoside hydrolase in solution. Presented at





- Research Conclave, Mar 14-17, 2019, IIT Guwahati, Assam
- ▣ Abhjit Thakur received best poster award for research work entitled “Efficient saccharification of finger millet stalk by a new thermostable  $\alpha$ -L-arabinofuranosidase (*PsGH43A*) from *Pseudopedobacter saltans*.” Presented at Research Conclave, Mar 14-17, 2019, IIT Guwahati, Assam
  - ▣ Monika Chandravanshi under Dr. Shankar Prasad Kanaujia received IUCr Young Scientist Award to attend the “16th Conference of the Asian Crystallographic Association (AsCA2019)” held at the National University of Singapore (NUS), Singapore, from Dec 17- 20 2019
  - ▣ Monika Chandravanshi under Dr. Shankar Prasad Kanaujia received Students Travel Assistant Fund (STAF) for the “16th Conference of the Asian Crystallographic Association (AsCA2019)” held at the National University of Singapore (NUS), Singapore, from Dec 17- 20 2019
  - ▣ Mr. Vineet Anand received best poster award in a conference “Challenges and Threats of Microbes to Animals and Humans” at ICAR-IVRI, Izatnagar, Feb 6-7, 2019
  - ▣ Janani Guru has been awarded “Fulbright Nehru Doctoral Research Fellow” (Aug 2018-May 2019), visited University of Pittsburgh for 9 months, award financed by United States India Education Foundation (USIEF) and Institute of International Education (IIE) New York
  - ▣ Prerak Gupta has been awarded DST Travel grant award 2019 (SERB) to attend ISACB + ISVTE 2019, Zurich, Switzerland (June 19-21, 2019)
  - ▣ Shreya Mehrotra has been awarded Bajpai Saha Student Award 2019, International conference on Biomaterial based therapeutic engineering and regenerative medicine, IIT Kanpur, Dec 2019
  - ▣ Nayan Moni Deori working with Dr. Shirisha Nagotu got the best poster prize at ICBYFF-2019, Hyderabad, India for the poster “Characterizing the dual targeting and function of the peroxisomal protein PEX30”
  - ▣ G Bhatt received Best Poster Award in 4th International Conference on Nutraceuticals and Chronic diseases in poster titled “Insight into Estrogen receptor  $\alpha$  (ER $\alpha$ ) and ligands (estrogen, karanjin) interactions using computer simulations” Sep 23-25 IIT Guwahati
  - ▣ Ms. Bhagyashree Deka (Roll No. 156106047) received training on “Genome/Transcriptome sequence analysis” during Nov 13-15, 2019 at NCBS, Bangalore
  - ▣ Mr. Pratap Chandra (Roll No. 166106109) received training on “Genome/Transcriptome sequence analysis” during Nov 13-15, 2019 at NCBS, Bangalore
  - ▣ Ms. Ayushi Rehman (Roll No. 196106005) was selected for the INSPIRE fellowship
  - ▣ Ms. Babita Th. Devi received best poster presentation award at the 8th International



Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020

▮ Ms. Elina Khatoon received best poster presentation award at the 8th International Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020

▮ Ms. Sosmitha Girisa received best poster presentation award at the 8th International Translational Cancer Research Conference held at Banaras Hindu University, Varanasi, India from Feb 13-16, 2020

▮ Ms. Parama Dey was chosen to join an invitation program carried out under the framework of Japan Asia Youth Exchange program in Science (Sakura Exchange Program in Science) administered by Japan Science and Technology Agency. In this program, she attended a workshop on "Research on Molecular Biology of Stress, Aging and Cancer Using Cell Culture Based Assays - Interventions by Natural Compounds" at National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, Oct 6-12, 2019

▮ Ms. Harsha Choudhary received best oral presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019

▮ Ms. Babita Th. Devi received best poster presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019

▮ Ms. Varsha Rana received best poster presentation award at the Fourth International Conference on Nutraceuticals and Chronic Diseases (INCD 2019) held at Indian Institute of Technology Guwahati, Guwahati, India from Sep 23-25, 2019

▮ Srirupa Bhattacharyya, Best poster presentation award, INCD 2019: 4th International Conference on Nutraceuticals and chronic diseases, Organized by IIT Guwahati, Sep 23 – 25 2019

▮ Srirupa Bhattacharyya, Best poster presentation award, World Congress on cancer (WCC), Organize jointly by Mahatma Gandhi University of medical Sciences and Technology (MGUMST, Jaipur and Cancer Institute- Chennai, Ichan School of medicine at Mount Sinai, New York, Feb 3-5, 2020

▮ Ms. Moumita Nandi, a M.Tech project student at Biosciences and Bioengineering department working with Prof. Kannan Pakshirajan as the supervisor received the Best oral presentation award (2nd prize) at WATER 2020. Jan 23-25, 2020, IIT Guwahati, Guwahati, India

▮ Ms. Tanushree Paul, a Ph.D. student at Centre for the Environment with Prof. Kannan Pakshirajan and Prof. G. Pugazhenthirai (Chemical Engineering



Department) as the supervisors received the Best oral presentation award (1<sup>st</sup> prize) at WATER 2020. Jan 23-25, 2020, IIT Guwahati, Guwahati, India

▮ Ms Tanushree Paul, a Ph.D. student at Centre for the Environment with Prof. Kannan Pakshirajan and Prof. G. Pugazhenth (Chemical Engineering Department) as the supervisors received the Best poster award at INCD-2019. Sep 23-25, 2019, IIT Guwahati, Guwahati, India

▮ Ms Khyati Raina working with Dr. Rajkumar P. Thummer: Was awarded a travel grant to travel to Kyoto, Japan for "Training program in Generation and Maintenance of Human iPS cells" organized by "The Accelerating the application of Stem cell technology in Human Diseases (ASHD)" program supported by Department of Biotechnology (DBT), Government of India and The Centre for iPS Cell Research and Application (CiRA), Kyoto University, Japan from Nov 20 to 26, 2019

▮ Yogendra Pratap Singh has delivered an Invited speaker talk to the "3D PRINTING WORLD 2019" -5th International Conference, Show & Awards held on Nov 29, 2019 at THE ORCHID HOTEL, Mumbai, on the topic "*Silk based 3D Bioprinting of human load-bearing tissues*"

▮ Ashutosh Bandyopadhyay secured 4th Position in Talent Search Contest on Innovative Research Ideas Leading to Entrepreneurial Venture in Biotechnology and Allied Areas 2019 organized by Guwahati Biotech Park, 2019, Guwahati, Assam (Nov 20, 2019)"

▮ Jenasree Hazarika (Research Scholar working under the supervision of Dr. V. Prasanna) has been received the best paper award in IMME19 which was held at NIT Tiruchirappalli during Dec 27 -28, 2019

▮ Dr. Rumi Khandelia (Supervisor – A. Chattopadhyaya) selected for Marie Curie Fellowship

▮ Dr. Srestha Basu (Supervisor – A. Paul) selected for JSPS Fellowship

▮ Ms. Srijita Paul (Supervisor – S. Paul) received the best poster award in Research Conclave 2019

▮ Ms. Dibyangana (Supervisor – U. Manna) Parbat got best poster presentation in REFLUX 7.0 conference-2019, IIT Guwahati

▮ Ms. Arpita Shome (Supervisor – U. Manna) got best oral presentation in REFLUX 7.0 conference-2019, IIT Guwahati

▮ Ms. Supriya Das (Supervisor – U. Manna) got best poster award in RAC 2019 conference, NIT Meghalaya



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▮ Ms. Arpita Shome got best poster in International Conference on Advanced Nanomaterials and Nanotechnology, 2019, IIT Guwahati

▮ Ms. Arpita Shome got best oral presentation in National Conference on Issues and Challenges in Water Treatment and Allied Research for Sustainable Environment

(WATER 2020) organized by Centre for the Environment, IIT Guwahati

- ▮ Ms. Arpita Shome has been selected for the AWSAR-DST BEST stories Award 2019 for her science story "Cotton-the Trivialized Treasure"
- ▮ Mr. Kanu Das (Supervisor- Akshai Kumar A.S.) received Special poster award during 19<sup>th</sup> National Workshop on Catalysis-2019, IIT Delhi, May 2019
- ▮ Mr. Chandrakanta Parida (Supervisor – S. C. Pan) got best poster award in ICCHD 2020 held in Kolkata 9-11 Jan, 2020
- ▮ Mr. Gourab Mukherjee (Supervisor - C. V. Sastri) visited to Manchester University during July-September 2019 as a part of DST UKIERI
- ▮ Mr. Sayanta Sekhar Nag (Supervisor - C. V. Sastri) to Heidelberg university Aug-Oct 2019 as a part of DST DAAD and SPARC
- Parikshit Saikia received the Best paper award at CANDAR 2019 on Nov 26, 2019
- Moustafa Najm received the Best graduate forum presenter award at COMSNETS 2020 on Jan, 2020
- Mr. Prateek Kumar, Ph.D. student has won the best poster award in 33<sup>rd</sup> International Conference on VLSI Design, Bangalore, 4-8 Jan 2020
- "Mr. Bikram Paul, PhD Student, received 3<sup>rd</sup> Prize in the BEST Student Paper Category IEEE Czechoslovakia Section for his paper entitled "Efficient PRNG Design and Implementation for Various High Throughput Cryptographic and Low Power Security Application" in IEEE 29<sup>th</sup> International Conference Radioelektronika (RADIOELEKTRONIKA), Czech Republic
- Mr. Arijit Bhattacharjee, Research Scholar, received the prestigious Qualcomm Innovation Fellowship 2019 for innovation title "MAC layer methods for low latency handover and blockage-mitigation in mmWave indoor networks (Recommenders: Prof. S. K. Bose and Prof. R. Bhattacharjee) <https://www.qualcomm.com/invention/research/university-relations/innovation-fellowship/winners>
- Amit Kumar Baghel, Shashank Satish Kulkarni, D. Senthil Kumar, and Sisir Kumar Nayak received the third prize and cash award of 50,000 INR in the Aero India 2019 (One of the Asia biggest air show display) organized by MHRD, and Defense Production Government of India
- International Travel Support (ITS)-2019 given by SERB to the Ph.D. student, Amit Kumar Baghel, for presenting the paper in IEEE International Conference on Microwaves, Communications, Antennas & Electronic Systems, 4-6 November, 2019, Tel Aviv, Israel
- International Travel Support (ITS)-2019 given by SERB to the Ph.D. student, Niharika Baruah, for presenting the paper in IEEE Conference on Electrical



Insulation and Dielectric Phenomena (CEIDP), 20-23 October, 2019, Richland, Washington, USA

- B Venkatesh, N B S Krishna, BTech (EEE) 2015-2019, won Best Paper Award for the paper, "B Venkatesh, N B S Krishna, Sonali Chouhan, Distributed Optimal Power Allocation using Game Theory in Underlay Cognitive Radios" presented at Springer International Conference on Computing, Power and Communication Technologies (GUCON), Greater Noida, India, Sept 2019
- Biswajit Sarmah, a PhD scholar in the Department of HSS, IIT Guwahati has received Charles Wallace India Trust (CWIT) travel grant 2019-20. The British Council will grant him 1400 pounds to conduct archival research in British Library, London
- Biswajit Sarmah, a PhD scholar in the Department of HSS, IIT Guwahati has been awarded Fulbright Nehru Doctoral Fellowship 2019-20. He will conduct his research at the State University of New York, Binghamton from August 2019 to May 2020
- Wendy Lalhminghlui, Research Scholar has received the International Speech Communication Association (ISCA) Travel Grant of EUR 650 to attend Interspeech 2019 in Graz, Austria. The support was for presenting her joint work with Viyazonuo Terhijja titled "Tone Vowel Interaction in Two Tibeto-Burman Languages"
- Wendy Lalhminghlui, Research Scholar has received the 1. Microsoft Research India Travel Grant of Rupees 75,000 to attend Interspeech 2019 in Graz, Austria. The support was for presenting her joint work with Viyazonuo Terhijja titled "Tone Vowel Interaction in Two Tibeto-Burman Languages"
- Prerona Baruah, PhD student, Economics is one of the three recipients of travel grants to present her work "Seasonality in commodity prices across India: Extent and implications" at the Annual Conference of Agricultural Economics Society, 2020 at KU Leuven, Belgium, during April 15-17, 2020
- Jith J.R. PhD Scholar in Development Studies received the Best Paper Award for paper titled "Overall Burden of Malnutrition in India: Using a Composite Index of Anthropometric Failure (CIAF) to Understand the Scale of Nutrition Problem in India" at Northeastern Economic Association Conference, Imphal
- Mr. Gobinda Pradhan, a PhD student, has won the best poster award in the recently concluded conference "2<sup>nd</sup> National Conference on Recent Advances in Science and Technology" (NCRAS 2019)
- Mr. Jyotirmoi Borah working under the supervision of Prof. Bipul Bhuyan won the best poster award in the conference "International Workshop on Frontiers in High Energy Physics" held during Oct. 14 -17, 2019
- Ms. Madurima Chakraborty has been awarded full fellowship to attend Invisibles, School and Workshop, Spain



- O. Siram and N. Sahoo, Characterizing the helical vortex frequency of HAWT, Proceedings of 7TH International Conference on Advances in Energy Research, IIT Bombay, Mumbai, India, 10-12 December 2019 (ICAER2019-150) – Best Paper Award.
- Dudul Das received Best Paper Award at International Conference on Sustainable Energy and Green Technology 2019 (SEGT 2019) held in Bangkok, Thailand. Paper title: Experimental study and performance evaluation of PV/T's with novel absorber designs.
- Priyanki Das received: Best Poster Award in SECONE 2020, (Synergy for Energy, Challenges and opportunities in North East India), held at NEDFI Convention Centre, Guwahati, organized by SECONE Society, Guwahati, Assam, for the paper: Priyanki Das, Lepakshi Barbora, Arup Dutta, Pranab Goswami\* "Enzymatic Alcohol Biofuel Cell for powering small scale electronic appliances" on February 1, 2020.
- Puja Hazarika received Best post award for the paper on "Bioinspired strategies for building envelope: Using nature for climate adaption" authored by P. Hazarika, A. Gaur and P.Kalita; International symposium on "Bio-inspired Nanomaterials for Environmental Applications" supported by DST-UKIERI, 12th Feb. 2020 -13th Feb. 2020 at the Centre for the Environment, Indian Institute of Technology.
- Alok Kumar received best paper award for his paper entitled" Parametric Studies on MmNi<sub>4</sub>.7Fe<sub>0.3</sub> based Reactor with Embedded Cooling Tubes for Hydrogen Storage and Cooling Application" Presented at International Conference on Innovations in Thermo-Fluid Engineering and Sciences [ICITFES-2020], February 10-12, 2020 at National Institute of Technology, Rourkela, Odisha, India.
- Samar Das received best poster award at International conference on future aspects of sustainable technology (FAST- 2019), Central Institute of Technology Kokrajhar, 10th -11th November 2020. Paper tile: response surface methodology based optimization of a bio-diesel run variable compression diesel engine.
- 2nd Best Poster Award conferred to C. R. Barik, S. Purohit, E. Yanase, S. Nagaoka, L. Sahoo, V. V. Goud, for their research work presented in 3rd International Conference of Seabuckthorn Association of India, 19-20th December, 2019, University of Delhi, India



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- Dr. Srestha Basu has been selected for JSPS Fellowship
- Dr. Rumi Khandelia has been selected for Marie Curie Fellowship
- Sirupa Bhattacharyya received Best poster presentation award in INCD 2019: 4th International Conference on Nutraceuticals and chronic diseases, Organized by IIT Guwahati, 23rd – 25th September 2019
- Sirupa Bhattacharyya received Best poster presentation award in World

Congress on cancer (WCC), Organized jointly by Mahatma Gandhi University of medical Sciences and Technology (MGUMST, Jaipur and Cancer Institute, Chennai, Ichan School of medicine at Mount Sinai, New York, February 3-5, 2020

- Das, K.; Kelkar, A.; Srivastava, H. K.; Kumar, A., Judged as the “*Special Poster Award*” for the poster entitled “Rational Design of Pincer-Metal Complexes for Catalytic Functionalization of Carbon Dioxide” presented during 19<sup>th</sup> National Workshop on Catalysis-2019, IIT Delhi, May 2019
- Mr. Shatrudhan Palsaniya received *Best Oral Presentation award in Reflux 7.0, IIT Guwahati*, India, September 28-29, 2019 for the paper “Graphene-based PANI/MnO<sub>2</sub> Nanocomposites with Enhanced Dielectric Properties for High Energy Density Materials
- Mr. B. R Bhattacharjya and Prof. S. K. Kakoty received best paper award in the Fore International Conference on Frugal Approach to Innovation, organized by Fore School of Management, New Delhi, December 13-14, 2019
- Nihal Gujre won second prize in a Travelogue writing competition, held during "Hindi Fortnight-2019" at IIT Guwahati
- C, Shashi Kumar, Siddhartha Singha, Sudip Mitra secured Third Prize for “Simulation of moisture content inside a packaging system for some food grains” (poster presentation). National Conference on Advances in Food Processing for Sustainable Food Security (AFP-2019). Organized by Department of Food Process Engineering National Institute of Technology Rourkela, Odisha. May 17-18, 2019
- Bala E, Ali AN, Singha S have received Best Poster award for “Effect of enzymatic hydrolysis of Marsilea quadrifolia” on the theme of Food biotechnology and bio-processing at 27<sup>th</sup> Indian Convention of Food Scientists and Technologists Conference organized by AFST (I)-HQ and conducted by CSIR-CFTRI Mysuru and Tezpur University
- Jyoti and Khwairakpam, M., 2019. Analysis of soil applicability of water hyacinth compost by performing phytotoxicity test (Poster), *Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)*, 27-29 November, National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)
- Singh, P., Kumar, A., Kalamdhad, A.S., 2019. Biogas generation through anaerobic digestion of food waste and its purification (poster), *Proc. Fourth International Conference on Sustainable Energy & Environmental Challenges (SEEC 2019)*, 27-29 November, National Environmental Engineering Research Institute (NEERI), Nagpur, India. (Best poster presentation award)

Our heartiest congratulations to all of them.



## CAMPUS PLACEMENT

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2019-20 has been impressive so far. A total of 147 companies/organizations from various categories [Private, MNC (Indian origin and Foreign origin), Govt., PSU etc.] and sectors (Sector wise- IT, R&D, Core Engineering, Consulting, Analytics, Finance, Oil & Gas, Education, etc.) participated in the recruitment process.

The total no. of registered students for campus placement in the year 2019-20 is 1060 students.

The overall placement of B.Tech and B.Des students is **87.52%**. For B.Tech and B.Des., number of total job offers is **491 (including PPO)** out of 561 students. An average package offered for B.Tech. and B.Des. students is **Rs.19.23** Lakhs per annum (treated as CTC).

The overall placement of M.Tech. and M.Des. students is **51.84%**. For M.Tech. and M.Des., number of total job offers is **183** out of 353 students. An average package offered for M.Tech. and M.Des. students is Rs. **16.22** Lakhs per annum (treated as CTC).

For M.Sc. programs, **11** (Mathematics -8, Chemistry -3) students have been placed out of 55 registered candidates.

For M.S.R. program, 2 students have been placed out of 5 registered candidates.

For PhD programs, 5 PhD students (Physics-1, Chemistry-1, Civil -1, CSE-2) have received job offers out of 85 registered candidates. This is mainly in the education and research sectors.



Total number of International offer is 28 (B.Tech -23 & M.Tech-5).

Overall placement of all programs (B.Tech. & B.Des., M.Tech. & M.Des., MSc, MSR, MA, PhD) is **65.28%**.



## CLOSING REMARKS

This was my first convocation as the Director of IIT Guwahati and it gives me immense pride and joy to see you all graduating from the institute. It is a proud moment for all of us and I congratulate your parents, guardians and family members for the enormous sacrifices and commitment they would have made along this journey. IIT Guwahati has one of the most beautiful educational campuses in the country that provides an ideal setting for learning and research and we believe that “Learning in tandem with the tides of the mighty Brahmaputra at the vibrant campus of IIT Guwahati” is an experience we as a community have been blessed with. I am sure that the graduated students of IIT Guwahati are ready to face the challenges of the real world. On behalf of the entire IITG community, I offer my warmest congratulations to all the 1804 graduating students who will receive their degrees today. Dear students, you should all adopt an attitude that the degree you earned at IITG will fulfil the “education for life” than “education for living”.



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I am aware that each one of you will excel in your chosen profession and we all look forward to the significant contributions you will make in the years ahead. These are difficult times to begin a career, given the present situation. However, I am sure that all the graduates who have received their employment through campus placement and all the employers have kept their commitment for continuing with you all and this has given you an opportunity to move on with your professional careers even during this pandemic. Creating an engaged, supportive alumni network is crucial to an institution's success and we hope that the communication between the institute and you all will remain intact. We will keep you informed about alumni activities and so you can remain engaged and keep abreast on the progress of IITG. As fresh alumni, I urge you to maintain strong ties with your Institute and participate in the future growth and evolution of IIT Guwahati. On behalf of the Institute, I wish you all the success in your future endeavors. I will end

my report reminding you all the vision of IIT Guwahati "To be recognized globally for excellence in education, research and innovation, and nurture future leaders, to serve the society at large". We need your support in fulfilling our vision. The motto "to serve the society at large" be your guiding light in your future career and life.

Jai Hind

T. G. Sitharam,

Director, Indian Institute of Technology Guwahati