

# **Director's Report**

**Twenty-first Convocation**  
June 12, 2019



**Indian Institute of Technology Guwahati**



Dr. K. Radhakrishnan, F.N.A.E., F.N.A.Sc, Honorary Distinguished Advisor, Department of Space/ISRO; Former Chairman of the Space Commission; Former Chairman of ISRO; 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 you all to the Twenty-first Convocation of IIT Guwahati.

I take this opportunity to express our solemn gratitude to Dr. K. Radhakrishnan for accepting our invitation to be the chief guest of this Convocation and for kindly agreeing to deliver the Convocation Address.

I am delighted to share with you that 230 PhD students, 617 undergraduate students and 507 postgraduate students will receive their degrees. I extend my heartiest congratulations to all of them.

I will now present a brief report on the activities and achievements of the Institute during the year 2018–2019.

### **THE BOARD OF GOVERNORS**

Prof. Bishnupada Mandal, Department of Chemical Engineering, IIT Guwahati joined the Board in January 2019 as a nominee of the Senate. Prof. Anoop Kr. Dass, Department of Mechanical Engineering, has completed his tenure as the nominee of the Senate in December 2018. On behalf of the Board, I welcome Prof. Mandal to the Board and thank Prof. Dass for his valuable contributions.

### **MHRD-NIRF India Rankings 2019**

A major achievement for the Institute came through the announcement of the Ministry of Human Resource Development (MHRD) National Institutional Ranking Framework (NIRF) India Rankings 2019 in which IIT Guwahati ranked **seventh** among the engineering institutions and **ninth** among all the participating universities and institutions in the country. The credit for this success goes entirely to the faculty members, students, research scholars as well as the officers, staff members and well-wishers of the Institute. The Institute shall tirelessly strive in the coming days to achieve higher rank.

### **Swachhta Ranking 2018**

The Indian Institute of Technology Guwahati has been ranked second in the Swachh Campus Ranking 2018 of Higher Educational Institutions. IITG jumped 3 places in the ‘Swachhta Ranking’ from the 5th position last year.

## **THE World University Ranking**

Young University Ranking 2018: 101–150

Emerging Economics University Rankings 2018: 114

Asia University Rankings 2018: 112

World University Rankings 2018: 601–800

## **QS Rankings**

QS World University Ranking 2019: 472

QS World Ranking in Engineering and Technology 2019: 278

QS Top 50 Under 50 Ranking 2019: 61–70

## **Navodaya Regional Science Congress**

The Regional Science Congress, comprising all the 83 Navodaya Vidyalayas (NVs) in the North East of India was conducted from the 2nd to the 7th of December, 2018 at IIT Guwahati. About 160 students and several teachers participated in and co-organized the event, which was attended by the Asst. Commissioner of the NVs along with 30 Principals. The program included special lectures by eminent faculty from different Departments and Centers—Physics, Chemistry, Biology, Mathematics, Computer Science, Design, Nanoscience and Energy. Visits were conducted to research labs such as the DST Organic Electronic Laboratory and the DBT program support laboratory, providing students with lab sessions, hands-on exercises and experimental demonstrations. Along with this, various in-house programmes such as model and poster presentations by the students and quizzes also took place.

The students and organizers from the Navodaya Vidyalaya stayed on campus and were part of sports and extracurricular activities such as star gazing conducted by the Astronomy Club of IITG. A Regional Congress was also organized to introduce students to advancements and opportunities in science and technology as well as to develop ingenious curiosity and motivate them to think innovatively.

## **TISS AESDII Eastern CSR Conclave**

The TISS AESDII Eastern CSR Conclave was conducted from the 4th to the 6th of December, 2018 at IIT Guwahati to mentor the participating start-ups and deliberate upon policies and mechanisms for developing entrepreneurship opportunities in the North East of India. Along with the participants from the North-Eastern states, Start-ups from Karnataka, Tamil Nadu, West Bengal,

Bihar, Chhattisgarh and Odisha participated in the event. The event was graced by a diversity of speakers representing the academia, industry, civil society, government, funding agencies, grassroot organizations along with eminent citizens, policy makers and industrialists over three days.

Global Initiative of Academic Networks (GIAN), an initiative of the Govt. of India for Higher Education, was started in 2016. The major aim of GIAN is 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 focused upon augmenting 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, 7 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 program Central Sector Scheme-Massive Open Online Courses (CSS-MOOCs) where 36 video courses were delivered through the NPTEL online portal under the reporting year.

The Institute organized seven teacher training programs under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)—an MHRD, Govt. of India Initiative—for in-service teachers of Assam and other states of India.

## **ACADEMIC ACTIVITIES**

The Institute offers

- Bachelor of Technology (BTech) Programs 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) program in Design (DD);
- Master of Technology (MTech) programs in BT, CL, CE, CS, EE, ME, RT;
- Master of Design (MDes) program in Design;
- Master of Science by Research [MS(R)] program in Energy (EN)
- Master of Science (MSc) programs in Chemistry (CH), Mathematics and

Computing (MC), and Physics (PH);

- Master of Arts (MA) program in Development Studies (DS) in the Department of Humanities and Social Sciences (HSS);
- Doctor of Philosophy (PhD) programs 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) program in the Department of Computer Science and Engineering (CS); and
- Dual [MS (Eng.)+PhD] program in Electronics and Electrical Engineering (EE).
- Joint PhD Degree Program in Food Science and Technology and Integrated Mechanical Engineering with Gifu-University

The total number of enrolled students in 2018–19 is 6117. Of these, 55.16% are postgraduate students. The detailed break up is given below.

### Preparatory Program: 6

#### Four-year BTech and BDes: 2737

Batch	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME	Total
Fourth Year (2015 Batch)	44	66	59	87	38	49	80	43	37	50	76	629
Third Year (2016 Batch)	49	72	61	88	39	42	80	45	39	50	81	646
Second Year (2017 Batch)	54	71	63	88	42	43	80	47	42	61	86	677
First Year (2018 Batch)	49	90	73	89	49	44	81	46	49	56	94	720
From earlier batches											65	
<b>Total</b>											<b>2737</b>	

#### Two-year MSc: 266

Batch	CH	MC	PH	Total
Second Year (2017 Batch)	44	40	45	129
First Year (2018 Batch)	50	42	44	136
From earlier batches			1	
<b>Total</b>			<b>266</b>	

**Two-year MA: 63**

Batch	DS	Total
Second Year (2017 Batch)	30	30
First Year (2018 Batch)	33	33
From earlier batches		0
<b>Total</b>		<b>63</b>

**Two-year MTech: 813**

Batch	BT	CE	CL	CS	EE	ME	RT	Total
Second Year (2017 Batch)	41	99	35	40	47	99	8	369
First Year (2018 Batch)	44	104	54	48	68	107	9	434
From earlier batches								10
<b>Total</b>								<b>813</b>

**Two-year MDes: 51**

Batch	DD	Total
Second Year (2017 Batch)	24	24
First Year (2018 Batch)	27	27
<b>Total</b>		<b>51</b>

**Two-year MS (R): 26**

Batch	EN	Total
Second Year (2017 Batch)	12	12
First Year (2018 Batch)	14	14
From earlier batches		0
<b>Total</b>		<b>26</b>

**Dual Degree: 30**

(MTech + PhD) in CS	10
[MS(Eng.)+PhD] in EE	20
<b>Total</b>	<b>30</b>

**PhD: 2125**

BSBE	CE	CH	CL	CS	DD	EE	EN	EV	HS	MA	ME	NT	PH
228	238	262	187	111	86	202	88	60	116	77	241	42	148
RT	LS												
22	17												

The new academic session (2018–2019) commenced from July 2018. 1741 students were admitted in various programs across all the Departments/Academic Centers during the reporting year. The department/center-wise details of new admissions, excluding the preparatory students, are given in the table below:

Department/Centre	BTech/ BDes	MSc/ MA	MTech/ MDes	MS(R)	PhD	Dual Degree
Biosciences and Bioengineering (BSBE)	49	-	44	-	27	-
Chemical Engineering (CL)	73	-	54	-	26	-
Chemistry (CH)	49	50	-	-	57	-
Civil Engineering (CE)	90	-	104	-	45	-
Computer Science and Engineering (CS)	89	-	48	-	19	0
Design (DD)	44	-	27	-	11	-
Electronics and Electrical Engineering (EE)	127*	-	68	-	30	3
Humanities and Social Sciences (HS)	-	33	-	-	25	-
Mathematics (MA)	56	42	-	-	19	-
Mechanical Engineering (ME)	94	-	107	-	38	-
Physics (PH)	49	44	-	-	29	-
Centre for Energy (EN)	-	-	-	14	16	-
Centre for the Environment (EV)	-	-	-	-	12	-
Centre for Nanotechnology (NT)	-	-	-	-	6	-
Centre for Rural Technology (RT)	-	-	9	-	6	-
Centre for Linguistic Science and Technology (LST)	-	-	-	-	6	-
<b>Total</b>	<b>720</b>	<b>171</b>	<b>461</b>	<b>14</b>	<b>372</b>	<b>3</b>

\* BTech in Electronics and Communication Engineering: 81 and BTech in Electronics and Electrical Engineering: 46.



Today **1354** students, who have successfully completed their programs, will receive their degrees in the following disciplines:

**Number of students obtaining degrees in June 2019:1354**

**Four-year BTech and BDes**

Total	BT	CE	CL	CS	CT	DD	EC	EE	EP	MC	ME
617	39	79	56	85	37	45	77	46	35	42	76

**Two-year MA**

Total	DS
30	30

**Two-year MSc**

Total	CH	MC	PH
119	47	34	38

**Two-year MTech/MDes**

Total	BT	CE	CL	CS	DD	EE	ME	RT
346	33	71	39	34	24	55	84	6

**Two-year MS (R)**

Total	EN
10	10

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

Total	CS
2	2

**PhD**

Department/Centre	No. of Students
BSBE	20
CE	30
CL	20
CH	31
CS	7

DD	8
EE	20
EN	7
EV	4
HS	11
MA	13
ME	28
NT	7
PH	24
<b>Total</b>	<b>230</b>

### **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:

- Powder X-Ray Diffractometer System Model ₹ 262 lakh
- Field Emission Scanning Electron Microscope ₹ 256 lakh
- Gait and Motion Analysis System ₹ 214 lakh
- All-Electric Axial-Torsional Static cum Fatigue UTM  
With Server and Software for Data Transfer ₹ 146 lakh
- Single Crystal X-Ray Diffractometer ₹ 85 lakh
- GPU Server ₹ 70 lakh
- Wearable wireless EEG/Brain Computer Interface  
System, Tread Mill ₹ 59 lakh
- 600 MHz NMR spectrophotometer and accessories ₹ 45 lakh

The Lakshminath Bezbaroa Central Library, being a major service center of the Institute, provides library and information services to support teaching, learning, research activities by creating state-of-the-art facilities and offering innovative services. The library has a fast growing collection of books, journals, magazines both in print and digital format.

The library has a collection of about 1.76 lakhs of printed books and bound volumes of journals, 1.88 lakhs of e-books, and 50 print and 27,492 online 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 database like Scopus, INSPEC, EBSCO Discovery Service, EBSCO Business Source Complete, IEC Standards, IMF eLibrary, eHRAF among others and some well-known national level databases such as CMIE ProweesIQ, Economic Outlook, BIS Standards, and EPWRF Time Series.

For better accessibility of contents, efforts have been made to increase online journal collection over printed journals. Presently the library subscribes to 16,601 journal titles across all academic areas of which 16,552 are online journals. In addition, the Institute has access to 8,824 online journals through the 'e-ShodhSindhu Consortium' and the 'DeLCON: DBT- Electronic Library Consortium'.

The library has also subscribed to Turnitin, a plagiarism-detection software, during the reporting period. The library has also developed a reasonably good collection of Assamese language books and the literary works of Sahityarathi Lakshminath Bezbaroa and a special collection of Mahatma Gandhi's works during the reported period.

The Computer and Communication Centre has augmented its facilities to provide better service in connectivity. The Centre also acts as a nodal centre for various network related activities of the North-Eastern states. Projects of the National Knowledge Network and the ERNET are being actively pursued at the Centre.

## **RESEARCH AND DEVELOPMENT**

The total number of PhD students on campus has grown from 1934 last year to 2125 this year. The current faculty to PhD students' ratio is 5.16. The research publication record per faculty is more than 4 and is among the best in the country. The number of graduating PhD students is 230 which is similar to the previous year.

The other component of our research program is sponsored (or directed) research. There are 382 research projects in progress with a total sanctioned value of about ₹ 312.5 crore. In the year under report, we received 123 new projects with a sanctioned value of ₹ 55.9 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. 305 personnel are engaged in various research projects at the Institute with 110 Principal Investigators involved.

The Institute has applied for 26 patents in 2018–2019.

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

<b>Project Title</b>	<b>Dept./ Centre</b>	<b>Funding Agency</b>	<b>Amount (₹ in Lakh)</b>
FIST in the subject area Chemical Sciences	CHEMISTRY	DST	594
FIST Grant	CIVIL	DST	334
Fabrication Facility for Silicon Photonics and Microelectronic Devices	EEE	DST	260
Development of enantiomeric-Lactic acid Polymer based Pilot Plant	CHEMICAL	K P Tech Machine Pvt. Ltd	237
Re-purposing of FDA approved drugs for tuberculosis treatment	BIOTECH	DBT	211
Rural Technology Action Group (RuTAG)	Centre for Rural Technology	DST	165
Strengthening of research facilities in the department	BIOTECH	DST	144
NIRMAN 3D- Novel minimally invasive implants for reconstructive surgery using materials providing mechanical instruction and prepared by 3D printing	BIOTECH	DBT	123
DBT-TERI Center of Excellence Project Integrated Production of Advanced Biofuels and Biocommodities	CHEMICAL	DBT	114

*DST – Department of Science and Technology, Govt. of India*

*DBT – Department of Biotechnology, Govt. of India*

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 168 new consultancy projects were carried out during the year. The total value of consultancy projects undertaken during this year is ₹ 5.20 crores and ₹ 7.57 crores was received for all consultancies.

IIT Guwahati has a Technology Incubation Centre (IITG-TIC) which facilitates new start-ups. Presently twenty-three incubating companies are working in the center. The IITG-TIC has been appreciated for its role in Start-up India initiative of Govt of India.

### **IIT Guwahati Research Park**

IIT Guwahati facilitates established companies to set up their R&D centres inside the Institute campus for industry-academia collaboration. The following four new companies have started their operations during the reporting year:

- Caliche Private Limited (OIL Funded): Oil and gas wells
- Alvin Engineering Private Limited (OIL Funded): Electricity generation from heat
- Viridi Industria Techno Solutions Pvt. Ltd.: Production of ammonia from non-toxic urea
- Apshisht Management & Environmental Research Pvt. Ltd.: Biogas digester

### **FACULTY AND STAFF**

The faculty strength at the end of March 2019 was 412. The number of non-teaching staff at the end of March 2019 was 514.

### **RESEARCH PUBLICATIONS**

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

Papers in Journals: 1738 (Scopus 2018)

Papers in Conference Proceedings: 778

In the previous year 1576 papers in journals and 665 papers in conference proceedings 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—

1. 11th Young Investigators' Meeting (YIM 2019), March 6–10, 2019
2. International Conference on Functional Nanomaterials (ICFNM-2019), February 22–25, 2019
3. 20th Indo-US Flow Cytometry Symposium Cum Workshop on “Applications of Flow Cytometry in Biotechnology,” 13–16 March 2019
4. International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT 2019), in association with IIT Guwahati and International Plant Propagators' Society (IPPS), February 11–13, 2019
5. International Conference on Trends in Plant Sciences and Agrobiotechnology (ICTPA 2019), in association with IIT Guwahati and the Plant Tissue Culture Association-India (PTCA-I), February 14–16, 2019
6. International Conference on Nutraceuticals and Chronic Diseases, September 14–16, 2018
7. Recent Advances in Biomedical Research-2019, March 26–27, 2019
8. Recent Advances on Bio inspired Nanomaterials for Environmental Applications, December 18, 2018
9. Frontiers in Chemical Sciences 2018 (FICS 2018), December 6–8, 2018
10. The 13th International Conference and Workshops on Algorithms and Computation (WALCOM 2019), February 27–March 02, 2019.
11. 5th Annual Conference of Cognitive Science, October 10–12, 2018

The Institute has also organized 77 short-term courses, workshops, and training programs under the Technical Education Quality Improvement Program (TEQIP), Electronics and ICT Academy and under the Virtual Lab projects funded by the Govt. of India.

## **INTERNATIONAL COLLABORATIONS**

### **Visit of the Ambassador of the European Union**

The Ambassador of the European Union Mr. Tomasz Kozolowski visited IIT Guwahati on Tuesday, April 10, 2018 and interacted with the Director, deans, and heads of Departments as part of the EU Day Celebration. The Ambassador and the visiting delegation emphasized strengthening the

various mobility programs to the EU such as the Erasmus+ program and to utilize various EU-member funding agencies such as DAAD for student and faculty mobility. The visiting delegation also made a presentation on various academic and funding opportunities in Europe.

### **Delegation of the French Embassy**

Dr. Bertrand de Hartingh, Counsellor for Cooperation & Cultural Affairs at the Embassy of France, Mr Damien Syed, Consul General of France in Kolkata, Mrs Alice Brunot, Cultural Attachée, Ms Laetitia Lompeche, Attachée for French language cooperation, and other officials of the French Embassy visited IIT Guwahati on 09 May, 2018. The objective of the visit was to explore possibilities of collaboration in sustainable energy, green energy initiatives, and technology incubation. The delegation had an extensive tour of the facilities in the campus such as the Centre of Excellence for Sustainable Polymers (CoESPoI), Department of Design, Central Instruments facility.

### **NAMASTE+**

In view of the existing relations between IITG and German universities and with the aim of strengthening the cooperation through the exchange of students and faculty, and research collaboration, IIT Guwahati has become a part of the NAMASTE+ project coordinated by the Georg-August-Universität Göttingen (UGOE), Germany. The NAMASTE+ will be submitted to DAAD Germany within the framework of A New Passage to India–German-Indian Higher Education Cooperations. IIT Guwahati will provide all the necessary support for the incoming students and faculty from UGOE and to outgoing students to UGOE. Tuition fee will be waived for the students enrolled at the host university under NAMASTE+.

### **Collaboration with Universities in the UK:**

Following the visit of Prof. Nora De Leeuw, Pro Vice-Chancellor, Cardiff University UK, IIT Guwahati had established further communication with Cardiff University through the Department of Chemistry. The Department of Chemistry has invited Prof. Nora De Leeuw and Prof. Thomas Wirth as keynote speakers in the Frontiers in Chemical Sciences Conference held in December 2018.

### **University of Central Lancashire**

IIT Guwahati signed an agreement with the University of Central Lancashire, UK, on April 2018 valid for the year 2018.

### **Collaboration with Universities in Europe**

**Joint Masters-PhD Program with Heidelberg University and DBT:** The above is a unique program to be funded by DBT whereby 15 postgraduate students from 6 premier Indian institutions will be selected to undertake their 4th semester of the Masters Program at the University of Heidelberg, Germany out of which 10 will be eventually selected for a Joint-PhD program in Big Data Analysis with the University. This year, the DBT Heidelberg Summer School was held at Allahabad University from 31 March 2019 to 05 April 2019. Five students and 4 faculty members from IIT Guwahati attended the meet.

### **DAAD Selections**

Four students of IIT Guwahati have been selected for the DAAD-India IIT Masters Sandwich Program to three universities of Germany for the academic year 2018–19.

### **Shastri Indo Canadian Institute**

Following the mobility program announced by SICI, five faculty, researchers and students have been selected for various programs under the Shastri Indo-Canadian Institute fellowships.

**Curtin University of Technology, Australia:** IIT Guwahati has signed an MoU for a collaborative PhD program between IIT Guwahati and Curtin University in May 2018.

### **University of Texas at El Paso, United States**

IIT Guwahati signed an agreement with UTEP in May 2018. The agreement is a result of an initiative by Dr. Anjan Kumar S, Dept. of Civil Engineering.

### **Fayoum University and Kalfresheikh University, Egypt**

Dr. Ajaikumar B. Kunnumakkara, Dept of BSBE, initiated the signing of a general MoU with 2 Universities in Egypt namely Kalfresheikh University and Fayoum University. IIT Guwahati formalized the signing of the MoU with Kalfresheikh and Fayoum in May and June 2018 respectively.

**Heritage Network:** The First Heritage Workshop was organized on the theme of Smart Cities as part of the General Assembly meet. The Follow up meet of researchers of the 20 participating institutions was organized at UnivTechnico Madrid, Spain. Prof. Ravi Mokashi Punekar was elected as Vice President of the Heritage Network during the General Assembly meet of the network.



**Spring School 2019:** The Board of Governors IIT Guwahati and the IIT Guwahati Senate have approved the proposal for establishing an International Joint Master’s Program in Food Science & Technology and a PhD program in Food Science & Technology and Integrated Mechanical Engineering with Gifu University, Japan. To promote and strengthen the program, IIT Guwahati hosted the ‘Spring School Programme’ in IIT Guwahati for the first time in March 2019. 5 undergraduate students from Gifu University Japan along with 2 faculty members visited IIT Guwahati under the program, which involved various academic activities such as seminars, lectures, lab visits, industry visits, and cultural interactions.

### **Collaboration with Universities in Japan:**

#### **Japan Education Fair**

IIT Guwahati organized the Japan Education Fair in collaboration with the University of Tokyo, New Delhi Office on October 31, 2018. The event saw an enthusiastic response by students and faculty of IIT Guwahati. The event, billed as the first of its kind by the speakers, focused on areas related to higher studies in Japan, student exchange programs, and internships. The event saw participation from various universities in Japan and industry representatives of Japanese companies such as the Yokohama National University; the Ritsumeikan University; the Saitama University; the University of Tokyo; Gifu University; the Embassy of Japan, New Delhi; and Hitachi, India.

#### **IIT Guwahati-Yokohama National University Japan—Joint Symposium**

IIT Guwahati in association with Yokohama National University, Japan held a bilateral symposium on October 30, 2018. The symposium witnessed paper presentations from faculty members of Yokohama National University and IIT Guwahati. IIT Guwahati and Yokohama National University also formally shared the MoU signed on September 13th, 2018 for research collaboration, student and faculty exchange purposes.

#### **Kyushu University, Japan**

IIT Guwahati signed an MoU with Kyushu University in April 2018 and valid for a period of 5 years. The agreement is for student/faculty mobility and research collaborations. This MoU is a result of the Director’s visit to Kyushu University to deliver a keynote lecture in an international conference in February 2018.

**Collaboration with Indo-Taiwan University:** The Indo-Taiwan bilateral workshop held on the sidelines of the ASP Conference resulted in another major collaborative outreach for IIT Guwahati. IIT Guwahati will now partner

with Ming Chi University of Technology, Taiwan to explore joint research collaborations. Ming Chi University of Technology, Taiwan, is renowned for its industrial connections and the present MoU will lay the foundation for a robust collaboration between the two institutions.

### **National Chung Hsing University Taiwan**

An agreement was signed with NCHU Taiwan in May 2018. Prof. Rakhi Chaturvedi, Dept. of BSBE, IIT Guwahati had initiated the signing of an MoU with NCHU Taiwan.

### **MEMORANDA OF UNDERSTANDING (MoUs)**

The Institute signed 18 new MoUs with various educational and research institutes in Japan, Taiwan, Portugal, Mexico, France, UK, Spain, the Czech Republic, Australia, USA and 21 new MoUs with universities within the country during the year under report.

IIT Guwahati, at present, has 131 national and international collaborations aimed at facilitating research collaborations, student and faculty exchange, joint PhD supervision, and other research related activities.

### **INTERNATIONAL STUDENTS**

A substantial number of international students from top universities visit IIT Guwahati every year to pursue full time masters, doctoral and short-term courses as exchange students and interns. Presently, there are 37 international students studying in the campus including exchange students.

There are also a large number of students, faculty and staff of IIT Guwahati who have visited other institutions for exchange programs, internships or under flagship programs such as the DAAD, MITACS, Erasmus+ and KA-107.

### **ALUMNI ACTIVITIES**

The Graduate Tea Party 2018 turned out to be one of the most memorable events for the graduating batch of 2018. This event, which is an annual affair, saw a huge turnout of nearly 1200 graduating students. Prof. Gautam Biswas, Director IIT Guwahati, delivered the keynote address in presence of the deans and other senior functionaries of the Institute.

IIT Guwahati has accepted the proposal sent by the MHRD to take membership of the IIT Alumni Centre Bengaluru (IITACB). To that effect, the subscription amount of ₹ 1 crore to be given by the Institute was approved by the Board of Governors IIT Guwahati in its meeting held in March 2018.

The Alumni Mentorship Program is a program in which the alumni of the Institute act as mentors to currently-registered students. This initiative was ideated during July-Dec 2017 during which the data regarding the alumni who wished to act as mentors was taken. The program was implemented in January 2018. The program has run successfully thereafter.

AER office with the support of its Student Alumni Interaction Linkage (SAIL) initiated a series where the alumni of each hostel were asked to make a video describing their experiences in the campus, especially in their respective hostels. These videos were aimed at familiarizing incoming freshers with the campus in general and their hostels in particular.

The Pan IIT Student Alumni Meet (SAM) was conducted in Singapore by SPARC (the Student Pan Alumni Relations Cell) to provide a platform to students from various IITs residing in Singapore, to meet and interact with each other. The event was conducted on July 7, 2018, with the help of the Singapore chapter of the All IIT Alumni Association.

The Fresher's Orientation was conducted on August 21, 2018, with the objective of creating awareness among the incoming batch of students about the working and functionalities of the SAIL team as well as the Alumni and External Relations office. It was an interactive session including a live Q&A session with one of our well-known alumna, Ms. Diti Sood, MBA, Harvard.

Alumni of IITG were contacted to offer webinars for current campus students, to provide them with a holistic view in various domains. These webinars were conducted live, with the students enjoying the flexibility to attend them from their hostel rooms while simultaneously being able to ask questions and get their doubts clarified. The various domains covered via these webinars include blockchain technology, placement strategies, and many more.

#### **Alumni Talk Series:**

Talk on Engineering Technology in Finance by Snigdha Aggarwal.

Talk on Design Career Opportunities by Uddipana Baishya.

Panel Discussion on Career in the Civil Services by Abhishek Sinha and Shekhar Singh on March 31, 2019.

A blog series, an initiative by the SAIL team to capture the expertise and journeys of various alumni from IITG into a blog post, was implemented. These resources, unlike the live webinars, are available to students at all times, thus benefiting future batches too. At the time of reporting, the blog

series contains the following:

- a. Vantage Point
- b. Engineering is not the end of life
- c. Journey of Vikram Rana
- d. Journey of Bhupinder Kumar
- e. Journey of Antriksh Singh
- f. Journey of Aashish Goel.

### **Inter IIT Sports Meet 2018:**

The 53rd edition of the Inter IIT Sports Meet including the 34th Inter-IIT Aquatics Meet (October 3–7, 2018) was successfully organized by IIT Guwahati during December 13–21, 2018. With over 3500 participants, more than 50 events and 500+ matches, this edition was one of the biggest throughout the history of the Inter IIT Sports Meet. It was also the first time when the talent of the differently-abled individuals was acknowledged with the inclusion of para-powerlifting among other competitive sports. IIT Delhi was the overall champion of the event.

The subsequent 24th edition of the Inter IIT Staff Sports Meet was also organized by IIT Guwahati during December 24–28, 2018 in which around 800 staff and faculty members from almost all the IITs participated. IIT Guwahati was judged the Joint Champion in Men's Category along with IIT Delhi. IIT Bombay was judged as the Overall Champion as well as Champion in Women's Category.

Our heartiest congratulations to all of them.

### **FACULTY ACHIEVEMENTS**

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

- Prof. T. Punniyamurthy, Dept. of Chemistry has been selected as Fellow, The National Academy of Sciences, 2018.
- Prof. A. Paul, Dept. of Chemistry has been selected as Fellow of Royal Society of Chemistry (FRSC), 2019.
- Prof. Gautam Biswas was conferred the Honorary Doctorate on November 02, 2018 by Aristotle University of Thessaloniki, Greece.
- Dr. U. Manna, Dept. of Chemistry has been selected as Emerging Investigators in Journal of Materials Chemistry A (RSC), 2018 and NASI-

Young Scientist Platinum Jubilee Award (NASI, Allahabad, India), 2018. He has also been selected as Associate of the IAS (Indian Academy of Science, Bengaluru, India), 2018.

- Prof. Parameswar K. Iyer, Dept. of Chemistry has been inducted as an Editorial Board Member of the RSC journal Materials Chemistry Frontiers for a period of two years beginning January 2019.
- Prof. Parameswar K. Iyer, Dept. of Chemistry has been conferred with the Chemical Research Society of India (CRSI) Bronze Medal in recognition of his contributions to research in chemistry.
- Dr. Souptick Chanda, Dept. of BSBE received the Fulbright-Nehru Academic and Professional Excellence Fellowship 2019-20 to carry out research at Harvard Medical School, Boston, USA.
- Dr. Pranjal Chandra, Dept. of BSBE received the Young Scientist Award 2017–2018 by the Biotech Research Society of India. He also received the Young Engineers Award–2018 by the Senior Engineers Forum, Guwahati.
- Dr. Kusum Kumari Singh, Dept. of BSBE received the Biotechnology Overseas Associateship for NER Scientists Award 2018, Department of Biotechnology, Ministry of Science and Technology, Govt. of India.
- Dr. Ajaikumar B. Kunnumakkara, Dept. of BSBE received the Faculty award for outstanding achievements in science from Kafr El-Sheikh University, Egypt, April 2018. He also received the Honorary Chair Professor Award, Mahatma Gandhi University, Kottayam, Kerala, July 2018. He was also awarded the Sakura Exchange Program by JST, Japan.
- Prof. V. S. Moholkar, Dept. of Chemical Engg. has been elected as Fellow of the International Society for Energy, Environment and Sustainability (FISEES), IIT Roorkee
- Dr. Bhubaneswar Mandal, Dept. of Chemistry was selected for Overseas Associateship from DBT, Govt. of India.
- Dr. M. Sarma, Dept. of Chemistry has been selected as Associate Member of the Royal Society of Chemistry (AMRSC), November 2018.
- Prof. Pradeep Yammiyavar, Dept. of Design was conferred the National Award for Teaching Innovation of MHRD—GOI for Innovation in Higher Education under PMMMNTT. (Selected in 2016–17. Conferred on Jan 14, 2019)
- Dr. Sambit Mallick, Dept. of HSS received Life Member, Indian Science Congress Association, May 2017

- Dr. Debapriya Basu, Dept. of HSS, was awarded the Moore Institute Fellowship 2018–19 at the National University of Galway, Ireland
- Prof. Bipul Bhuyan, Dept. of Physics has been elected as the General Secretary of Physics Academy of Northeast (PANE) for the duration of 2019–2021.
- Prof. B. R. Boruah, Dept. of Physics has received senior membership of Optical Society of America (OSA) and SPIE, 2018.
- Dr. D. Borah, Dept. of Physics received Associateship, Indian Academy of Sciences for the period 2018–2021.
- Prof. P. K. Giri, Dept. of Physics received Visiting Research Fellowship, University of Birmingham, United Kingdom, June–July 2018.
- Prof. A. Perumal, Dept. of Physics received Japan Society for the Promotion of Science (JSPS) Invitational Fellowship for Research in Japan (long term FY2018) for collaborative work in Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science, Tsukuba, Japan with Prof. Kazuhiro Hono.
- Prof M. K. Purkait, Centre for the Environment, has got Herdillia Award for Excellence in Basic Research in Chemical Engineering for the year 2018 from Indian Institute of Chemical Engineers (IICChE).
- Dr. Debabrata Sikdar, Dept. of EEE has been awarded the prestigious Marie Sklodowska-Curie Individual Fellowship on smart electro variable nano plasmonic metadevices for pursuing research at the Imperial College London.
- Dr. Chandan Kumar and Dr. Sanjib Ganguly were elevated to IEEE senior membership.
- Dr. Binota Thokcham, Inspire Faculty, Centre for Nanotechnology received BRICS Young Scientist Award, 2019.
- Dr. Dipankar Bandyopadhyay, Centre for Nanotechnology has been nominated as member of RSC, ACS and IICHE.

Congratulations to all.

## **CONSTRUCTION AND CAMPUS DEVELOPMENT**

The Institute has been continuously developing since its inception and the infrastructure is also being strengthened to meet the current as well as future needs effectively.

## **Projects completed during the last financial year:**

**(a) Classroom Complex:** A classroom complex comprising 30 halls of 120 capacities each and 6 halls of 200 capacities each is under construction. Out of these, 18 halls of 120 capacities each have been completed and put to use while the remaining 12 halls of 120 capacities and 6 halls of 200 capacities are structurally complete but finishing works are ongoing. Floor area constructed in this phase is 9875 sqm.

**(b) Research Building:** The Institute took up construction of a G+9 storied building to house research facilities. Internal finish with HVAC, electrical works and lifts were completed upto G+3 floor in March 2018. Each floor has ten laboratories of 100 sqm each. However, considering the increasing demand for requirement of space, internal finishing of another two floors was further completed in October 2018.

**(c) Guest House 2:** The Institute started construction of second Guest House in response to an increased number of visitors. The new guesthouse is a G+5 storied building housing 165 rooms (8 VIP rooms and 157 general rooms). The building is ready and 32 rooms are already being used for the accommodation of guests.

## **Ongoing projects:**

**(a) Construction of Boys' Hostel 11:** The 11th boys' hostel, which was started in March 2015 with a capacity of 1152 students is under construction. Works of 580 rooms have been completed and 290 rooms are under occupation since December 2018. Remaining works including kitchen and dining hall area are expected to be completed by October 2019.

**(b) Expansion of Academic Complex Phase V:** Under this phase, the work comprises two parts (i) Vertical extension over the existing buildings of DoD, CSE, Chemical Engineering, HSS and Mathematics and (ii) Construction of the Centre for Nanotechnology along with Clean Rooms. Works of extension Work have been completed and handing over of the completed parts in phases is going on. The development of a Nano Centre is also going on.

**(c) Construction of 160 units of F-type residential quarters:** In order to meet the growing requirement of residential quarters for faculty members, the Institute took up construction of a G+9 storied building with 160 units of F-type residential quarters in 4 blocks having 40 units in each tower and possessing all basic amenities. The approved cost of the project was ₹13686.01 lakhs. The work has been awarded to Uttar Pradesh Rajkiya Nirman Nigam Limited (UPRNNL) in May, 2018. The execution of the work started in July,

2018. The piling work has already been completed and the raft foundation, plinth beam work is in progress. The total progress achieved so far is 20%. The scheduled date of completion of the towers is March 2021.

**(d) Residential Quarters C-type:** A proposal for 40 units of C-type residential quarters was approved in the 84th B&WC meeting held on September 8, 2018 for an amount of ₹ 2228.26 lakhs. The Institute has already applied for a loan from the HEFA.

**(e) 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 (Group A & B) of 10 ft. height from the main entrance gate to the Ghorajan Nallah near the Sewerage Treatment plant is in progress. The work is expected to be completed within December 2019.

**(f) Electrical infrastructure:** The IITG 33KV sub-station was commissioned in the year 2002 with initial capacity of 2X5MVA. With the growth of the Institute, to cater to present and future demand of electrical and HVAC-air conditioning load, a 7.5MVA 33/11KV transformer was installed. The present capacity of the sub-station is 17.5MVA. Similarly, in the secondary power distribution system i.e., the augmentation of all 10 11KV sub-stations, are also completed. The total enhanced capacity of all 10 sub-stations is 16.650MVA.

As per the instruction of the MHRD, under the Building Energy Efficient Program and as a part of the energy conservation drive, conventional fluorescent tube lights have been replaced by retrofitted LED luminaires in the hostel areas. All the 150W SON and 120W MH lamps of IITG street lighting system have been replaced by energy efficient LED luminaires. In addition to this, the Institute has also installed solar water heater system in Lohit hostel. IITG also installed 450KW capacity solar power plants in Brahmaputra and Dhanshiri hostels in a phased manner. Another solar plant of nearly 500KW capacity is installed and commissioned in the classroom complex, the research building, the Department of Design building and Lohit hostel.

**(g) AC infrastructure:** With the rapid expansion of the Institute including the academic complex, one 1200TR capacity air cooled screw chiller new HVAC Plant was installed and commissioned in the year 2011 besides the existing 1800TR capacity HVAC Plant-1. The increased demand for air conditioning has also necessitated augmentation of HVAC PLANT-1, which is in progress. In addition to this, another VRV energy efficient dedicated central air conditioning system of total capacity 1050TR has been installed



in the New SAC, the New Guest House and research buildings. Additional air conditioning of 1000TR, comprising window, split and ductable AC have been installed in Administrative building, Central workshop, D-type community hall, Technology complex, old guesthouse and various R&D project areas.

**(h) Dormitory for Security:** In order to provide security personnel accommodation, dormitories have been constructed at different places inside the campus. Out of the two buildings constructed for the purpose, one building has been handed over to the Security Section for occupation. The other building was modified for temporary accommodation of faculty members because of shortage of accommodation facilities and was converted to 12 quarters.

**(i) Maintenance of Internal Road:** The rectification and maintenance of internal roads of the IIT Guwahati campus was entrusted to the Assam Public Works Department (APWD), NH Works in phase I and II and almost 90% of the work has been completed till date. The completion time of the work has further been extended to June 2019 due to some ongoing construction at the execution area.

**(j) Estate Office:** The Engineering Section along with the Maintenance Section, plays a very important role in the infrastructure development and maintenance activities of the Institute. In order to create administrative as well as functional synergy, an estate office is under construction to accommodate both the sections. Although the building has been planned as a G+3 structure, a G+2 structure will be completed first. The building is expected to be ready by July 2019.

**(k) Dormitory for Guest House:** A G+2 dormitory building is under construction to be used as accommodation for the workers of both the Guest Houses. Almost 80% works have been completed and the remaining work is expected to be completed by August 2019.

## **INSTITUTE EXPENDITURE**

The details of expenditure (provisional) during the year 2018–2019 are as follow (in crores of ₹):

Revenue expenditure:	310.10
Capital:	163.25
R&D:	93.25
Total Expenditure:	566.6

In comparison, in 2017–2018, ₹ 603.41crores were spent.

## **EQUAL OPPORTUNITIES**

IIT Guwahati is extending all its best efforts to implement “Accessible India Campaign (Sugmaya Bharat Abhiyan)” launched by the Ministry of Social Justice & Empowerment.

IIT Guwahati complies with Rights of Person with Disabilities Act 2016 (RPwD Act, 2016), and in the reporting year, based on the recommendation of the committee constituted to conduct an accessibility audit in campus, various infrastructural facilities were provided to Persons with Disabilities (PWDs).

IIT Guwahati coordinated with the National Institute for Locomotor Disabilities, Kolkata and the ME Dept. to organize a National Conference on “Disability and Social Inclusion—The Role of Technology” during January 10–11, 2019 in IIT Guwahati.

A humble effort was also made to spread social message amongst youth in the field of disability issues during the annual cultural function Alcheringa on 3rd February 2019. On this occasion two workshops were held on “Rehabilitation Services—Community Based Inclusive Development” & “Unfolding abilities—Challenging the Challenges.” The speakers were invited from Mobility India, Bangaluru and TISS, Mumbai.

The Institute has taken steps especially for PWD students based on their requirement to arrange transport for their smooth movement in campus.

The Para Powerlifting event was included for the first time in the 53rd edition of the inter-IIT Sports Meet hosted by IIT Guwahati in December 2018. Participants from IIT Dharwad, Madras, BHU, Kanpur and Guwahati took part in the event.

A Soft Skills Training Program for Non-Teaching SC/ST employees was arranged in coordination with E&ICT Academy IIT Guwahati. The aim of the training was to enable staff members to harness soft skills and to provide public/citizen centric services.

A talk on legal awareness was also held for SC/ST employees and students. Mr. Rajib Bhattacharyya, Legal Assistant to Legal Remembrance and Under Secretary to the Government of Assam was the resource person.

## **STUDENTS' ACTIVITIES**

Alcheringa, the annual cultural festival of IIT Guwahati, was held during 31 January–3 February this year. Alcheringa is now regarded as a much anticipated students' cultural event in the North East in which thousands of students from across the country take part in various youth oriented competitions, workshops, seminars and informal events. The performances of musicians and performing artistes of repute are the real crowd pullers. In the past Alcheringa has featured some exhilarating performances from some of the biggest names in the entertainment industry.

Techniche 2018—the twentieth edition of annual techno-management festival of the Institute—was held during 30 August–2 September 2018. Techniche has been an extraordinary platform to showcase the latest inventions, exhibitions and technological advances from all over the globe. The student teams organize a plethora of events and competitions all designed to make the participants step outside their comfort zones and challenge the institution of conventional thinking. In this edition of Techniche IIT Guwahati hosted Michael Barrat, Astronaut, NASA; Murzy Jhabvala, Chief Engineer, NASA; Deependran B, Project Director, VSSC-ISRO; Manfred Krammer, HoD, Experimental Physics, CERN; V. K. Saraswat, former Director, DRDO; Simi Sabhaney, CEO, DENTSU; Krishnakumar Ramanathan, Virtual Markets and Chief Customer Officer, SIEMENS and others, who held interactive discussions with the students.

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

## **STUDENTS' ACHIEVEMENTS**

- Mr. Shivram N Gowtham, 4th year BTech CSE & Mr. Aayush Sanjay Agarwal, 3rd year BTech CSE have been selected for the prestigious Tower Research Capital Scholarship 2019. The scholarship amount is ₹ 2,00,000/- per student per year.
- Mr. Aditya Rajesh Patil, 1st year BTech, CSE & Mr. Vikarmaditya Paidi Vajjalla, 1st year BTech, ME student of the Institute have been selected by Aditya Birla Group for the prestigious Aditya Birla Scholarship 2018 and are among the best 15 best students from IITs/BITS in engineering streams. The scholarships amount is ₹ 1,00,000/- per annum and cover a large part of academic fees as well as other fees.

- Mr. Suyash Pati Tripathi, 4th year BTech, Electrical has been selected for the prestigious OPJEMS Scholarship 2018.
- Gaurav Agarwal, BTech ME has been recommended by the Institute for the prestigious ONGC Gold Medal. The medal includes ₹1,00,000/- and a gold plated medallion. The ONGC Gold Medal is awarded to the topper of BTech, ME branch.
- Bishal Raj Gayan, BTech ME, N Munikumar, MTech ME, Sanjay Shukla, MSc Physics and Debasmita Paul, MSc Chemistry, have been recommended by the Institute for the prestigious ONGC Scholarship.
- Sanjay Shukla, MSc, Physics, Debasmita Paul, MSc, Chemistry, Deepa Antony, MSc, M&C, Srijani Roy, MA, Development Studies have received the Jadav Prasad Chaliha Award for Academic Excellence & Mayank Prasad, BTech, CL has received the Jadav Prasad Chaliha Award for the Differently Abled for the year 2018.
- Siddhartha Karmakar, MSc, Physics; Sarupa Roy, MSc, Chemistry; Himanshu Pandey, MSc, M&C; Rashmirekha Pandit, MA, Development Studies have received the Jadav Prasad Chaliha Merit-cum-Means Award.
- A research story titled “Unravelling the mysteries of CRISPR memory generation” written by Yoganand. K. N. R., from the Dept. of Bio-Sciences and Bio-Engineering (BSBE) has been selected for the AWSAR (Augmenting Writing Skills for Articulating Research) awards, 2018 by the Department of Science and Technology, Government of India.
- Mr. Pratik Nag, Dept. of BSBE was selected for the Prime Minister’s Research Fellowship (PMRF).
- Ms. Debika Datta, Dept. of BSBE, was awarded a travel grant by the American Peptide Society to attend the American Peptide Symposium 2019 at Monterey, California.
- Phurpa Dema Thungon, a PhD student of the Dept. of BSBE has received the prestigious Overseas Visiting Doctoral Fellowship (OVDF) from the SERB (DST)-UAlberta Partnership scheme to carry out her thesis research at the University of Alberta, Canada for a period of one year (May 2019–April 2020).
- Sanjay M, MTech (BSBE), secured the 1st position and received a cash prize of ₹25000 for his model “Optisense—a smartphone based malaria detection platform” in the Redstart-All India Startup Challenge, Research Conclave 2019, organized by IIT Guwahati during March 14–17.
- Mr. Shwetank Panwar, BTech Trainee Student, received a research assistantship at the Montreal Neurological Institute (MNI), McGill

University, Canada.

- Yogendra Pratap Singh, Dept. of BSBE has been awarded the Newton Bhabha PhD Placement Program 2017–18 by Department of Biotechnology, Government of India and the British Council, UK, to carry out research work with Dr. Chris Holland at The University of Sheffield, UK, for a period of 4 months (October 2018 to January 2019). He was also awarded the Raman-Charpak fellowship 2017–18 by the Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA) to carry out research at the Institute for Regenerative Medicine and Biotherapy (IRMB, INSERM U1183), Montpellier, France.
- Janani G, Dept. of BSBE has been awarded the “Fulbright Nehru Doctoral Research Fellow” and visited the University of Pittsburgh for 9 months.
- Varun Saxena, PhD Scholar, Dept. of BSBE has been awarded the CSC split site scholarship for a tenure of 1 year under Dr. K. H. Aaron Lau at the University of Strathclyde, UK.
- Jahnu Saikia, Dept. of BSBE received the Graduate and Professional Student Council (GPSC) Travel Award to attend the 63rd Annual Biophysical Society Meeting in Baltimore, Maryland.
- GM Kumar received Best Research Scholar Award at the Indian Plant Science Congress (IPSC’19).
- Ms. Amrita Khwairakpam Devi, Mr. Kishore Banik and Mr. Krishan Kumar Thakur, Dept. of BSBE, were chosen to join an invitation program carried out under the framework of the Japan Asia Youth Exchange program in Science (Sakura Exchange Program in Science) administered by the Japan Science and Technology Agency.
- Ms. Harsha Choudhary, Ms. Sosmitha Girisa and Ms. Devivasha Bordoloi, Dept. of BSBE, were selected for the ‘DBT STAR training program’ for an advanced training in advanced areas of Biotechnology and visited Japan.
- Mr. Kushagra Agrawal, research scholar, Dept. of Chemical Engg., was awarded first position, research scholar category at the International Conference on Recent Advances in Fluid and Thermal Sciences (iCRAFT 2018) in Dubai.
- Dr. Prodyut Dhar, Dept. of Chemical Engg., has been selected for the ‘Graduate Student Award’ for his PhD research work on ‘Cellulose Nanocrystals’ by the American Chemical Society.
- Mr. Adil Majeed Rather and Ms. Dibyangana Parbat, Dept. of Chemistry, received the Tertiary Prize in the ISBE Bionic Innovation Competition, China.

- Mr. Krishnakanta Bhattacharya, Dept. of Physics, has been awarded the distinguished student FIP-APS travel award from the APS (American Physical Society).
- Mr. Dudul Das, Centre for Energy, has received the Bhaskara Advanced Solar Energy Fellowship by the Department of Science and Technology, Govt. of India.
- Mrinal Bhowmik, PhD student of the Centre for Energy received the best paper award at the International Conference on Computational Methods for Thermal Problems (THERMACOMP–2018).
- Shyamali Sarma, Centre for Energy received the Young Researcher award in the BioSD conference at IICT Hyderabad.
- Amit Kumar Baghel (PhD, EEE), Shashank Satish Kulkarni (PhD, Energy), Deepak Kumar Sahoo (MTech, EEE) and Utkarsh Jaiswal (BTech, EEE) received third prize (₹1,00,000 with IIT Madras) in Aero India 2019 jointly organized by the MHRD and the Ministry of Defense in Bengaluru.
- Mr. P. Anoop, EEE Dept., received the best paper award in the IEEE-INAE Workshop on Electromagnetics (IIWE 2018).
- Ms. Jinti Hazarika, EEE, received the “Nripendra Nath Biswas Best Student Paper Award” and cash prize of ₹35,000 at the 32nd International Conference on VLSI Design and the 18th International Conference on Embedded Systems (VLSID-2019) held at New Delhi.
- Gaurav Talukdar, Dept. of Civil Engg., has received the best paper award in Hydro 2018.
- Mr. Sahil Jagnani and Mr. Rahul Patel, BTech in Chemical Engg., presently CEO and partner of Primary HeathTech Private Limited won a ₹25 lakhs Start-up Grant in the iPEACH event of Villgrow jointly supported by the Technology Development Board GoI, and UK Government, November 2018.

## **CAMPUS PLACEMENT**

The placement scenario of the Centre for Career Development at IIT Guwahati for the year 2018–19 has been impressive. A total of 170 companies/organizations from various categories participated in the recruitment process. The total number of registered students for campus placement in the year 2018–19 is 1000. The overall placement of BTech and BDes students is 84.12%. For BTech and BDes, the total number of jobs offered is 477 for 567 students. An average package offered for BTech and BDes students is ₹17.85 lakhs per annum (treated as CTC).

The overall placement of MTech and MDes students is 49.06%. For MTech and MDes, the total number of jobs offered is 158 out of 322 students. An average package offered for MTech and MDes students is ₹ 13.02 lakhs per annum (treated as CTC). For MSc programs, 7 (Mathematics 5, Chemistry 2) students have been placed out of 52 registered candidates. For MS(R) program, 1 student has been placed out of 8 registered candidates. For the MA program, 1 student has been placed out of 9 registered candidates.

For PhD programs, 16 PhD students (Electronics and Electrical Engg. 7, Mechanical Engg. 3, Physics 1, Chemical Engineering 1, Nanotechnology 2, Civil Engg. 1, Mathematics 1) have received job offers out of 42 registered candidates. This is mainly in the education and research sectors.

The total no. of international offers is 9 (BTech 7 and PhD 2).

Overall placement of all programs (BTech and BDes, MTech and MDes, MSc, MSR, MA, PhD) is 66.00%.

### **CLOSING REMARKS**

This concludes the report for the Institute's activities and achievements in the past financial year. I would like to take this opportunity to congratulate the students who are being admitted into their respective degrees today upon the successful completion of their academic journeys.

Advancements of Science, Technology and Social Sciences are the epicenter of the advancements of the country. Your success will have a significant impact in whichever sphere of development you apply.

We, as teachers and mentors, have seen with pleasure our young children growing into responsible citizens. I wish them every success as they take their place in the world and hope they will make their teachers and Institute proud as the exemplary citizens and leaders of the future.

Jai Hind

Gautam Biswas, FNA  
J. C. Bose National Fellow and Director  
Indian Institute of Technology Guwahati

