

Convocation Report by Prof R V Raja Kumar, Director

The Chief Guest, Dr. K Sivan, Chairman, ISRO ; Hon'ble Members of the Board of Governors and the Senate; esteemed members of the Faculty and Staff of the Institute; distinguished guests; dear graduating students; their parents and guardians; representatives from the media and press; ladies and gentlemen!

it gives me great pleasure to extend a very warm welcome to you all to the 8th convocation of IIT Bhubaneswar, in this scenic campus.

Today, we are delighted to have Dr. Sivan with us, who was gracious enough to accept our invitation, as the Chief Guest on this ceremonious occasion despite his committed services at ISRO.



This year is the eleventh year of existence of IIT Bhubaneswar. During the initial seven years, the institute functioning in transit facilities with the BTech intake of 180 students. The last four years have been very crucial, through which we have achieved a phenomenal growth and now the institute is fully operating from the permanent campus. With the present intake of 420 at, a phenomenal rise.

The institute took several pioneering initiatives in multiple fronts towards achieving global competence such as:

- Rising of standards of the institute in all fronts to international level,
- Creating near-global class infrastructure – the institute is one of the top few campuses, already,
- Global search for quality faculty and faculty of foreign origin,
- Internationalization of its academic programmes
- Enhancing of professional accountability in teaching and research,
- Encouraging quality than quantity in research,
- Establishing international collaborations on research of high industrial & societal relevance,
- Doubling of PhD scholars' intake in the next 3 years.

Some of the notable achievements of the institute, in the last four years, through intercalation of holistic education process, with the dedicated spirit of achieving excellence, in teaching and research are as follows:

- Improving of standards (teaching, research, faculty selections, transparency, governance, accountability, security, house-keeping, etc.).
- Doubling of B.Tech and PhD students' intake during the last two years,
- For the first time, the institute recorded improvement in closing ranks of B.Tech admissions, despite a rise in total number of seats in the country,
- During the last three years, the institute has tripled its placements with one and half times rise in average salary,
- As high as, 80% of placements of students has been in core industry which is a very desirable phenomenon markedly different from what has been happening in the country so far,
- The institute has achieved the first success in raising faculty of foreign origin and the endeavor is

continuing with three colleagues on roll at the moment, with assignments for duration ranging from 8 to 24 months and several others in pipe line,

- Witnessed phenomenal rise in entrepreneurship during 2015-18 from almost zero to setting up of an incubator, start-up center and setting stage for the IITBBS Research & entrepreneurship Park by the end of 2017.

Now, I take the privilege of sharing with you a brief account of our journey emphasizing achievements and important milestones in the year 2018-19, in fulfilling our dream of building up an institute of global class in the near future.

Performance of the Institute in Institutional Rankings:

The strategic initiatives taken in the recent times have not only fostered the development of the institute, but also resulted in significant rise in institute's ranking performance in both National and International scenario. IIT Bhubaneswar's all India engineering institutional rank by NIRF in 2018-19 is at 17th position, and all India Overall rank by NIRF went up to 46th position from 51st position, in 2017-18. As per the India Today magazine's ranking, IIT Bhubaneswar's rank went up to 9th position from 10th position in government colleges category; in The Week Hansa Research Engineering, the rank went up to 15th position from 26th position; in the Times Engg. Survey, the rank went up to 9th position from 20th position; in Career360 Engineering, the rank went up to 10 from 16th position. This year, our Institute also participated in QS and Times Higher Education Rankings. The institute ranked 601-800 (among 1258 institutes) & in India, it is ranked 10th along with few other institutions (among 49 institutes), **where it is 3rd in citation scores** in India, in the Times Higher Education (THE) rankings. Institute also ranked 153rd in THE Emerging Economies University Rankings 2019, 131st in THE Asia University Rankings 2019, 151-200 in THE Young University Rankings 2019 and 301+ in THE University Impact Rankings 2019. This year institute ranked 21st in QS World University India Rankings and 107th in QS BRICS University ranking. The rising trend expected to continue.

Academic Programmes:

Keeping pace with the changing scenario for providing adequate competent Technocrats and Scientists, the IIT Bhubaneswar has raised its student intake significantly with the current 2133 Students (B.Tech. - 1349, M.Tech. - 334, M.Sc – 155 and Ph.D - 295). The Institute has a spectrum of 135 full-time faculty members, 24 officers (19 on regular basis and 5 on contract) and other supporting staff.

This year we started three new M.Tech. Programmes i.e, in Power Electronics and Drives, Manufacturing Engineering (intake strength of 18 each) and Geotechnical Engineering (intake strength of 12). Intake strength of undergraduate programmes has also been increased from 350 to 419 (including Supernumerary seats for female students), M.Tech. programme from 172 to 246 and Ph.D. from 360 to 400 respectively with implementation of reservation for Economically Weaker Section (EWS) @5% for the year 2019-20..

With this, the number of programmes at the Institute includes B. Tech. programmes in 6 branches of Engineering (Computer Sciences, Electrical, Electronics & Communications, Mechanical, Civil, and Metallurgical & Materials), 5-year Dual degree programmes in 9 disciplines, M. Tech. in 14 specializations, and M. Sc. in 5 disciplines (Mathematics, Physics, Chemistry, Geology and Atmosphere and Ocean Sciences) besides Ph.D. in almost all the disciplines ranging across the B. Tech., M. Tech., and MSc Programmes.

Rejuvenation and Orientation (R&O) programme for Fresh Students: In order to overcome the burn out syndrome of the JEE coaching, the Institute organized a month long Rejuvenation and Orientation (R&O) programme. The R&O programme is a very innovative and unique in nature

aimed at helping the students to change over from the effects of the examination centric preparation and studies at Intermediate level for success in JEE to true education which empowers a student them with engineering problem solving, at IIT Bhubaneswar. This programme includes Orientation lectures by Director, Deans of Academic and Student Affairs, Heads of the Schools, members of the faculty, a detailed session on 'Introduction to Engineering' by Director and Faculty members of different Schools and a questionnaire, "Know yourself" created by the Director. As a part of this programme, IIT Bhubaneswar sends its new entrants to nearby heritage sites such as Konark Temple, Dhauli, Khandagiri, Udayagiri, Ekamra walks and Barunei Hill to make them familiar with the locality and make them be aware of history and culture. The programme also includes a three day Personality Development Programme by name 'Yes+' conducted by Sri Sri University, Cuttack, during the period 26 - 28th July, 2019. The programme was in line with our objective of helping the students to develop team building capabilities, creativity, leadership, independent thinking, stress management and mind control. The engagement programme was accepted by everyone with great enthusiasm. The Institute also adopts a cycling culture, yoga, lectures on life skills to students, for a healthy and active life-style.

Research & Development Activities:

The Research and Development activities have made rapid strides with time and there has been considerable progress in last one year. A total of 72 sponsored research and consultancy projects worth about Rs. 20.37 Crore have been sanctioned to the Institute during the year (2018-19) from different funding agencies. Besides these sanctioned projects, 90 project proposals worth about Rs. 70 Crore have been submitted during the last one year to different funding agencies by the faculty members.

The major funding agencies are DST, MHRD, CSIR, UGC, ISRO, DRDO, ICSSR, DAE, CPRI, DAC, DBT, Deity, NALCO, NPOL, IUSSTF, INCOIS, MoES, MoWR, IITM, NCAOR, BRNS KPIT, P&C Dept.-Govt. of Odisha etc. Major areas covered by these projects are: Advanced Materials, Energy, Nanotech Hardware, Health Care, Defense, CS & ICT, Environmental Sciences & Climate Change, Water Resources & River Science, Manufacturing and Sustainable Urban Design. Our faculty members participated in major initiatives of MHRD like IMPRINT, Uchhatar Avishkar Yojana (UAY), Swachhta Action Plan, FIST and Unnat Bharat Abhiyan (UBA) etc.

Some of the recent Industry-Academia collaborations and R&D initiatives as well as projects connected to the National/State Missions are worth quoting and these are:

- A broad based Research Collaboration Agreement was signed with the Odisha Renewable Energy Development Agency (OREDA) on 17th February 2019 to provide technical support and advice to OREDA in their mission "State Policy for RoofTop Solar Systems".
- An international research initiative was taken up with the University of Auckland to foster academic exchange and cooperation between the two institutions in the potential domains namely Civil and Environment Engineering, Electrical and Computer Science & Engineering etc. to explore the possibility of joint-Ph.D. programme, internship & collaborative research projects.
- An MoU was signed with CSIR-Institute of Minerals & Materials Technology (IMMT), Bhubaneswar on 13th April 2019 to promote collaborative research, and exchange of knowledge and technical knowhow between the two institutions in the major areas of Metallurgical Engineering, Materials Science and Engineering and Mechanical Engineering.

The Institute is also actively participating in the national R&D missions namely: "IMPacting Research, Innovation and Technology (IMPRINT)". Two new project proposals worth Rs. 1.60 Crore have been approved under IMPRINT this year making a total of four projects under IMPRINT. Besides

the sanctioned projects, a total of 15 proposals worth Rs. 13.21 crore under IMPRINT are in pipeline.

A delegation of Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS), Japan visited our Institute on 10th April 2019 to explore the possibility of R&D collaboration and carrier development opportunities for the students of the Institute by the Japanese industries.

Research Publications & Patents:

During the last year (2018), the institute contributed to creating new knowledge by publishing more than 578 research articles including, 436 research papers in National and International Journals of repute and high impact factor, 9 Book-chapters, and 133 papers were presented in various national and international conferences in India and abroad and 4 patents have been filed.

School-wise publication list during the last one year is as follows:

School	Book Chapter	Journal publications	Conference publications	Total Publications
Basic Sciences	3	218	29	250
Earth, Ocean & Climate Sciences	1	34	7	42
Electrical Sciences	0	67	44	111
Humanities, Social Sciences & Management	1	3	1	5
Infrastructure	3	42	22	67
Mechanical Sciences	1	54	26	81
Minerals, Metallurgical & Materials Engineering	0	18	4	22
Total	9	436	133	578

About 40 patent applications have been filed by the institute faculty and research students so far and the number is rising.

Collaborative Research:

The Institute is very actively engaged in collaborative research with many reputed universities and research organizations across the world. Some of the collaborating universities include, University of Western Ontario, London; The University of Massachusetts Dartmouth; University of North Texas, USA; Warwick Manufacturing Group (WGM) of the University of Warwick, UK; The university of Buffalo the State University of New York, USA (SUNYAB); Dr. Dash foundation, USA; Engineering Center of Materials Manufacturing, Shanghai Jiao Tong University, China; University of Hohenheim, Germany; University of Auckland and many other reputed universities for joint research, student internship and faculty visits.

About 39 faculty members visited foreign countries with institute funding, 11 faculty members visited foreign countries with outside funding and 6 students visited foreign countries this year on various academic and research assignments and paper presentations. The institute also had an innumerable number of distinguished visitors for academic, research and other collaborative programmes.

Faculty Matters:

International Faculty at IITBBS – A New Initiative: The Institute took up a new initiative to appoint faculty from other countries over longer periods of six months to two years. This has

expectedly infused new dimension in pedagogy, research collaboration and internationalizing education at IIT Bhubaneswar. A few notable names are Prof. Luis Malera, USA; Prof. Matjaz Kovse, Slovenia; Prof. Scott Andrew Whattam, Canada, Prof. Tian C. Zhang, USA and Prof. Johannes Eugene Marie Houben, France. Institute is constantly exploring more opportunities and some more faculty of foreign origin selected and likely to join shortly at IIT Bhubaneswar.

Appraisal about IIT Bhubaneswar at Acclaimed Universities: A team of Deans headed by Prof. R. V. Raja Kumar, Director visited some of the reputed and highly acclaimed Universities/ Institutes like Massachusetts Institute of Technology (MIT), Stanford University, University of Southern California, Harvard University, University of Princeton, University of Texas at Austin, Arlington, Texas A&M at College Station and Rutgers University and addressed Doctoral students and Post-Doctoral candidates about the developments of IIT Bhubaneswar with a purpose of inviting applications for faculty positions and to explore the possibility of hiring quality faculty from the available sources and the team also interacted with some of the Provost/ Deans/ other senior Professors of these institutes to explore the possibility of having collaborative Research and Academic activities, from 26.07.2019 to 07.08.2019 as Board approved in its 31st meeting held on 09.07.2018.

Teaching Excellence and Outstanding Service Awards: In an endeavour to create an environment of teaching-learning of high order, faculty members who got highest rating in student feedback on courses and teaching, have been honoured with teaching excellence awards. In addition, to recognize the outstanding contribution in other service areas, Faculty members are honored. The list of faculty members who were honoured on the last Foundation Day, include the following:

Dr. A. Venugopal - Award for Teaching Excellence (Overall Best Performance)

Dr. Mihir Kumar Pandit – Award for Teaching Excellence

Dr. Kousik Samanta – Award for Teaching Excellence

Dr. Bankim Chandra Mandal - Award for Teaching Excellence

Dr. Rajakumar Guduru - Award for Teaching Excellence

Awards & Honours Received by Faculty: Several academic distinctions, honours, distinguished fellowships, associateships, named lectureships, coveted medals and awards have been bestowed on our faculty, in recognition of their academic achievements, during the last year. Some of the distinctions include:

Prof. Brahma Deo	Best paper award for Industry 4.0 of ICME by Indian Institute of Metals for "Optimization of DRI Production Through Dynamic Modelling and Simulation in TSIL Rotary Kilns". "Partners in Progress" award to Professor Brahma Deo and his students for invaluable contributions at TATA Sponge Iron Limited, Joda, related to accretion and quality control in rotary kilns.
Prof. Uma Charan Mohanty	Received Biju Patnaik Award for Life Time Achievement in Scientific Excellence on 10 th August 2018 from Hon'ble Chief Minister of Odisha. Received Odisha Citizen Award 2018 in education from his Excellency Governor of Odisha prof. Ganeshi Lal
Dr. Ankur Gupta	IEI Young Engineers Award 2019-20 in Production division on May 2019

Dr. Vasudeva Rao Allu	Elected as a Member of the London Mathematical Society at its meeting held on 9 th November, 2018. Elected as a Member of the National Academy of Sciences India (NASI), Allahabad (2019). Invited as a Member of the Editorial Board of the Bulletin of Mathematical Analysis and Applications (2019).
Dr. Tarakanta Nayak	Received Ramanujan Prize for the year 2018 for the research article "Herman rings of meromorphic maps with an omitted value" published in the Proceedings of American Mathematical Society.
Dr. M S Manikandan	2019 CVET Most Cited Article Award, by the Biomedical Engineering Society and Springer Nature, Philadelphia. This award comes with a \$1,250 cash prize and will be presented at the 2019 BMES meeting Philadelphia, USA.
Dr. Subhransu Ranjan Samantaray	PACE Fellowship-2019, National Renewable Energy Lab (NREL), USA
Dr. P K Sahu	Fellow of The Institution of Engineers (India) in May 2018
Dr. Srinivas Bhaskar Karanki	Joint UK India Clean Energy Centre (JUICE) Early Exchange: Awarded with 2000 GBP to Visit University of Warwick for Exchange program.
Dr. Puspendu. Bhunia and Dr. Rajesh Roshan Dash	Best Practice oriented paper award by the Environmental and Water Resources Institute (EWRI) of ASCE for their paper on Assessing Possible Applications of Waste Organic Solid Substances as Carbon Sources and Biofilm Substrates for Elimination of Nitrate Toxicity from Wastewater". The award was presented on 23 rd May in the year 2019.
Dr. Syed Hilal Farooq	Awarded with United Nations University Fellowship and Visited Iceland during 25 th April - 5 th October 2018.
Dr. Raj K. Singh	Invited to participate as shipboard scientist in International Ocean Discovery Program (IODP) expedition - 383, Dynamics of Pacific Antarctic Circumpolar Current from 20th May 2019 to 20th July 2019 Elected as Executive council member of The Paleontological Society of India (2018-20)

Student Activities:

The Students' Gymkhana at IIT Bhubaneswar is a central hub for all round development of students. The major councils under Students' Gymkhana are Social & Cultural, Science & Technology and Sports & Games, which are active throughout the year. The annual techno-management fest Wissenaire, socio-cultural fest Alma Fiesta, and Entrepreneurship meet E-Summit have set a distinguished mark in the eastern zone. For the very first time, our own sports fest, Ashvamedha was conducted which received great response from our neighbouring institutes. Other notable events include a children Fest "Bachpan Ka Rangmanch", newspaper donation drive, tree plantation drive, clothes donation drive, interaction and teaching program for students in villages adjoining the campus.

Awards and Prizes Won by Students in Socio-Cultural and Sports Competitions: Societies of Technical and Socio-cultural Councils participated and won in competitions in and around Bhubaneswar and brought glory to the institute. There has been tremendous improvement in the results of Inter IIT Sports Meet, Inter IIT Cultural Meet and Inter IIT Tech Meet. Some notable results include: the chess team finishing at 5th position, the Music Society secured 6th position in Solo singing, Clix secured 3rd position in Online Photography Competition, Cinewave coming 2nd in 51 hr documentary making and Fine Arts Society won 3rd prize in Charcoal art while coming 4th in painting and sketching; the students brought Silver medal in 'Betic Medical Innovation Challenge' in tech meet and got bronze in 'The eye in the sky' competition among other achievements.

Awards and Prizes Won by Students in Technical Activities: The innovative teaching excellence created at the institute started yielding results and students and student groups won several awards at conferences and inter institutional competitions including the following:

- Team Prajjawala won the prestigious NRDC National Budding Innovators Award – 2018. Also won Grand India IoT Innovation Challenge organised by Tata Communications. Won third place in Smart India Hackathon.
- Team Champions_sam, comprising of Saksham Arneja, Aditya Pal, Aman Pratap Singh, Tummala Madhav, Ankur Jaiswal, and Meghna Saha won first place in Smart India Hackathon under a problem statement given by Cisco.
- Team Prajwalla won 3rd prize in Smart India hackathon.
- 2 more teams reached finals in the software section of Smart India Hackathon and another team named team Biomed made it to finals of the hardware section of Smart India Hackathon.
- Mr Sumit Dass from the School of Basic Sciences was awarded 'First Place' in the LAMP Poster Session for poster entitled, "Micro-Tapered Fiber based Curvature and Acoustic Sensors" during the "Winter College on Applications of Optics and Photonics in Food Science," held at ICTP, Trieste-Italy.
- Atharva Kulkarni and Vatsalya Chaubey got selected for the prestigious Google summer of code.
- Mr Pritam Das from the School of Basic Sciences has received the prestigious Madhusudan Memorial Award from the Institute of Engineers (India)
- Mr. Virendra Kumar, a research scholar working in the field of Chemistry in School of Basic Sciences, IIT Bhubaneswar, has won the best poster award at J-NOST, held at IICT-Hyderabad
- Mr Ajit Kumar Nayak from the School of Infrastructure won the third prize with a citation and Rs. 25,000 by honorable Agriculture Minister, Govt. of India in the national essay writing competition organised by the Government of India on 150th Birth Anniversary of Mahatma Gandhi on the subject "Agricultural Waste to Wealth".
- Mr Anupam Sahoo was awarded the Kulamani Das Memorial Award in Environmental Science' by Orissa Chemical Society.
- Shibu Meher, Gurudev Singh and Himanshu Parida - of SMMME won the second prize in Grand Finale of MindRover Season 7 for T-Schools organized by Tata Motors.

Infrastructure Creation:

Towards the end of financial year 2016-17, MHRD, Govt. of India sanctioned Rs 850 Crore to the institute for Phase-2 constructions to fully develop the institute in all respects for a student strength of 2500. The Institute selected NBCC as the PMC through competitive bidding process and carried out a very careful planning process for speedy initiation and completion of Phase-II buildings. The Master plan has been redone with a lot of improvements including creation of academic and residential spines.

To cater to the immediate requirement of students accommodation, the contract for construction of a new Boys' Hostel (800 Seater) and a Girls' Hostel (400 Seater) were awarded ahead of other works in April 2017 and were supposed to be completed by Oct 2018. The buildings were nearly complete, the same were inaugurated on 15th July 2019 and students have been partially (half) accommodated from 17th July 2019. Though delayed, these two hostels are to be completed in all respect by 30th September 2019.

The construction of following buildings have started from November 2017 by the major contractor M/s. Simplex Infrastructures. The scheduled date of completion was February 2019 which got delayed due to inadequate man power deployment by the contractor and some ineffectiveness from NBCC. Majority of these buildings are expected to be completed by December 2019.

- Boys' Hostel (800 Seater)- 1 No,
- Type – A Faculty Qtrs - 44 Nos,
- Type –B Faculty Qtrs - 88 Nos,
- Type –C Faculty Qtrs - 66 Nos,
- Type –D Staff Qtrs - 44 Nos,
- Director's Bungalow,
- Student Activity Center,
- Dispensary,
- Auditorium (1500 Capacity),
- School of Minerals, Metallurgical and Materials, Engineering,
- School of Earth Ocean & Climate Sciences,
- School of Humanities, Social Sciences & Management,
- Central Workshop,
- Central Research and Instrumentation Facility,
- Lecture Theater Complex-3 Nos. (60 Seater Class room-48 Nos., 120 Seater Class room-22 Nos., 240 Seater Class room - 4 Nos.),

Construction of following buildings have started in June 2018 by M/s. SNS Infracon Pvt. Limited.

- Extension of SES building,
- Commercial complex (Academic),
- Commercial complex (Residential).

Though the scheduled date of completion was May 2019, due to slow progress of work by the contractor are expected to be completed by November 2019.

Construction of Efficiency Hostel, Extension of SIF Building, Extension of SBS Building and Extension of SMS Building are in progress by M/s. Shreejikrupa Projects Ltd with scheduled date of completion in November 2019. The work for sewerage line network is under execution by M/s. Lalitendu Satpathy. The scheduled date of completion was July 2019. The work progress is very slow and is hoped to be completed by November 2019.

The above work apart, the following works have also been taken up to develop a full-fledged campus:

- External development works which consists of Play fields, Play courts, roads, footpaths, drains, open air theatre, parking and landscaping,
- Sewerage Treatment Plant (STP) with SCADA system.

The external development works are awarded to M/s. Shtreejkrupa project Ltd. The date of commencement and scheduled date of complete are March 2019 and December 2019 respectively and are hoped to be completed in time.

The STP work with SCADA system is awarded to M/s. J.M. Enviro Technologies Pvt. Ltd towards end of June 2019 and promised to be completed in November 2019.

The construction works have been delayed and it affected IIT in implementing its plans for an aggressive planned growth.

Green Campus Initiatives:

IIT Bhubaneswar adopted the following green campus initiatives to make the campus eco-friendly:

Plantation Initiative: IIT Bhubaneswar strongly believes that nurturing nature is the best way to promote sustainability. Therefore, we created a positive, wellness and creative environment by maintaining outstanding landscapes and greenery in the campus. More than 30,000 trees have been planted during the last three years. The exotic and indigenous evergreen and deciduous flowering trees and plants were chosen to create the healthy eco-system for attracting the exotic and migratory birds. The massive teak plantation was completed along the boundary wall of our campus to help in maintaining the balance between the oxygen and carbon dioxide in the atmosphere.

Cycle Friendly Campus Initiative: IIT Bhubaneswar banned power vehicle use by students and incorporated the “Cycling Culture” for promoting the health benefits of students, faculty, staff and the community and for controlling environmental risk factors. The institute has initiated the Bicycle Infrastructure Development Plan for creating “Cycle Friendly Campus” by providing sustainable and convenient tree-lined cycle path for riding a bicycle between the schools and hostels, and for constructing cycle parking infrastructure in each of the buildings.

Energy-Harvesting Initiative: IIT Bhubaneswar installed and commissioned a solar power plant with the capacity of 0.49 MW of capacity on the existing building roof tops to reduce carbon footprint and dependency on conventional sources of energy. The facility got totally blew out during the extremely severe cyclone, Fani in May 2019. IIT is pursuing with the agency M/s. S.R. Corporates for reinstallation at their cost as damages were caused due to poor workmanship and did not sustain in wind speeds less than 185 KMPH while they were promised to withstand wind speeds of up to 200 KMPH, as required by IIT.

Water-Harvesting Initiative: IIT Bhubaneswar has initiated building up of rooftop rainwater harvesting and surface rainwater harvesting infrastructure, and setting up a waste management system and wastewater recycling plant, to make the campus zero-discharge.

Green Buildings: The buildings are GRIHA (Green Rating for Integrated Habitat Assessment) 4 and 5 compliant. The building construction is done by using the fly ash blocks which are not only environment friendly, but also keep the building cool and clean.

Eco-friendly Waste Disposal: IIT Bhubaneswar deployed dustbins with biodegradable and non-biodegradable categories.

Alumni Activities:

The Alumni Affairs and International Relations office at the institute serves as an outward-facing window from the institute to the alumni by extending several facilities and services to the alumni. IIT Bhubaneswar has created an alumni database to serve as a hallmark to remain connected with its alumni.

The Alumni Association has organized the 2nd Alumni Meet in the permanent campus, from 12th to 14th April, 2019, during which many of the alumni had their first look at the new campus, besides the first hand interaction with the students and faculties. The Alumni Diaspora in US and UK got connected through video conference during the meet. Alumni Association has launched successfully the alumni website and the bi-annual newsletter, 'Spaghetti'. Alumni Association, along with the Alumni Cell, has started the 'Ask your Alumni' series which had already seen quite a few of our prominent alumnus, including Mr. Aravind Shanka, recently nominated for Forbes 30 under 30 Asia, directly interacting with the students. Furthermore, the Alumni Cell has come forth with a mentorship program for the students that will allow them to tap into the wisdom of their alumni, and learn more about their experiences from the Alumni Experience channel on the website.

Within a short span of the institute's existence, few alumni have been selected and joined the Indian Administrative Services and Indian Engineering Services. More than 15 of our alumni have already founded their own start-ups. A large number of the alumni took up higher studies in reputed Universities abroad.

Entrepreneurship & Startup Activity:

IIT Bhubaneswar is committed to its goal of nurturing the entrepreneurship culture among its students.

E cell activities: The E cell of IIT Bhubaneswar runs the Technology Incubator and also provides the much needed platform to the students to enrich and enhance their entrepreneurial capabilities through workshops, talks, panel discussions and competitions. The 3 Day flagship event of E Cell called E-Summit, held during January 18-20th, 2019 saw several noteworthy activities including motivational talks, by Shri Manoj Sharma, social entrepreneur, Shri Gagan Baradia, career counsellor, Prof. Vinay K. Nangia, a panel discussion, a session by Shri Anil Chhikara, Chairman Start-Up India Foundation Shri Aniruddha Malpani; Angel Investor, Malpani Ventures and Shri Nirmal K. Bhardwaj, Founder, Bengaluru Angels. In the pre-run to the megaevent, the E-Talk on Entrepreneurship and Innovation was delivered by Mr. Arjun Malhotra, Co-founder of HCL. Also, competitions were held various colleges across the country and 150 participants were shortlisted to take part in E-Summit'19.

Nodal Agency for MSME, Odisha: IIT Bhubaneswar has also been nominated as a nodal agency by MSME Department, Government of Odisha, to promote the Startup Odisha initiatives.

Technology Incubation Centre activities

E-Cell also looks after Technology Incubation Centre of the institute which helps final year students and faculty to incubate their technical ideas into workable products and processes. The activity was started in 2016. In the year 2018-19 too, students and faculty members applied for the funding under TIC and two projects were chosen to incubate the ideas into working product/technology in the areas of Metal foam and Biofuel. Other 03 already running IoT projects were granted extension for one year.

Startup Centre: A Startup Centre has been established at IIT Bhubaneswar with an overall objective of the Centre to inculcate a culture of innovation-driven entrepreneurship in and around IIT Bhubaneswar. At present 4 startups are associated with this centre now.

Research and Entrepreneurship Park: IIT Bhubaneswar received license and incorporation certificate from Registrar of companies (RoC) to run IIT Bhubaneswar Research and Entrepreneurship Park, a section-8 (not for profit) company in October 2017 for promoting entrepreneurship, research, and startup activities. A Center of Excellence in Augmented Reality and

Virtual Reality (VARCoE) is functioning under the park and it is actively pursuing research on numerous projects in the area of Augmented Reality and Virtual Reality.

Continuing Education Programme (CEP):

Continuing Education is a part of IIT Bhubaneswar's outreach programs created to extend its arm for promotion and extension of science and technology benefits to the society, apart from its main focus of teaching and research.

As many as fifteen conferences and workshops have been organized by the institute to foster scholarly exchange of ideas and research collaboration during the last year. This is to mention that 13th annual Symposium of "National Frontiers of Engineering" was successfully organized by IIT Bhubaneswar and lectures were delivered by eminent academicians cum researchers of the country in the four thematic areas such as 1. Augmented Reality (AR) and Virtual Reality (VR); 2. Smart Grid; 3. Advances in Materials and Manufacturing Technology; and 4. Next Generation Transportation Systems. IIT Bhubaneswar has also extended its support to Department of School & Mass Education, Govt. of Odisha in organizing a series of workshops on "Capacity building for district and block level education officials".

Quality improvement Programme (QIP): All India Council for Technical Education (AICTE) approve Quality improvement Programme (QIP), IIT Bhubaneswar has been chosen as a QIP Centre w.e.f. the Academic year 2019-20. Under "Quality Improvement Programme" IIT Bhubaneswar has admitted five sponsored technical faculty members of degree level engineering institutes to Doctoral Degree Programs in different Branches like Electrical Engineering, Electronics Engineering, Mechanical Engineering and Civil Engineering in July 2019.

Global Initiative of Academic Networks (GIAN): One of the Flagship programs of the Ministry of Human Resource Development, Government of India – GIAN (Global Initiative of Academic Networks) has been initiated to conduct short term courses inviting Guest Faculty from abroad and currently about 34 short term courses have been approved and 33 of them have already been conducted with the support eminent professors of foreign origin and renowned Indian professors working in foreign universities.

Scheme for Promotion of Academic and Research Collaboration (SPARC): One of the Flagship programs of the Ministry of Human Resource Development, Government of India – SPARC (Scheme for Promotion of Academic and Research Collaboration). The main aim of the SPARC Scheme is to improve the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between top ranked Indian Institutions and globally ranked Foreign Institutions. For IIT Bhubaneswar, Eleven Major Research Projects have already been sanctioned and International Professors have already started teaching at IIT Bhubaneswar. IIT Bhubaneswar has extended the facilities to the research scholar to work under joint guidance of these eminent foreign professors and faculty of IIT Bhubaneswar. The institute has been awarded with the largest number of approvals amongst the 2nd and 3rd generation IIT's.

PM-YUVA: Furthermore, in executing the vision of hon'ble Prime Minister and contributing in implementing the PM-YUVA, IIT Bhubaneswar has been identified as the Nodal E- Hub for the eastern zone comprising of 60 projected institutes.

Outreach Programme:

Going by the spirit of Government of India in instituting the Unnat Bharat Abhiyan in making the benefit of the presence of an IIT make a difference in the hinterland, IIT Bhubaneswar started a very spirited Outreach Programme. The institute takes up several activities in the following means during the last year under its Outreach programme:

Open House and S&T Exhibition: On the Foundation Day (12th February), the Institute conducts open house, every year, for public to showcase the knowledge and technology to High School to Post-Graduate students every Year through grand exhibition of as large as 250 research excellence projects undergoing at the Institute, being attracted by the society in large numbers ranging from 7000 – 8000.

Open House Day and Interactive Session with IIT Rankers and Aspirants: Institute conducts the event every year and in the current academic year, on 18th June 2019 about 150 aspirants and rank holders attended the enlightening session about them on the IIT education and process of admissions.

Unnat Bharat Abhiyan (UBA) activities: Sanskar barg: These are weekly sessions of yoga, creative games, songs and story- telling. In the process, the children are supposed to develop physical, emotional and spiritual culture.

Laboratory Exposition to the Students: Weekly visits are made by UBA team members to the science labs established by UBA in its adopted villages Arugul, Khudupur, Podapada and Padanpur and also the students are exposed to the modern laboratories of the Institute.

Health and hygiene camp: Doctors conducted free health check-up for the attendees in the adopted villages and based on the prescription, free medicines were provided to the patients. A first-aid kit box was gifted to the Head Mistress of Sundaria Upper Primary School.

Painting and Quiz Competition: A painting and quiz competition and drawing competitions are conducted at two levels: Junior (Class IV - VI), Senior (Class VII - VIII), on the theme "India".

Plantation Drive: Apart from Green Campus drive at the Institute, to make Green India, especially to make our surroundings greener after the cyclone, Fani that had uprooted several trees, UBA and Horticulture department of our institute conducted a plantation drive by planting various sapling varieties like Neem, Babul, Baula, Mango, Sishu, Debdaru, KrushnaChuda etc., in the Argul village.

Vigyan Jyoti Program: Institute plays a pivotal role to promote Girls students education in Engineering by holding Vigyan Jyoti Program, an initiative of Department of Science and Technology (DST), to emulate science and engineering enthusiasm amongst the Girls students of Intermediate education.

Swachh Bharat Program: Initiative of Prime Minister of India to make India under Clean India program, the Institute in true spirit and action follows up the event meticulously making it as a compulsory program under NSS activity of the Student Flagship program.

Ek Bharat Shreshtha Bharat (EBSB): Institute conducted all the events pairing the two states of the country for exhibiting the cultural aspects of the states with the participation of large number of students, staff and faculty, which is highly appreciated by the Ministry of Human Resource Development (MHRD), New Delhi.

Ishan Vikas Program: Promotion of North-East region students to the higher level of education excellence through workshop of a three week program were held at the Institute by which the talent and cultural aspects of the region is being showcased to others as well.

Career Development Cell (CDC):

Campus placements of 2018-19 have been eventful in terms of a very significant rise in new recruiters visiting IIT Bhubaneswar, in addition to majority of the previous recruiters repeating this year too, indicating faith/trust in the quality of our students.

Highlights of placement season 2018-19 are as follows:

- Total 121 students from UG received offers.

- Undergraduate placement is about 90%.
- Highest domestic CTC offered was 39.02 Lakhs per annum.
- A total of close to 70% of M.Tech students have been placed.
- The Highest percentage of job offers have been received by the institute from core industries, amongst all IIT's..
- Around 70 companies have participated in the campus drive of 2018-19.
- Average salary is 11.44 Lakh per Annum for UG.
- PSU's like ISRO, IOCL, NCCBM participated in the campus placements.
- MNC companies like Goldman Sachs, GE India, Honeywell, Maruti Suzuki, Mahindra & Mahindra, Infosys, TCS R & D, Adobe, Tata BSL, have participated in this year of placements.
- 3rd year students have received internship offers from reputed industries like Amazon, Goldman Sachs, Go Jek, Microsoft, MAQ Software, MathWorks, Ittiam, Jindal Stainless, Tata Steel, Wipro. Many of them are engaged in Internships in R & D organisations like ATREE, BARC, TCS, and foreign universities like IOWA State University, Singapore University, Shanghai Jiao Tong University.

Distinguished Visitors:

A large number of distinguished personalities to the tune of 100 visited the Institute on different occasions, addressed the faculty, students and staff. The visitors include, Dr. Sarat Chandra Sahu (Director, IMD Metrological Centre Bhubaneswar); Prof. Gitanjali Batmanabane (Director, AIIMS Bhubaneswar); Sundararaman G. Gopalakrishnan (Hurricane Research Division, United States of America); Dev Niyogi (Purdue University, United States of America); Leijun Li (University of Alberta Canada); Dr. Jashobanta Mohapatra (Head Department of Clinical Psychology, SCB Medical College & Hospital Cuttack); Prof. Ashutosh Sharma (Secretary, Dept. of Science and Technology); Shri. Pankaj Ramanbhai Patel (Ex-Chairman, Board of Governor, IIT Bhubaneswar); Mr. Sourav Roy (Chief, Corporate Social Responsibility, Tata Steel); Prof. Jih-Gaw Lin (National Chiao- Tung university); Prof. Shrikant Joshi (Former Additional Director, International Advance Research Centre for Powder Metallurgy & New Materials, India); Adv. Namrata Chadha (A social activist and a member of Internal Complaint Committee, IIT Bhubaneswar); Adv. Snehanjali Mohanty (Member of State Women's Commission); Shri Sashikanta Mishra (OSJS, Principal Secretary, Department of Law, Govt. of Odisha); Prof. K. V. Ramana Chary (Director, IISER, Berhampur); Shri. Narendra Damodas Modi (Honourable Prime Minister of India); Shri. Bishunprasad Sethi (Secretary of Higher Education Department, Govt. of Odisha); Shri P K Mohapatra (DGM, NABARD, Odisha); Prof. Vinay Kumar Nangia (Emeritus Professor at IIT Roorkee); Mr. Nirmal K. Bharadwaj (Founder member of Pan IIT, India); Mr. Anil Chhikara (Chairman of Start-up India foundation); Ms. Mosako Ono (Founder of Mudra foundation); Dr. Aniruddha Malpani (Director of Malpani ventures); Prof. Vinay Kumar Nangia (IIT Roorkee); Shri Manoj Sharma (Social Entrepreneur); Shri Gagan Baradia (Career counselor and motivational speaker); Parijatha Rao (Digital Marketing Specialist); Vijay Raghavan (Digital Marketing Specialist); Shri Akhilesh Desai (Facilitator, Focus U Engage India Pvt Ltd); Simon Sinek (British-American author, motivational speaker and organizational consultant); Mr. Sushant Verma (Design Technologist, Design Entrepreneur, Architect Computational Designer & Educator, Leading RAT[LAB] Studio); Mr. Rohit Suraj (Architect and Founder, Urban Zen's); Ms. Aditi Sharma (Actress and Model); Mr. Anuj Tiwari (Author and Speaker); Dr. Jagdish Chaturvedi (Ear Nose Throat Surgeon , Serial Medical Devices Innovator, Author, Stand-up comedian); Ms. Sanjana Sanghi (Actress and Model); Dr. K Radhakrishnan (Former Chairman ISRO); Ms. Suhasini Paul (Eminent Toy designer); Mr Siddhartha Das (Founder of Siddhartha Das studio); Dr. Luis Dias

(Founder of Child's Play India Foundation); Kenny Sebastian (King of Stand-up comedy); Mr. Haraprasad Das (Poet, Essayist and Columnist); Mrs. Gayatri Mavuru (Writer, poet, artist, social activist, choreographer, Educator and Social Entrepreneur, Founder and managing trustee of Sri. Gayatri Vidya Vikash Education Trust, founder and Director Cherry Blossoms Pre School); Prof. Ganeshi Lal (Honorable Governor of Odisha); Dr. S. Christopher (Former Chairman, Defence Research and Development Organisation (DRDO), Ministry of Defence, Govt. of India); Prof. Jatindra Kumar Nayak (Eminent Writer and Retired Professor in English, Utkal University); Dr. P. V. Venkitakrishnan, (Outstanding Scientist and Director, Capacity Building Programme Office, (CBPO), ISRO); Ms. Amrita Dash (Assistant Director, National Police Academy, (Hyderabad); Prof. Swagata Dasgupta (IIT Kharagpur); Prof. Pratim Kumar Chattaraj (IIT Kharagpur); Prof. Suneel Kumar Srivastava (IIT Kharagpur); Prof. Hiroshi Yanagihara (Department of Applied Science Faculty of Engineering); Yamaguchi University (Japan); Prof. Utpal Sarkar (IIT Kharagpur, Former Director & Outstanding Scientist, Physical Research Laboratory, Ahmedabad); Prof. Prasanta K. Panigrahi (Dean of International Relations and Outreach, IISER Kolkata); Prof. Soumitra Sengupta (Dean Academic/Student Affairs, IACS, Kolkata); Prof. Wolfgang Kuhnt (Kiel University, Germany); Dr. Anna Holbourn (Kiel University, Germany); Prof. Abhijit Gangopadhyaya (Massachusetts Institute Of Technology, USA); Prof. Dev Niyogi (Purdue University, USA); Prof. Viktor Prasanna (University of Southern California); Prof. Keshab K. Parhi (University of Minnesota); Prof. Tangali Sudarshan (University of South Carolina); Prof. D. K. Panda (Ohio State University); Prof. Anjan K. Ghosh (Tripura University); Prof. V. M. Gadre (IIT Bombay); Prof. Ramarao Pappu (Miami University, Oxford, Ohio, USA); Mr. Ashwini N.V (Muktha Foundation, Bangalore); Supriya Choudhary (Muktha Foundation, Bangalore); Sruthi Chaithanya (Muktha Foundation, Bangalore); Annette Shaju (Muktha Foundation, Bangalore); Nupura Byramudi (Muktha Foundation, Bangalore); Professor Pradeep Gokhale (Pune University); Ph. Savitri Bai Phule (Pune University).

Women's Welfare Committee (WWC):

WWC, IIT Bhubaneswar organized a workshop on "Sexual Harassment of Woman at Workplace Act 2013" and "Rights of Working Woman" on 9th and 22nd November 2018 respectively. The resource persons for the events were Adv. Namrata Chadha (Social Worker, Member of ICC, IIT Bhubaneswar), Adv. Ralalaxmi Das (Member of Child Welfare Committee, Odisha) and Adv. Snehanjali Mohanty (Member, Odisha State Commission for Women). A three day programme was conducted by WWC as a part of International women's day celebration-2019. The programme included theme based competitions along with a lecture on "Handling relationships". Ms. Amrita Dash IPS, (Assistant Director, Sardar Vallabhbhai Patel National Police Academy Hyderabad) addressed the women's day evening function as chief guest.

Computer and IT services Cell (CITSC):

CITSC team implemented the Biometric Attendance System for taking attendance of students in the classrooms for all programmes/courses at IIT Bhubaneswar. Extended Unified Communication System (Telephone Exchange) facilities to residential areas (faculty quarters) in IIT Bhubaneswar permanent campus at Argul. CITSC also planned, and designed the 2nd phase of Campus Area Network in IIT Bhubaneswar permanent campus, which is to be implemented shortly. The CITSC in-house team developed and implemented additional Enterprise Resource Planning modules for IIT Bhubaneswar.

Graduates of the Year:

I am very happy to announce that in this convocation, in a short while, **152 B.Tech., 105 M.Tech., 67 M.Sc., and 32 Ph.D.** students will be receiving their degrees, totaling **356**, a significantly raised number over the last year. More than doubling of PhD's produced per year over the earlier years is very satisfying and I would like to assure that it would further double within the coming two years.

Mr. SHROHAN MOHAPATRA, Computer Science and Engineering won the coveted President of India Gold Medal for topping all B. Tech. branches.

Mr. RAHUL DAS, School of Infrastructure won the coveted Director's Gold Medal for topping all M. Tech. specializations.

Mr. ANUBHAV NATH, Chemistry (School of Basic Sciences) won the coveted Director's Gold Medal for topping all M. Sc. branches

The following students won the Institute Silver medals for topping in their respective branches/specializations as shown below:

Institute Silver Medal for topping in B.Tech. branches:

SHROHAN MOHAPATRA	Computer Science and Engineering
GONUGUNTLA NEEHARIKA	Electrical Engineering
INDRA SINGH DHAKAR	Civil Engineering
GAURAV VISHAL	Metallurgical and Materials Engineering
CHAUDHARI HRISHIKESH UMESH	Mechanical Engineering

Institute Silver Medal for topping in M. Tech specializations:

RAHUL DAS	School of Infrastructure (Structural Engineering)
ABHISHEK PARIDA	School of Mechanical Sciences (Mechanical Systems Design)
SRIJA MUKHERJEE	School of Electrical Sciences (Power System Engineering)
ANANTA DUTTA	School of Minerals, Metallurgical and Materials Engineering (Metallurgical and Materials Engineering)
P ABHISHEK	School of Earth, Ocean and Climate Sciences (Climate Science and Technology)
SPANDAN DEY	School of Electrical Sciences (Electronics and Communication Engineering)

Institute Silver Medal for topping in M.Sc. disciplines:

ANUBHAV NATH	Chemistry
SHARMISTHA DEY	Physics
KAUSHIK NAGESHWAR JAISWAL	Mathematics
SUJAY NANDI	Geology

The other endowment awards won by the students are shown below:

Dr. K. Kasturirangan Award (Best Male Graduate)	SHROHAN MOHAPATRA
Prof. P. Rama Rao Award (Best Lady Graduate)	GONUGUNTLA NEEHARIKA
B.K. De Memorial Award (For Most Innovative Project)	P NITHEESH KUMAR
Dinesh Memorial Award (Best B. Tech Thesis – Mechanical Sciences)	P NITHEESH KUMAR
Tejaswi Memorial Award (Best B. Tech Thesis – Electrical Sciences)	SHROHAN MOHAPATRA

Other Activities:

The Institute observed and celebrated several events like the International Yoga Day, 73rd Independence Day, Engineer's Day, Vigilance Awareness Week 2018, Unity Run, Alma Fiesta, E-Summit '19, Ashvamedha 18, 70th Republic Day, Martyr's Day, Matribhasa Diwas, International Women's Day, National Science Day, Anti-Terrorism Day, 2nd Alumni Meet, Blood Donation Camp, Medical Check-up Camp, Awareness Program on System Abuse, Plantation Drives, Media Visit to the Centers of Excellence, Workshop on the World Telecommunication and Information Society Day, Unnat Bharat Abhiyan (UBA), Ek Bharat Shreshtha Bharat, Vigyan Jyoti Programme, Heritage Trip organized for the First Year B.Tech Students, Youth Empowerment and Skills Workshop by Sri Sri University, Capacity Building Workshop for District Level Education Officers of Education Dept. besides the regular national events and a large number of students, faculty and staff members participated in the events.

Acknowledgements:

This Institute and its entire activities could not have been achieved without the full participation and support of all stakeholders – our faculty, students and staff; agencies and industries sponsoring R&D and consultancy projects; professionals from other organizations and our alumni. The Institute is grateful to the Ministry of Human resource Development, Govt. of India for its continued and sustained encouragement and support.

Before I conclude, I congratulate all the graduating students, awardees and medal winners and wish all happiness, professional success and fulfillment in their lives.

Jai Hind!

Prof R V Raja Kumar

Sept 21st 2019
