ANNUAL REPORT 2020-21

Indian Institute of Technology Bhubaneswar

Annual Report

2020-2021

Indian Institute of Technology Bhubaneswar

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PROF. RATNAM V. RAJA KUMAR

Director, Indian Institute of Technology Bhubaneswar

From Director's Desk

The last year was the twelfth year of existence of IIT Bhubaneswar. The permanent campus of the institute is spreading over 936 Acres of land which is now developed into a serene, green and wellness campus. Hon'ble Prime Minister, Shri Narendra Modi ji, dedicated the campus of the institute to the nation on the 24th of December 2018.

I would like to take this opportunity to present some of the notable achievements of the institute, made during the last academic year, with the dedicated spirit of achieving excellence, in teaching and research.

1. Performance Highlights

With the objective of creating a cream of the global class institutions and help the nation in re-establishing its glorious past, recently the vision statement is made very ambitions stating that,

"IIT Bhubaneswar will be globally well recognized for creating outstanding graduates and new knowledge"

We have been working tirelessly in raising the standards, and setting new standards, in all operations of teaching-learning, research, infrastructure, other functioning and operations, etc., in this endeavour and have achieved significant amount of success in this direction.

The campus of IIT Bhubaneswar is one of the safest top few campuses for students with excellent amenities and world class infrastructure. The campus is clean, green, pollution free and has wellness environments.

The institute provided education at its usual high standards with no compromises during the pandemic by creating several unique innovative methods, such as the following:

- IIT Bhubaneswar is the only IIT (and the first) to create a very unique and innovative design of holding pen and paper based comprehensive examinations online and apply the same to graduate its students (even during peak Covid).
- Providing full laboratory practice including hands-on,
- Organized its last two convocations by creating a very unique and innovative method, wherein students received their degrees with live personal participation.

  On this front, perhaps the institute set new standards across the globe. Furthermore, in its commitment to provide education at global standards, the institute has never been closed during the pandemic, and as of now already 70% of the students are on the campus, classes and laboratory practice are running for them with their physical presence. At the same time while offering academics at very high standards, it ensured full vaccination of the entire community and the institute could protect its students (a good fraction always chose to stay in the campus during the pandemic), in an outstanding way with zero cases for the most of the pandemic period including now.

This year's placement has been marvelous and possibly the best amongst the IIT's in terms of jobs in core sector. The companies are impressed by our student's performances and we provide excellent facilities for on campus placement.

IIT Bhubaneswar has been working on very fundamental aspects of academics to be amongst the global cream of institution. However, the strategic initiatives taken have not only fostered the development of the institute but also resulted in a very significant rise in the institute's ranking performance in both National and International scenario as follows, during the last five years:

National

Ranking system	NIRF Engineering	Times Engg	India Today	Week Hansa	Times Research
Rank of IITBBS	22 (Last year)	1	11	15	1

International

Ranking system	QS World	QS World Asia	Times HE World	Times HE Asia
Rank of IITBBS	701-750	233	801-1000	251-300

2. Academic Programmes

Last year, the institute grew to have the Highest BTech intake among the 2G and 3G IIT's at 420 seats which has now grown to 475. The intake in MSc and MTech programmes are 125 and 246 in, respectively.

The current strength of students stand at 2490 Students (B.Tech. – 1174, Dual-Degree – 418, M.Tech. - 388, M.Sc – 178, Ph.D – 332) and is the second highest amongst the 2nd generation IIT's. The Institute has a spectrum of 146 full-time faculty members, a large number of adjunct faculty (38), 23 officers and other supporting staff.

The Institute offers 6 Nos. of B.Tech., 9 Nos. of Dual Degree Programmes, 5 Nos. of M.Sc., 14 Nos. of M.Tech Programmes and Ph.D Programme in its 7 Schools. The admission for the academic year 2020-21 in to the courses Ph.D., M.Tech., M.Sc., and BTech degrees took place on 24th, 24th and 25th August, and Nov 15, 2020, respectively.

The institute has Joint PhD Programme with University of Auckland in to which both of the institutes will be taking students to foster academic exchange and cooperation between the two institutions.

3. Some Unique Achievements

I. **Recruitment of Foreign Faculty:** In order to offer education of international flavour to its students and to help the nation in re-establishing its glorious past, IIT Bhubaneswar regularly recruits faculty of foreign origin successfully to

teach at the institute over long terms on Indian salaries. This endeavor has been unique and is ahead of the SPARC and VAJRA schemes.

II. **Multidisciplinary Education:** Sharing the same vision expressed by NEP 2020, the institute has been promoting holistic and multidisciplinary education, for the last three years, to its engineering students. Courses Mathematics in India (ancient and modern) and "Functional and Communicative Sanskrit", Introduction to Indian Philosophy, Substance in Indian Philosophy, Odissi dance, besides many cutting edge technology courses in AI, Data Sciences, Nano Science and Augmented and Virtual Reality.

III. **Raising Research Centers and Groups of International Repute:** The institute gives a lot of importance to national relevance and impact in research and encourages to quality than quantity. We defined 10 areas of research thrust with the objective of making globally well recognized and very relevant contributions in these areas.

IV. **Outstanding Placements:** With more than three time rise in the placements in the last 5 years, the institute has better placements than a few of the senior IIT's. The institute recorded the highest number of core sector placements amongst the IIT's.

V. **Zonal IIT for JEE Advanced:** The institute attained organizing status as Zonal coordinator (ZC) for holding JEE Advanced Exam, and is one of the two that got this status amongst all the 2nd generation IIT's. The institute took the responsibility of conducting the JEE Advanced-2020 examination independently for the entire state of Odisha and could organize it very successfully without any difficulty. In 2020 the institute organized Architecture Aptitude Test (AAT) of IITs independently and successfully for the first time in Odisha. In 2021 the institute is actively participating in JEE activities in Odisha and also Andhra Pradesh.

VI. **Spirited participation in National Programmes:** The institute has been participating in all the programmes of the ministry very actively.

4. Un-Compromising Education during the Covid-19 Pandemic

The most unprecedented Covid-19 Pandemic has changed our lives and the way we run our education. The institute functioned to fulfil its commitment of providing world-class education without any compromises even at the time of the Pandemic situation, through the following:

The institute could switch to online education with absolutely no gap by pre-planning and taking actions well ahead of the lockdown period.

A unique method of holding comprehensive, pen and paper examinations and invigilation by online has been developed in-house and adopted it very successfully to conduct examinations in full for all the students of the institute right from the Spring 2019-20 semester onwards. The outgoing students were graduated without any compromise on the examination standards. The practice has become a normal and we already completed the mid-semester exams, this semester.

Online interactive sessions have been organized with all the sets of students by Director, Dean Academic and HoS's both centrally as well as at School level to maintain an active constant connect with students.

Continuing the spirit of innovation, the 9th convocation is scheduled to be organized in a unique and innovative live form by hybrid mode wherein a student can receive degrees either by physical or online presence during the pandemic.

5. Research & Development Activities against COVID-19

A lot of research work and product development could be done successfully to fight against Covid-19. These include successful development of products like UVC chambers, low cost ventilator, shields, sanitizers, sanitization stations, design of broad spectrum antiviral peptides, drug re-purposing, study of effectiveness of masks.

6. R&D and Patents Filed

Research and Consultancy Projects: The Research and Development activities have made rapid strides

with time, and a total of 100 sponsored research and consultancy projects worth about Rs. 18.44 Crore have been sanctioned to the Institute during the year (2020-21) from different funding agencies. Besides these sanctioned projects, 86 project proposals worth about Rs. 58.48 Crore have been submitted which are in pipeline.

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

- Research Collaboration MoU was signed with Army Air Defense College, during August 2020 on carrying out a research project on Add on Radar for Jamming UAVs. Different communication technology relevant to UAS will be studied and a prototype C-UAS will be developed.
- The Institute is also actively participating in the national R&D missions namely: "IMPacting Research, Innovation and Technology (IMPRINT)". with seven projects under IMPRINT. Besides the sanctioned projects, a total of 14 proposals worth Rs. 10.61 crore under IMPRINT are in pipeline.

Research Areas of Thrust: The institute has defined the following nine areas of research thrust with the objective of making globally well recognized contributions in these areas:

- Climate change and Extreme Events,
- Energy,
- Augmented Reality and Virtual reality (AR-VR),
- Environment and Sustainability,
- Data Science and Machine Intelligence,
- IoT and next-generation networks,
- Water,
- Micro & Nano Manufacturing and Sensors,
- Nanoscience and technology.

Our climate science group is very unique, collaborates with, University of Massachusetts, Hurricane Research Department of NOAA, USA, Purdue University, IMD and INCOIS and already enjoys global reputation. It has predicted the course of recent cyclones, Yaas, Amphan, Fani, and Hudhud, very accurately about 5/6 days in advance with customization of latest models to Indian conditions. At the moment it is the only alternative to IMD that helps verification.

The Augmented and Virtual Reality Center of excellence is a unique center in the country helping the nation in developing an eco-system in this strategic area. The center has sanctioned and supporting nine R&D projects. The Centre also has organized a grand hackathon on ARVR during 9th to 10th Jan 2021 with 4 winners from across the country.

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 (WMG) 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 Auckland and many other reputed universities for joint research, student internship and faculty. The institute also had an innumerable number of distinguished visitors for academic, research and other collaborative programmes.

About 47 patent applications have been filed by the Institute faculty and research students so far and the number is rising.

The institute published 578 papers, last year including 449 in journals, 103 in conferences and 16 book chapters.

7. Creating a Global Class Campus and Upgradation of Facilities

The campus has 936 acres and is the largest among the new IIT's and 2nd or 3rd largest among all the 23 IIT's. Towards the end of 2016-17, Ministry of Education, Govt. of India sanctioned Rs 850 Crore to the institute to fully develop the institute in all respects for a student strength of 2500, under

Phase-2. The master plan was re-done and **the institute has been engaged in creating a Global Class Infrastructure and Campus Ambiance at IIT Bhubaneswar.** Within another 6-12 months, the infrastructure is going to be of 3.50 lack SqM.

IIT Bhubaneswar is highly committed towards promoting the culture of eco-friendliness, creating a green belt, has been engaged in making the campus and nearby places green and adopted several green initiatives. About 40000 trees of fruit and medicinal orchards, avenue plantations, and flowering varieties have been planted in the last 5 seasons. The campus is made to be very pleasant to live in and it is a green campus with wellness environment. IIT Bhubaneswar banned power vehicle use by students and incorporated adopted "Cycling Culture" for promoting the health benefits of students, faculty, staff and the community. The institute is adopting energy and water harvesting mechanisms, green building mechanisms with GRIHA compliance and eco-friendly waste disposal mechanisms.

The 42 acre sports facility is going to be the best amongst the IIT's. The play fields and courts have plantations around and have a living fencing of green shrubs instead of concrete walls or metal fencing, and thus is uniquely designed to be and made green.

Under this phase of the work institute has added the following facilities under phase-2 already

- One Full Boys' Hostels (800 Seater) & One Half Boys' Hostel (400 seater),
- a Girls' Hostel (400 Seater),
- Director's Bungalow,
- Students Activity Center,
- Play Courts
- School of Humanities, Social Sciences and Management Building and
- One Lecture Hall Complex

NBCC the PMC was supposed to construct and handover the infrastructure by Jan 2019. They now promised to complete it by March -2022.

8. Faculty Matters and Honours

IIT Bhubaneswar has been adopting standards even higher than some of the senior IIT's for faculty selection, though it may take longer to get good numbers. A team of the Director and Deans visited in the past USA and Singapore Universities and institutes with the objective of motivating very bright Postdoctoral and PhD students to apply for the faculty positions at IIT Bhubaneswar and for to foster academic linkages.

In an endeavor to create an environment of teaching-learning of high order, faculty members who got highest student feedback have been honored with teaching excellence awards and Director's commendation awards for Outstanding Services & Research Work. The details of the awardees are mentioned below-

Teaching Excellence Awards for 2020

1. Dr. Srinivas Pinisetty, Assistant Professor, School of Electrical Sciences for overall best performance.
2. Dr. Nirmalendu Acharya, Assistant Professor, School of Basic Sciences.
3. Dr. Anoop Thomas, Assistant Professor, School of Electrical Sciences
4. Dr. Raj Kumar Guduru, Assistant Professor, School of Humanities and Social Sciences

Director's Commendation for Outstanding Research 2020

1. Prof. V.R. Pedireddi, Dean, Student Affairs
2. Dr. Rajan Jha, Associate Professor, School of Basic Sciences
3. Dr. Subhransu Ranjan Samantaray, Associate Professor, School of Electrical Sciences
4. Dr. Venugopal Arumuru, Assistant Professor, School of Mechanical Sciences

Director's Commendation for Outstanding Services 2020

1. Dr. Shantanu Pal, Warden
2. Dr. Barathram Ramkumar, Chairman, Computer & IT Services Cell

3. Dr. Srinivas Bhaskar Karanki, Professor-in-Charge (Counselling)

Several academic distinctions, honours, distinguished fellowships, associateships, lectureships, coveted medals and awards have been bestowed on our faculty, in recognition of their academic achievements, during the last year. Some few are mention here,

Prof. R. K. Panda is honored with DUO-India Professor Fellowship 2020 with Prof. Andras Bardossy, University of Stuttgart, Germany as the collaborator.

Dr. Remya Neelancherry is honored with Outstanding Woman in Engineering (Major Area of Study - Environmental Engineering), Venus International Women Awards - VIWA 2020

Dr P. R. Budarapu is invited as the Editorial Board member of International Journal of Computational Methods (IF:2.193) journal from 01.03.2021 onwards.

Dr. S. R. Samantaray is honored with Fellow, IET (Institution of Engineering and Technology), UK-2020.

Dr. Rajan Jha received SERB STAR Fellowship.

SERB honored Prof. T.V.S. Sekhar by allotting SERB Qualified Unique Identification Document (SQUID) : SQUID-1966-TS-5279.

Prof. Parlapalli Venkata Satyam honored for the year 2021-2029 (for two terms, 4 years each term): Executive Member of Committee of Asia Pacific Societies for Microscopy, CAPSM – a part of International Federation of Societies for Microscopy (full member of scientific council – UN).

Dr. Vasudeva Rao Allu received Editor of Journal of Mathematical Inequalities honour.

9. Student Achievements

The Students' Gymkhana at IIT Bhubaneswar is a central hub for all-round development of students. The councils organized several activities throughout the year. The annual techno-management fest Wissenaire, socio-cultural fest Alma Fiesta, and Entrepreneurship meet E-Summit have been organized, setting new standards.

Our students have won top prizes in Inter-IIT Technical and Socio-cultural events and prizes in sports events conducted by other institutions or universities. The details are given in the hard copy of the Director's report and displayed on the electronic screen.

Gold Medals in the Convocation

a) **Mr. ADITYA PAL**, Computer Science and Engineering is going to receive the coveted President of India Gold Medal for topping all B. Tech. branches.

b) **Mr. SANKET DEY CHOWDHURY**, Civil Engg, is going to receive the coveted Director's Gold Medal for topping all M. Tech. specializations.

c) **Mr. SOUVICK CHAKRABORTY**, Physics (School of Basic Sciences) is going to receive the coveted Director's Gold Medal for topping all M. Sc. Branches.

d) Eighteen (18) students receive the Institute Silver medals for topping in their respective branches/specializations.

10. Social Responsibilities and Outreach Programme

Going by the spirit of Government of India in instituting the Unnat Bharat Abhiyan, **the institute took up several outreach activities including adopting 6 villages for helping in development. Carrying on** plantations, workshop sessions, providing science labs to schools, making campaigns like 'no to plastic, conducting programmes for children, have been a few of the activities taken up.

The institute religiously participates in all the programmes of the Ministry. As an example, the Institute conducted all the 17 paired states exhibiting the cultural aspects as recommended by the Ministry of Education.

11. Entrepreneurship & Start up Activity

Continuing with commitment its goal of nurturing entrepreneurship culture among its students IIT Bhubaneswar's Ecell organised 7th edition of E-Summit'21 during March 26-29, 2021 which witnessed many workshops and competitive

event. This year's E Summit was organised with the theme "Reign of Resilience" using online platform. The summit witnessed an exponential growth in footfall, participation in competitions, events and workshops alongside prominent guest talks, conclaves and many new initiatives. The Event gave participants a chance to hear from the like of Shri. Kris Gopalakrishnan, Dr. Kiran Bedi and other distinguished personalities and practicing entrepreneurs.

The Technology Incubation Centre under E cell is going strong with three projects in the field of IOT and on in the field of alternate fuels showing successful implementation with porotypes being developed by the PIs. More such proposals for prototype development, submitted by faculty and students, are under consideration for the support under TIC in near future.

12. Continuing Education Activities

During the year 2020-21, seven (07) National and International symposiums, conferences, Faculty Development Programme, and workshops have been organized by the institute through online mode.

In 2018, IIT Bhubaneswar got approval from the All India Council for Technical Education (AICTE) to set up Quality Improvement Programme (QIP) centre. Afterwards, CEP IIT Bhubaneswar has been providing opportunities to the faculty members of engineering Institutes for enhancing their academic and research career by offering admission to Ph. D. degree programme in the different disciplines at IIT Bhubaneswar. During the year 2020-21, five (05) faculty members have already been enrolled into Ph. D. programme while 04 more are enrolled into Pre- Ph. D. programme. Besides, 15 nos. of Short Term Courses (STCs) for 2020-21 permitted by the AICTE (March, 2021), have already been conducted during May - July, 2021.

IIT Bhubaneswar has conducted 32 Nos. of short-term courses with the support of eminent professors from across the globe under the Global Initiative of Academic Networks (GIAN) of the Ministry of Education. Furthermore, 31 nos. of short term course proposals have been submitted by IIT Bhubaneswar for Phase – III of GIAN.

During the year 2020-21, under SPARC Project (P468) two Indo-USA online Short-term Courses on **"VLSI Architectures for Energy-Efficient Embedded Healthcare Systems"** & **"Signal Processing and Machine Learning Techniques for Data-Driven IoT and Smartphone Health Monitoring"** have been conducted through online mode. The renowned International speakers Prof. Keshab K. Parhi and Prof. Alena Talkachova from the University of Minnesota, USA have delivered lectures on different topics of the courses. Another course titled **"Numerical Methods in Radiative"** has also been conducted under SPARC project (P420). Prof. Sunil Kumar from New York University USA, an internationally well-known expert in radiation heat transfer, has delivered lectures on different topics of the course.

13. Alumni Affairs Related information

Although it is a 2nd generation IIT, the institute has taken initiatives to build its alumni network early and keep it vibrant. The institute organized the following meets and events in 20-21.

Pan IIT USA: Global Summit

- IIT Bhubaneswar setup a digital booth/ lounge at the IIT 2020: The Future is NOW event organised by Pan IIT USA.
- Headlined by Honorable PM Modi's keynote speech, the event also saw the world's top CEOs and CTOs addressing the IITians across the world on topics such as the post pandemic world among many others.
- Digital booth of IIT Bhubaneswar showcased our latest alumni newsletter and highlighted the new vision statement.
- A lot of useful networking work was done via the digital lounge.

Alumni-Student Mentorship Programme

- Alumni Cell has successfully launched a mentorship programme to bolster alumni-student relations via collaborations on various technical and non-technical projects.

- The student team has reached out to the alumni network and their support has been immensely positive. This marks a new chapter in building alumni-student relations.
- In the month of February 2021, the first collaborative project has inducted three students who are being mentored collectively by alumni of IIT Bhubaneswar and Delhi.

Works in the pipeline

- The Autumn version of the Newsletter is in the works and is scheduled to be released in the month of March'2021.
- We are collaborating with the Pan IIT USA organisation on a first of its kind long-term mentoring program to further our initiatives on the mentoring and career counselling.
- The Academic Council, in association with Alumni Cell, is planning a podcast series with alumni, spread across various career paths to provide the student community an insight into the potential career paths and how to achieve them.

14. Acknowledgements

Functioning of the Institute in its high standards and its entire activities could not have been achieved without the full participation and support of all stakeholders – our faculty, students, staff; agencies and industries sponsoring R&D organizations and departments; professionals from other organizations and our alumni. The Institute is grateful to the Ministry of Education, 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

31st August 2021

Board of Governors

CHAIRMAN

Dr. Rajendra Prasad Singh
Former Chairman &
Managing Director,
Power Grid Corporation and
Independent Director, Azure
Power Global Ltd.
[From 28.08.2020]

Prof. Ratnam V. Raja Kumar
Director, Indian Institute of
Technology Bhubaneswar
[Till 27.08.2020]

MEMBERS

Prof. Ratnam V. Raja Kumar
Director, Indian Institute of
Technology Bhubaneswar

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Additional Secretary (TE),
Ministry of Education (MOE)
Shastri Bhawan,
New Delhi - 110115

Shri Sanjay Kumar Singh, IAS
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Secretary, Skill Development
& Technical Education
Department, Govt. of
Odisha, Bhubaneswar

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Director, Indian Institute of
Technology Kharagpur,
Kharagpur - 721302
(West Bengal)

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Chairman,
C-cube Consultants, C_cube
conducts Programs in
Business Excellence
New Delhi -110077

Prof. Saroj Kumar Nayak
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Sciences,
Indian Institute of
Technology Bhubaneswar

Prof. N. C. Sahoo
Professor, School of
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Registrar,
Indian Institute of Technology Bhubaneswar

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Independent Director,
Azure Power Global Ltd.
[From 28.08.2020]

Prof. Ratnam V. Raja Kumar
Director,
Indian Institute of Technology Bhubaneswar
[Till 27.08.2020]

MEMBERS

Prof. Ratnam V. Raja Kumar
Director, Indian Institute of Technology Bhubaneswar

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Additional Secretary (TE),
Ministry of Education,
Shastri Bhawan, New Delhi - 110001

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JS & FA, Dept. of Higher Education,
Ministry of Education,
Shastri Bhawan, New Delhi - 110001

Prof. V K Tewari
Director,
Indian Institute of Technology Kharagpur
Kharagpur - 721302 (West Bengal)

Prof. Saroj Kumar Nayak
Professor, School of Basic Sciences,
Indian Institute of Technology Bhubaneswar

Prof. N. C. Sahoo
Professor, School of Electrical Sciences,
Indian Institute of Technology Bhubaneswar

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Er. Manoranjan Misra
Chief Engineer (DPI & Roads),
Works Department, Govt. of Odisha
Bhubaneswar

Prof. N. C. Sahoo
Head, School of Electrical Sciences,
Indian Institute of Technology Bhubaneswar

Dr. P. Dinakar
Head, School of Infrastructure,
Indian Institute of Technology Bhubaneswar

SECRETARY
Col (Dr) Subodh Kumar
Registrar,
Indian Institute of Technology Bhubaneswar

Senate Members

Sl. No.	Name of the Member	Position	Place
1.	Prof. Ratnam V. Raja Kumar	Chairman (Ex-Officio)	Director, Indian Institute of Technology Bhubaneswar
2.	Prof. Sujit Roy	Member	Dean (R&D) / Professor, School of Basic Sciences (Chemistry)
3.	Prof. Pravas Ranjan Sahu	Member	Dean (Academic Affairs) (Extended for one year w.e.f. 26.03.2020)
4.	Prof. V. R. Pedireddi	Member	Dean (Students' Affairs)
5.	Prof. S.K. Mahapatra	Member	Dean, CE / Head, School of Humanities, Social Sciences and Management
6.	Prof. R.K. Panda	Member	Dean, AA&IR
7.	Prof. S.K. Nayak	Member	Dean (F&P)
8.	Prof. R.K. Panda	Member	Head, School of Earth, Ocean and Climate Sciences (w.e.f. 01.03.2020 for a period of 2 years upto 28.02.2022 or till further orders)

Sl. No.	Name of the Member	Position	Place
9.	Prof. T.V.S. Sekhar	Member	Head, School of Basic Sciences
10.	Prof. N.C. Sahoo	Member	Head, School of Electrical Sciences (w.e.f. 01.07.2019)
11.	Dr. Mihir Kumar Pandit	Member	Head, School of Mechanical Sciences (w.e.f. 01.07.2019)
12.	Dr. Dinakar Pasla	Member	Head, School of Infrastructure (w.e.f. 01.03.2020 for a period of 3 years upto 28.02.2023 or till further orders)
13.	Prof. P.V. Satyam	Member	Head, School of Minerals, Metallurgical and Materials Sciences (w.e.f. 01.03.2020 for a period of 2 years upto 28.02.2022 or till further orders)
14.	Prof. U.C. Mohanty	Member	Visiting Professor, School of Earth, Ocean and Climate Sciences
15.	Prof. V. R. Yerikalapudy	Member	Visiting Professor, School of Basic Sciences (Mathematics) (Upto 24.10.2020)
16.	Prof. H.K. Mishra	Member	Visiting Professor, School of Earth, Ocean and Climate Sciences
17.	Prof. Rambhatla G Sastry	Member	Visiting Professor, School of Earth, Ocean and Climate Sciences
18.	Prof. Godabarisha Mishra	Member	Visiting Professor, School of Humanities, Social Sciences and Management
19.	Prof. Johannes Eugene Marie Houben	Member	Visiting Professor, School of Humanities, Social Sciences and Management (Upto 31.12.2019)
20.	Prof. Brahma Deo	Member	MGM Chair Professor, School of Minerals, Metallurgical and Materials Engineering (w.e.f. 14.01.2020)
21.	Prof. Axel Hoffman	Member	Visiting Professor, School of Earth, Ocean and Climate Sciences (Upto 25.05.2020)
22.	Prof. Prawal Sinha		Visiting Professor, School of Basic Sciences (w.e.f. August 2020)
23.	Prof. Sudhakar Panda	External Member	Director, NISER Bhubaneswar (upto 23.03.2021)
24.	Prof. Gopal Krishna Nayak	External Member	Director, IIIT Bhubaneswar (upto 23.03.2021)
25.	Prof. Radhamadhab Dash	External Member	Vice-Chancellor, Shri Jagannath Sanskrit Vishvavidyalaya, Puri (upto 23.03.2021)
26.	Prof. Suddhasatwa Basu	External Member	Director, IMMT Bhubaneswar (2 Years w.e.f. 24.03.2021)
27.	Prof. (Dr.) Ajay Kumar Singh	External Member	Vice-Chancellor, Sri Sri University, Cuttack (2 Years w.e.f. 24.03.2021)
28.	Prof. Harihara Hota	External Member	Vice-Chancellor, Shri Jagannath Sanskrit University, Puri (2 Years w.e.f. 24.03.2021)
29.	Dr. Manoranjan Satpathy	Member	Associate Professor, School of Electrical Sciences (Upto 23.03.2021)
30.	Dr. Sabyasachi Pani	Member	Associate Professor, School of Basic Sciences (Upto 23.03.2021)
31.	Dr. Puspendu Bhunia	Member	Associate Professor, School of Infrastructure (Upto 23.03.2021)
32.	Dr. Animesh Mandal	Member	Associate Professor, School of Minerals, Metallurgical and Materials Engineering (Upto 23.03.2021)

Sl. No.	Name of the Member	Position	Place
33.	Dr. Seema Bahinipati	Member	Assistant Professor, School of Basic Sciences (Upto 23.03.2021)
34.	Dr. Rajkumar Guduru	Member	Asst. Professor, School of Humanities, Social Sciences and Management (Upto 23.03.2021)
35.	Dr. Prasanta Kumar Sahu	Member	Associate Professor, School of Electrical Sciences (2 Years w.e.f. 24.03.2021)
36.	Dr. Snehasis Chowdhury	Member	Associate Professor, School of Basic Sciences (2 Years w.e.f. 24.03.2021)
37.	Dr. Sumanta Haldar	Member	Associate Professor, School of Infrastructure (2 Years w.e.f. 24.03.2021)
38.	Dr. Manas Mohan Mohapatra	Member	Associate Professor, School of Mechanical Sciences (2 Years w.e.f. 24.03.2021)
39.	Dr. Sasmita Barik	Member	Associate Professor, School of Basic Sciences (2 Years w.e.f. 24.03.2021)
40.	Dr. Kisor Kumar Sahu	Member	Assistant Professor, School of Minerals, Metallurgical and Materials Engineering (2 Years w.e.f. 24.03.2021)
41.	Dr. Vinoj. V	Member	Asst. Professor, School of Earth, Ocean and Climate Sciences (2 Years w.e.f. 24.03.2021)
42.	Dr. Shantanu Pal	Member	Warden /Associate Professor, School of Basic Sciences
43.	Dr. S. Mohapatro	Member	President, Gymkhana / Associate Professor, School of Electrical Sciences
44.	Dr. Rajesh Roshan Dash	Member	Chairman Central Library / Associate Professor, School of Infrastructure
45.	Dr. Chandrasekhawr Bhamidipati	Member (Ex-Officio)	Chairman, JEE
46.	Dr. Subhransu Ranjan Samantaray	Member (Ex-Officio)	Chairman, GATE
47.	Dr. Rajan Jha	Member (Ex-Officio)	Chairman, JAM
48.	Dr. Bibhuti Bhusan Sahoo	Member	Deputy Librarian, Central Library
49.	Mr. Rishi Gurjar	Student Invitee	Research Scholar, School of Infrastructure (w.e.f. Feb, 200 to Feb, 21)
50.	Ms. Aurosikha Das	Student Invitee	Research Scholar, School of Basic Sciences (w.e.f. Feb, 21)
51.	Mr. Soumyajit Ghosh	Student Invitee	Vice President, Gymkhana (Upto June, 2020)
52.	Mr. S. Niranjan	Student Invitee	Vice President, Gymkhana w.e.f. July 2020
53.	Col (Dr) Subodh Kumar	Secretary	Registrar

Administration

Director

Prof. Ratnam V. Raja Kumar

Deans

Dean (Academic Affairs)
Dr. Pravas Ranjan Sahu
Email: deanac@iitbbs.ac.in

Dean (Faculty and Planning)
Prof. Saroj Kumar Nayak
Email: deanf@iitbbs.ac.in

Dean (Research & Development)
Prof. Sujit Roy
Email: deanrd@iitbbs.ac.in

Dean (Student Affairs)
Prof. V. R. Pedireddi
Email: deansa@iitbbs.ac.in

Dean (Continuing Education)
Prof. Swarup Kumar Mahapatra
Email: deance@iitbbs.ac.in

Dean (Alumni Affairs and International Relations)
Prof. Rabindra Kumar Panda
Email: deanaa@iitbbs.ac.in

Head of the Schools

School of Basic Sciences
Dr. T. V. S. Sekhar
Email: hos.sbs@iitbbs.ac.in

School of Earth, Ocean and Climate Sciences
Prof. Rabindra Kumar Panda
Email: hos.seoc@iitbbs.ac.in

School of Electrical Sciences
Prof. N. C. Sahoo
Email: hos.ses@iitbbs.ac.in

School of Humanities, Social Sciences and Management
Prof. Swarup Kumar Mahapatra
Email: hos.hss@iitbbs.ac.in

School of Infrastructure
Dr. Dinakar Pasla
Email: hos.sif@iitbbs.ac.in

School of Mechanical Sciences
Dr. Mihir Kumar Pandit
Email: hos.sms@iitbbs.ac.in

School of Minerals, Metallurgical and Materials Engineering
Prof. P. V. Satyam
Email: hos.smmme@iitbbs.ac.in

Officers

Col (Dr.) Subodh Kumar
Registrar
Email: registrar@@iitbbs.ac.in

Shri Debaraj Rath
Joint Registrar
Email: jtregistrar@iitbbs.ac.in

Shri Anuj Pradhan
Superintending Engineer (Civil)-I
Email: anujpradhan@iitbbs.ac.in

Shri Bimalendu Mohanty
Superintending Engineer (Civil)-II
Email: se.civil@iitbbs.ac.in

Shri Sanku Das
System Engineer
Email: sanku@iitbbs.ac.in

Dr. Bibhuti Bhusan Sahoo
Deputy Librarian
Email: dylibrarian@iitbbs.ac.in

Shri Manas Kumar Behera
Assistant Registrar
Email: ar.est@iitbbs.ac.in; ar.ce@iitbbs.ac.in

Dr. Sailendra Narayan Routray
Assistant Registrar
Email: ar.rd@iitbbs.ac.in

Shri Pradeep Kumar Sahoo
Assistant Registrar
Email: ar.acad@iitbbs.ac.in

Shri K. Saikiran
Assistant Registrar (Up to 22.10.2020)
Email: saikiran@iitbbs.ac.in

Shri Ankit Paramanand Bagde
Assistant Registrar
Email: ar.sp@iitbbs.ac.in

Shri Rabi Kumar Patnaik
CDPO
Email: tpo.cdc@iitbbs.ac.in

Shri Sambhunath Sahoo
Assistant Librarian
Email: sambhu@iitbbs.ac.in

Shri Chandra Vadde
Programmer
Email: chandra@iitbbs.ac.in

Shri K Rabin Kumar Dora
Executive Engineer (Civil)
Email: rabindora@iitbbs.ac.in

Shri Biswaranjan Pradhan
Assistant Executive Engineer (Electrical)
Email: biswaranjan@iitbbs.ac.in

Lt Cdr Raj Kumar
Chief Security Officer
Email: cso@iitbbs.ac.in

Dr. Mansoor Ahmed Khan
Medical Officer
Email: mansoor@iitbbs.ac.in

Dr. Ashima Sarkhel
Medical Officer
Email: ashimasarkhel@iitbbs.ac.in

Dr. Subhasis Nag
Medical Officer
Email: subhasish@iitbbs.ac.in

Dr. Naba Kishore Patnaik
Medical Officer
Email: nkpatnaik@iitbbs.ac.in

Dr. Gagandeep Kaur Makkar
Student Counsellor
Email: gagandeep@iitbbs.ac.in

Shri Prasanna Kumar Das
OSD (Finance &Accounts)
Email: prasanna@iitbbs.ac.in

Shri Sushanta Kumar Poddar
OSD (Academics)
Email: osd.academics@iitbbs.ac.in

Ms. Manisha Mishra
Student Counsellor (Up to 30.06.2020)
Email: manisha@iitbbs.ac.in

Shri Shalin Sasidharan Nair
Public Relation Officer
Email: pro@iitbbs.ac.in

Professors-In Charge, Co-Ordinators, Warden, Gymkhana & Staff

Name, School	Position	Period
Professor-In-Charge		
Dr. Gaurav Bartarya School of Mechanical Sciences	PIC - E -Cell	w.e.f. 17.09.2018
Dr. Arun Ku. Pradhan School of Mechanical Sciences	PIC - Training & Placement [Career Development Cell]	w.e.f. 01.07.2016
Dr. Mihir Kumar Pandit School of Mechanical Sciences	PIC - Guest House	w.e.f. 01.07.2016
Prof. V. R. Pedireddi School of Basic Sciences	PIC - Permanent Campus	w.e.f. 18.07.2015
Prof. V. R. Pedireddi School of Basic Sciences	PIC – Security	w.e.f. 01.07.2016
Dr. P. K. Sahu School of Electrical Sciences	PIC – [Network & Security]	w.e.f. 01.07.2016

Name, School	Position	Period
Dr. R. R. Dash School of Infrastructure	PIC - Transport Services	w.e.f. 01.07.2016
Dr. M. Sabarimalai Manikandan School of Electrical Sciences	PIC – Horticulture (Residence)	w.e.f. 16.06.2015 up to 04.11.2020
Dr. Srinivas Bhaskar Karanki School of Electrical Sciences	PIC – Horticulture (Residence)	w.e.f. 05.11.2020 to 17.12.2020
Dr. Tarakanta Nayak School of Basic Sciences	PIC – Horticulture (Residence)	w.e.f. 18.12.2020
Dr. Srinivas Bhaskar Karanki School of Electrical Sciences	PIC – Horticulture (Academic)	w.e.f. 19.07.2016
Dr. Srinivas Bhaskar Karanki School of Electrical Sciences	PIC - Counselling Service	w.e.f. 29.06.2016
Dr. Satyanarayan Panigrahi School of Mechanical Sciences	PIC – IPR	w.e.f. 06.11.2012
Dr. C. N. Bhende School of Electrical Sciences	PIC - Institute Seminar	w.e.f. 03.04.2018
Dr. Niladri Bihari Puhan School of Electrical Sciences	PIC - Web Services	w.e.f. 26.07.2019
Dr. Chandrasekhar Perumalla School of Electrical Sciences	PIC - Electrical works	w.e.f. 07.06.2019
Dr. Sumanta Haldar School of Infrastructure	PIC - Civil works	w.e.f 01.03.2020
Dr. Srinivas Pinisetty School of Electrical Sciences	PIC - ERP	w.e.f. 11.04.2018
Dr. Prasant Sahu School of Electrical Sciences	PIC - Centre of Excellence of Augmented Reality and Virtual Reality	w.e.f. 01.07.2019
Dr. Raj Kumar Singh School of Earth, Ocean Climate Sciences	PIC - Raj Bhasha Ekak	w.e.f. 28.03.2015
Dr. Yogesh Bhumkar School of Mechanical Sciences	PIC - Start up Center	up to 29.12.2020
Dr. M. Sabarimalai Manikandan School of Electrical Sciences	PIC - Start up Center	w.e.f. 30.12.2020
Dr. Rajan Jha School of Basic Sciences	PIC - Examination	w.e.f. 20.04.2018
Dr. Manas M. Mahapatra School of Mechanical Sciences	PIC - Time Table	w.e.f. 07.07.2017
Dr. Raj Kumar Guduru School of Humanities, Social Sciences and Management	PIC- Newsletter Committee	w.e.f. 11.04.2018

Chairman/Chairperson

Prof. Sujit Roy School of Basic Sciences	Chairman - Institute Purchase Committee	up to 11.01.2021
Prof. P. V. Satyam School of Basic Sciences	Chairman - Institute Purchase Committee	w.e.f. 12.01.2021

Name, School	Position	Period
Dr. Barathram Ramkumar School of Electrical Sciences	Chairman - CITSC	w.e.f. 05.09.2019
Dr. P.R. Sahu School of Electrical Sciences	Chairman - CPMC	w.e.f. 01.07.2016
Dr. R.R. Dash School of Infrastructure	Chairman - Central Library	w.e.f. 01.07.2016
Dr. Manas M. Mahapatra School of Mechanical Sciences	Chairman - CIF (Central Instrumentation Facility)	w.e.f. 01.07.2016
Dr. Animesh Mondal School of Minerals Metallurgical and Materials Engineering	Co- Chairman - CIF (Central Instrumentation Facility)	w.e.f. 01.07.2016
Dr. C. Bhamidipati School of Basic Sciences	Chairman - JEE	w.e.f. 01.08.2016
Dr. Rajan Jha School of Basic Sciences	Chairman - JAM	w.e.f. 01.08.2016
Dr. S. R. Samantaray School of Electrical Sciences	Chairman - GATE	w.e.f. 01.08.2016
Dr. Remya Neelancherry School of Infrastructure	Chairperson – Women Grievance Redressal Committee (WGRC)	up to 01.03.2021
Dr. Debalina Ghosh School of Electrical Sciences	Chairperson – Internal Complaint Committee (ICC)	w.e.f. 21.12.2020
Dr. Sasmita Barik School of Basic Sciences	Chairperson – Women Welfare Committee (WWC)	w.e.f. 02.03.2021
Prof. R.K. Panda School of Infrastructure	Chairman – House Allotment Committee	w.e.f. 27.02.2015
Prof. S. K. Mahapatra School of Mechanical Sciences	Chairperson – Internal committee to Monitor the HVAC related works in Phase -2 works of the Institute.	w.e.f. 11.01.2021
Prof. Brahma Deo MGM Chair Professor	Chairperson – Internal committee to examine the design and oversee the works related to interior Acoustics and Audio systems etc in upcoming Phase -2 works of the Institute.	w.e.f. 02.03.2021
Dr. V. Pandu Ranga School of Mechanical Sciences	Chairperson – Internal committee to examine and monitor the quality-control, installation, commissioning, etc. of the seating arrangements in the lecture Hall complex and Auditorium in upcoming Phase -2 works of the Institute.	w.e.f. 15.03.2021
Prof. R.K. Panda School of Infrastructure	Chairperson – Internal committee to plan, examine and carry out design evaluation of rainwater Harvesting System in upcoming Phase -2 works of the Institute.	w.e.f. 30.03.2021
Dr. Soobhankar Pati School of Minerals Metallurgical and Materials Engineering	Coordinator - Alumni Affairs & International Relations	w.e.f. 07.10.2015
Dr. Snehasis Chowdhuri School of Basic Sciences	Coordinator -NSS Program Officer	w.e.f. 01.07.2016

Name, School	Position	Period
Dr. Snehasis Chowdhuri School of Basic Sciences	Coordinator - EAA	w.e.f. 01.07.2016
Dr. Srikant Gollapudi School of Minerals Metallurgical and Materials Engineering	Coordinator - EAA	w.e.f. 08.04.2019
Dr. B. Hanumanth Rao School of Infrastructure	Co- Coordinator - EAA	w.e.f. 01.07.2016
Dr. B.C. Mondal School of Basic Sciences	Co- Coordinator¬- EAA	w.e.f. 08.04.2019
Dr. Seema Bahinipati School of Basic Sciences	Co- Coordinator¬, UBA Programs	w.e.f. 11.04.2018
Dr. Tarakanta Nayak School of Basic Sciences	Co- Coordinator, UBA Programs	w.e.f. 11.04.2018
Prof. Godabarish Mishra School of Humanities, Social Sciences and Management	Academic Coordinator	w.e.f. 12.09.2018
Prof. S. K. Mohapatra School of Mechanical Sciences	Coordinator – QIP	w.e.f. 29.08.2018

Warden

Dr. Santanu Pal School of Basic Sciences	Warden	w.e.f. 01.07.2016
Dr. Srinivas B. Karanki School of Electrical Sciences	Assistant Warden (Boys)	w.e.f. 01.10.2015
Dr. Yogesh Ganpat Bhumkar School of Mechanical Sciences	Assistant Warden (Boys)	w.e.f. 08.07.2016
Dr. Sourav Sil School of Earth, Ocean Climate Sciences	Assistant Warden (Boys)	w.e.f. 08.07.2016
Dr. Barathram Ramkumar School of Electrical Sciences	Assistant Warden (Boys)	w.e.f. 08.07.2016
Dr. Manaswini Behera School of Infrastructure	Assistant Warden (Girls)	w.e.f. 01.01.2020

Gymkhana

Dr. Sankarsan Mohapatro School of Electrical Sciences	President, Gymkhana	w.e.f. 13.02.2017
Dr. Niladri Bihari Puhan School of Electrical Sciences	Advisor, Science & Technology Activities of Student Gymkhana	w.e.f. 14.07.2018
Dr. Olive Ray School of Electrical Sciences	Advisor, Sports & Game Activities of Student Gymkhana	w.e.f. 26.07.2019
Dr. Yengkhom Kesorjit Singh School of Earth, Ocean Climate Sciences	Treasurer –Gymkhana	w.e.f. 08.04.2019
Dr. Manaswini Behera School of Infrastructure	Advisor –(Socio-Cultural)	w.e.f. 08.04.2019
Dr. Mihir Kumar Pandit School of Mechanical Sciences	Advisor, Purchase Committee of Student Gymkhana	w.e.f. 14.07.2016
Dr. V. Pandu Ranga School of Mechanical Sciences	Advisor, Finance Committee of Student Gymkhana	w.e.f. 14.07.2016

Staff

Director's Office

Smt. Suhana Parween
[Jr. Accounts Officer]

Shri Una Sujit
[Jr. Superintendent]
(Up to 09.12.2020)

Shri Giresh Kumar Pitta
[Jr. Superintendent]
(From 08.12.2020)

Shri Ramesh Kumar Panda
[Jr. Assistant]

Shri Ramesh Chandra Biswal
[Driver]

Finance and Account Section

Shri Ajit Kumar Sahoo
[Jr. Superintendent]

Shri Sambit Ranjan Mohanty
[Jr. Superintendent]

Shri Raghunath Behera
[Jr. Accounts Officer]

Shri Guru Parsad Sahoo
[Jr. Accounts Officer]

Shri Vivek Kedia
[Jr. Accounts Officer]

Establishment

Ms. Jignyasha Behera
[Jr. Superintendent]

Ms. Smruti Smaranika Kumar
[Jr. Assistant]

Shri Arup Kumar Pandab
[Jr. Assistant]

Shri Vikram Alagandula
[Jr. Assistant]

Registrar's Office

Shri Pradeep Kumar Pattanaik
[Private Secretary]

Dean Faculty & Planning Office

Shri Satyabrota Ghosh
[Jr. Superintendent]

Dean Continuing Education Office

Shri Himansu Bhusan Sahoo
[Jr. Assistant]

R&D Section

Shri Anirudha Bai
[Jr. Superintendent]

Shri Una Sujit
[Jr. Superintendent]
(From 10.12.2020)

Store & Purchase Section

Shri Rajsekhar Bendi
[Jr. Superintendent]

Shri Abhishek Kachchap
[Jr. Superintendent]

Shri Jogarao Chintala
[Jr. Assistant] (Up to 23.12.2020)

Central Library

Ms. Sangita Sahu
[Sr. Library Information Assistant]

Shri Dillip Kumar Parida
[Sr. Library Information Assistant]

Central Dak / Recruitment

Ms. Souravi Behera
[Jr. Assistant]

Health and Sanitary Unit

Shri Pradip Kumar Poddar
[Sanitary Inspector]

Security Unit

Shri Tapan Kumar Mohapatra
[Assistant Security Officer]

Academic Section

Shri Satyajit Sarangi
[Jr. Superintendent]

Shri Abhimanyu Mahal
[Jr. Superintendent]

Smt. Nibedita Patnaik
[Jr. Superintendent]

Shri Gouri Shankar Mishra
[Jr. Assistant]

CITSC

Shri Rabinson Behera
[Associate Network Administrator]

Shri Tileswar Mahto [Technician (System Administration)]

Shri Ranjith Rao
[Technician (Network Administration)]

School of Basic Sciences

Dr. Nihar Ranjan Panda
[Jr. Technical Superintendent]

Shri Sushanta Sahoo
[Jr. Technical Superintendent]

Shri Tarapada De
[Jr. Technician]

Shri Samir Kumar Jena
[Jr. Laboratory Assistant]

Shri Sukesh Kumar Mishra
[Jr. Laboratory Assistant]

Shri Naresh Koppula
[Jr. Laboratory Assistant]

Shri Marshal Tudu
[Jr. Assistant]

School of Minerals, Metallurgical and Materials Engineering

Shri Ramakrishna Pantangi
[Jr. Technical Superintendent]

Shri Sonu Kumar Goyal
[Jr. Laboratory Assistant]

Medical Unit

Ms. Prabhavathy M.
[Staff Nurse] (Up to 05.02.2021)

Ms. Swarnalata Swain
[Staff Nurse]

Shri Srinibash Panigrahy
[Pharmacist]

Shri D. Kannan
[Pharmacist]

Student Gymkhana

Ms. Sunita Verma
[Physical Training Instructor]

Shri Biswajit Pegu
[Physical Training Instructor]

Horticulture

Shri Kamireddy Visweswara Reddy
[Horticulturist]

School of Electrical Sciences

Ms. Madhusmita Divyadarsini Mohapatra
[Jr. Technical Superintendent]

Shri Santosh Kumar Sahoo
[Jr. Technical Superintendent]

Shri Bikram Ranjan Behera
[Jr. Technician]

Shri Dillip Kumar Biswal
[Jr. Technician]

Shri Birata Keshari Nanda
[Jr. Technician]

Shri Brajamohan Mohapatra
[Jr. Technician]

Shri Raimohan Behera
[Jr. Technician]

Sk Tajuddin Ahmed
[Jr. Technician]

Shri Mrinal Datta
[Jr. Technician]

Shri Krushana Chandra Nayak
[Jr. Technician]
(Up to – 30.12.2020)

Engineering Cell

Shri Dipti Ranjan Pattanaik
[Jr. Engineer (Civil)]

Shri Abhisek Das
[Jr. Engineer (Electrical)]

Shri Gajendra Behera
[Jr. Engineer (Electrical)]

Shri Rupesh Kumar Pradhan
[Jr. Engineer (Civil)]

Central Instrumentation Facility

Shri Vidya Sagar Vajja
[Jr. Technical Superintendent]

School of Infrastructure

Ms. Supriyarani Mohanty
[Jr. Technical Superintendent]

Shri Samir Kumar Sethi
[Jr. Technical Superintendent]

Ms. Akasmika Sarangi
[Jr. Technician]

Shri Soubhagya Kumar Behera
[Jr. Technician]

Shri Amiya Chandra Singh
[Jr. Technician]

School of Mechanical Sciences

Shri Aloka Kumar Nayak
[Jr. Technical Superintendent]

Shri Malaya Kumar Routray
[Jr. Technical Superintendent]

Shri Sidhartha Biswal
[Jr. Assistant]

Shri Dillip Kumar Sahoo
[Jr. Technician]

Shri Sunil Kumar Pradhan
[Jr. Technician]

Shri Bivudata Mohanty
[Jr. Technician]

Shri Purnendu Kumar Bisoi
[Jr. Technician]

About
IIT Bhubaneswar

Indian Institute of Technology Bhubaneswar is established by the government of India in 2008 under The Institutes of Technology Act 1961 with Amendments up to 2012. The Act was passed in the Lok Sabha on 24th March 2011 and by the Rajya Sabha on 30 April 2012. IIT Bhubaneswar became an Institute of National Importance from 29 June 2012 with notification of Amendment in the Institutes of Technology Act, 1961 by the Ministry of Education, (Department of Higher Education) Government of India published in the Gazette of India dated 2 July 2012.

The Institute started functioning from the campus of IIT Kharagpur on 22nd July 2008 and shifted its operation to the city of Bhubaneswar on 22nd July 2009. The Institute has adopted the concept of Schools rather than Departments for promoting inter-disciplinary research. At present, 7 schools are offering an academic programme.

Presently the academic programmes of the Institute include B. Tech. (Hons.) in Computer Science, Civil, Electrical, ECE, Mechanical Engineering, Metallurgical and Materials Engineering. The institute is also starting Dual degree courses in Mechanical and civil with intake of 10 from the academic year 2016-17. The institute offers 2 years of M.Sc. and M. Tech courses. The Institute started the Doctoral programme from the academic session 2009-2010 and offer admission to the joint M. Tech-Ph.D. Programme from July 2012. The Indian Institute of Technology, Bhubaneswar (IITBBS) is also planning to start a new school of planning, architecture and design. This school will offer undergraduate, postgraduate and Ph.D. courses in all three disciplines. This will be the eighth school to function in the Institute. At present, such schools function at two other IIT's-in IIT Kharagpur and Roorkee. The Institute has broadly adopted the course curricula, syllabi and other academic regulations of IIT Kharagpur, the mentor institute. The pedagogy emphasizes participatory, student-centric and participatory learning. The academic programmes are equipped with very relevant courses for a budding entrepreneur, the entire institute may be used as a technology incubator and the institute has a 40,000 sq. ft. Start-up space for students to avail.

The institute is committed to providing holistic education aimed at producing tomorrow's leaders, nurturing personality, creativity, innovative mind-set and capability be it in Science or Technology or Management or other domains of human excellence. It provides ample opportunity for a young mind to take any path and excel apart from providing the opportunity to research in a chosen area. Institute is also committed to creating a wellness environment, including in green, clean and healthy environment, quality education, efficient and effective governance, effective health services, security, equality and enlightenment.

The Institute has started all academic operations from the permanent campus at Argul from academic session 2015- 16. The final shifting of the Institution was done on 14th July, 2018 where the entire administrative became an operational post that. The Institute provides well-qualified faculty, state-of-the-art infrastructure facilities creating a conducive environment for the rapid growth of the students' skill sets in all aspects of the personality – academic, research, cultural, sports, ethical and social responsibility. Our Institute's numerous collaborations with foreign universities, industries and institutions across the world provide scope to the students to be exposed to the global trends in education, research and industry. Ample opportunities in both national and international stints for internships, research projects and exchange programs have been a prominent trend among our students. In the past 10 years the Institute Co-offered degrees to 1810 students (B.Tech. M.Tech., Ph.D., MSc. etc.)

During the last 10 years, the Institute's faculty members and students have contributed to creating knowledge by publishing more than 3575 original research papers in reputed national and international Journals and Conferences. Students also won several awards in conferences and competitions.

The Institute has been constantly increasing its rankings in various international and national agency rankings.

As per Times Higher Education (THE) World University rankings 2021, the institute has been ranked 801-1000 among 1526 institutes across the world. Also as per The Times Higher Education (THE) World University Impact Ranking 2021, the institution has been ranked 801-1000th in the world. Institute has been ranked 251-300 in Times Higher Education (THE) World University Asia University Rankings, 301th – 350th in Times Higher Education (THE) Emerging Economies University Rankings and the institute has been ranked 233 in QS World University Rankings Asia 2021. The Three University Mission Rankings (Russia) has ranked the Institute in 801-900 in 2020.

In addition, IIT Bhubaneswar has been ranked by various credible national agencies. The Institute has been ranked 22nd in Engineering and 56th in an overall category by National Institutional Ranking Framework (NIRF)-MOE 2020, Institute rank 1st in research capability and 5th in engineering institute category by Times Engineering Institute Rankings 2020 and in India Today Best Engineering College 2020, the institute has been ranked 11th position.

VISION AND MISSION

Indian Institute of Technology Bhubaneswar inherits the brand name IIT. This fact itself charges the Institute not only to be worthy of its inheritance but also to be distinctive and distinguished on its own by scripting a path towards novelties.

Presented below are the statements for Vision, Mission, Goals & Strategies (to achieve the Goals) and the Core Values of IIT Bhubaneswar.

VISION

"Indian Institute of Technology Bhubaneswar will be globally well recognized for creating outstanding graduates and new knowledge."

MISSION

- To shape ourselves into a learning community, where we work, listen and respect each other.
- To encourage and facilitate faculty, researchers and students to work synergistically across discipline boundaries.
- To infuse a sense of excitement in students in innovation & invention, design & creation and entrepreneurship.
- To develop and pursue curricula those are dynamic, flexible and holistically designed to facilitate creativity and cognitive thinking.
- To strive for productive partnerships between the industry and the Institute.

GOALS AND STRATEGIES

Promoting globally competitive academic programs and ambiance that support intellectual growth and skill acquisition

- Promote skills to critically analyze and the competency to effectively synthesize and apply new knowledge in curriculum development and delivery.
- Address the changing needs of the region, state, nation and world in the learning process.
- Create a diverse, fully-engaged, learner-centric campus environment.
- Strengthen the national and international competitiveness of the students by facilitating international internships, industrial project opportunities, student exchange and study abroad participation.
- Put equal emphasis on discovery science and solution science.
- Bring research into classrooms.

Expanding world-class interdisciplinary research and scholarly endeavours.

- Promote distinctive research programs that address real-life as well as futuristic issues.
- Strengthen integrated and synergistic interdisciplinary research within and across the various Schools.
- Broaden and strengthen the Institute's research base and support infrastructure by engaging with partners from all sectors of the economy.
- Create a talent pool of world-class faculty members, postdoctoral fellows, doctoral and post-graduate students.
- Create an excellent support staff structure and regularly upgrade their competencies.
- Evolve itself into a repository of intellectual properties and prototypes on a globally competitive basis.

Strengthening and providing support in sustaining a healthy society by improving the quality of life through the application of technology.

- Establish an institutional structure to facilitate and promote community engagement and societal enterprise.
- Include community engagements into the Institute's promotional guidelines.
- Encourage and reward faculty and students' efforts in community development. Acknowledge efforts and gains in official statements and transcripts.

Establishing a strong and sustainable economic base for the Institute.

- Encourage and facilitate sponsored projects, consultancy and technology transfer for creating a sound corpus.
- Utilize brand value for attracting endowments for sponsored chairs and scholarships.
- Support entrepreneurial endeavours especially in commercializing emerging technologies evolved out of the Institute labs through a public-private partnership.

Building up a healthy and robust IIT Bhubaneswar family.

- Promote and sustain a positive working environment and maintain a significantly improved service quality.
- Improve staff support through expanding professional development opportunities.
- Perform Institute's corporate social responsibilities with utmost sincerity.
- Nourish and sustain vibrant co-and extra-curricular activities.
- Create an ambiance for bonding through equity, trust and mutual respect.

CORE VALUES

Respecting students as budding engineers and scientists embarking on a journey towards innovation and invention.Nurturing freedom of thought and expression and encouraging a sense of inquiry.

Empowering each person to rise to his/her full potential Respecting the opinions and rights of others.

ABOUT CAMPUS

The permanent campus of IIT Bhubaneswar spreads over 936 Acres of land. It is situated at the foot of Barunei Hill, which is famous for its rich history. The campus provides a unique serene and pollution free academic environment. The campus includes Academic area, Residential area and area for Training centres and Research Park.

Mahanadi Hall of Residence

Boys Hostel with capacity of 800 students Mess Facilities; Modern and well equipped kitchens; Gym and Physical Fitness; Basketball and Volleyball Courts; Badminton and Table Tennis Court; Media Entertainment Room; Solar Lighting Systems; 24 Hours high alert security system; Gigabit Ethernet to individual hostel rooms; ATM facilities.

Subarnarekha Hall of Residence

Girls Hostel with the capacity of 200 students Independent mess facilities; Modern and well-equipped kitchens; Basketball and Volleyball Courts; Solar lighting systems; 24 hours high alert security system; Gigabit Ethernet to individual hostel rooms

Brahmaputra Hall of Residence

Boys Hostel with capacity of 800 students with single room facility, Independent mess facilities; Modern and well equipped kitchens; Multipurpose hall; 24 hours high alert security system; Gigabit Ethernet to individual hostel rooms

Ganga Hall of Residence (GHR)

GHR is having a capacity of 400 girls students are equipped with single room facility, Independent mess facilities; Modern and well-equipped kitchens; a Multipurpose hall; 24 hours high alert security system; Gigabit Ethernet to individual hostel rooms

Sports Facility

- Cricket field
- Volleyball courts
- Basketball courts
- Table tennis rooms
- Tennis court

Residential facility for Faculty and Staff

- Faculty quarters block having 80 quarters
- 40 room guest house
- Staff quarter block having 40 quarters
- Mini-Market
- 200 seated community centre

Guest House

The guest house is comprised of a total of 42 single and double bedded air-conditioned rooms with attached bathrooms and all modern amenities. Online booking and e-payment facilities are available

Director's Bungalow

The bungalow is having 506 sq. Meter plinth area; 24 hours security system including boundary wall and kitchen garden facilities

Medical Unit at Health Center

The Novel Corona virus has spawned the entire world. In this difficult and crisis time IIT Bhubaneswar Medical unit has been responding rapidly, working with other essential services round the clock. The medical unit is equipped with 24X7 Doctors and Nurses services, all Lifesaving Drugs, Oxygen, Nebulizer machine, ECG machine, Glucometer, Multipara Monitor and 24 hours Pharmacy.

Under the guidance of Our Honorary Director, a COVID task force was setup which have been continuously formulating SOP based on the ongoing situation. Precautions and preventive measures were taken for all campsites including regular screening of Students, Faculty, Officers and Staff, restriction of outsiders' entry etc. Proper and timely sanitization measures are being taken. A fully operational Isolation center in our campus was established and the Covid-19 Positive cases are successfully managed there. Steps like Isolation, Contact tracing is methodically done. Positive Cases are frequently followed up and treated accordingly. The medical unit along with other frontline workers of the institute are driven with a motto of- "Zero COVID cases and Zero Mortality.

PHASE-II CONSTRUCTIONS

MOE has sanctioned Rs. 1260 Crores for Phase –I & II constructions of IIT Bhubaneswar. Out of Rs. 1260 crores, IIT Bhubaneswar had approved the Preliminary Estimated cost of 410 Crores for Phase-I and CPWD was given A/A and E/S and planned for the expenditure of Rs. 850 Crores for Phase – II constructions by appointing NBCC (India) Ltd. as the Project Management Consultant for phase – II constructions of IIT Bhubaneswar. Rs. 850 Crores is to be spent for infrastructure development of the Institute by March 2019.

The following buildings/facilities are under construction by NBCC as PMC.

Sl. No.	Name of the Work	Area (Sq.m.)	Date of Start	Likely date of completion as per NBCC
A) Works in Progress				
M/s. Krishna Builders				
1.	Boys' Hostel (800 Seater)- 1 No.	24504	20.04.2017	Building occupied by IIT on 15.7.19 & 10.10.19. Defect rectification is pending
2.	Girls' Hostel (400 Seater)- 1 No.	15043		
M/s. Simplex Infrastructures Ltd. M/s. Girdhari Lal Construction Pvt. Ltd.				
1.	Boys' Hostel (800 Seater)- 1 No.	24504	27.11.2017	31.08.2021
2.	Type – A Faculty Qtrs. (44 Nos)-2 unit	11342		A1- 31.05.21 A2- 31.07.21
3.	Type –B Faculty Qtrs. (88 Nos) -4 unit	20658		B1- 31.05.21 B2- 31.07.21 B3-31.07.21 B4- 30.06.21
4.	Type –C Staff Qtrs. (88 Nos)-4 unit	18280		C1- 31.08.21 C2- 31.08.21 C3-31.07.21
5.	Type –D Staff Qtrs. (44 Nos) - 2 unit	6733		D1- 30.06.21 D2- 31.05.21
6.	Director's Bungalow	474		Completed and defect rectification is pending
7.	Students activity centre (including swimming Pool 50 x 25M)	4350		30.06.2021
8.	Dispensary	1224		31.08.2021
9.	Auditorium (1500 Capacity)	5281		31.12.2021
10.	School of Minerals, Metallurgical and Materials, Engineering	3648		31.07.2021
11.	School of Earth Ocean & Climate Sciences	3648		31.07.2021
12.	School of Humanities, Social Sciences & Management	1582		31.07.2021
13.	Central Workshop	2554		30.06.2021
14.	Central Research and Instrumentation facilities	2508		30.06.2021
15.	Lecture Theater (60 Seater Class room-48 Nos., 120 Seater Class room-22 Nos., 240 Seater Class room - 4 Nos.	26354		LHC-1-31.12.21 LHC-2- 31.03.22 LHC-3-31.08.21
M/s. SNS Infracon Pvt. Ltd.				
1.	Commercial Complex (Academic)	1443	01.06.2018	31.05.2021
2.	Commercial Complex (Residential)	1143		
3.	Extension of SES Building	8468		
M/s. Lalitendu Satpathy and M/s. Gurumaharaja Engicon Pvt.Ltd.				
4.	Construction of Sewerage Network at Argul Campus		14.11.2018	31.12.2021
M/s. Shreejikrupa Projects Ltd.				
1.	Efficiency Hostel for Married scholars	7555	14.12.2018	31.08.2021
2.	One side Extension of SIF Building	3105		
3.	One side Extension of SMS Building	3128		
4.	One side Extension of SBS Building	2564		

Sl. No.	Name of the Work	Area (Sq.m.)	Date of Start	Likely date of completion as per NBCC
M/s. Shreejikrupa Projects Ltd.				
1.	External development (like Road, Drain, Play Fields, Play courts, Equipment room, Cycle car parking, land scapping in LHC and School and open air theatre		03.03.2019	31.12.2021
M/s. J.M. Enviro Technologies Pvt. Ltd.				
1.	STP with SCADA system		29.06.2019	31.05.2021

PHOTOGRAPHS OF PHASE-II CONSTRUCTION AS ON DT. 31.03.2021

Academic Area Construction Block

Auditorium: RCC structural work completed, roof truss work & other finishing work is in progress. About 57% of building work completed

LHC-1: Structural work completed, Dome work and other finishing is in progress. About 77% of building work completed

LHC-2: Structural work 70% completed. About 43% of building work completed.

LHC-3: Structural work completed and finishing work is in progress. About 93% of building work completed.

Central Workshop: Structural work completed and finishing work is in progress. About 82% of building work completed.

SMMME: Structural work completed and finishing work is in progress. About 93% of building work completed.

SEOCS: Structural work completed and finishing work is in progress. About 93% of building work completed.

SHSSM: Structural work completed and finishing work is in progress. About 93 % of building work completed.

SIF Extension: Structural work completed and finishing work is in progress. About 69% of building work completed.

SMS Extension: Structural work completed and finishing work is in progress. About 69% of building work completed.

SBS Extension: Structural work completed and finishing work is in progress. About 69% of building work completed.

SES Extension: Structural work completed and finishing work is in progress. About 84% of building work completed.

CRIF: Structural work completed and finishing work is in progress. About 81% of building work completed.

STP: About 90% of STP work completed.

Residential Area Construction Block

Type-C1 & C2 Quarters: Structural work completed and finishing work is in progress.

Type-C3 Quarters: Structural work completed and finishing work is in progress.

About 62% of building work completed in C type Qtrs

Type-B1 & B2 Quarters: Structural work completed and finishing work is in progress.

Type-B3 & B4 Quarters: Structural work completed and finishing work is in progress.

About 68% of building work completed in B type Qtrs

Boys' Hostel-3: Structural work about 72% completed and finishing work is in progress

SAC: Finishing work is in progress. About 93 % of building work completed

Type-D1 & D2 Quarters: Structural work completed and finishing work is in progress.
About 91% of building work completed in D Type Qtr

Type-A1 & A2 Quarters: Structural work completed and finishing work is in progress.
About 80% building work completed in A Type Qtrs

Dispensary: Structural work completed and finishing work is in progress. About 58% building work completed.

Efficiency Hostel: Structural work completed and finishing work is in progress. About 73% of building work completed.

Commercial Complex (Residential): Structural work completed and finishing work is in progress.

About 42% of building work completed

Swimming Pool: Structural work completed. Finishing work is in progress.

Football, athletic track and javelin ground: About 50% work completed.

Cricket ground: About 60% work completed.

Hockey ground: About 85% of work completed

Basket Ball Volley Ball & Tennis Court: About 90% work completed.

ECO-FRIENDLY CAMPUS INITIATIVES

The horticulture activity was started in 2015 to create the IIT Bhubaneswar campus with full of greenery and more vibrant, including exotic and indigenous deciduous and coniferous trees and plants (long-life tall trees, flower and medicinal trees, fruit trees, palm and pine trees). For the next five-year plan, the main focus of the centre for horticulture is to create native landscaping in newly constructed areas and near buildings with lush green gardens adorned with ornamental and medicinal plants that maintain a clean and healthy environment for the students and residents of the campus. An autonomous water irrigation system will be set up in the campus to saving both water and expenditures. The horticulture section is strict about using only organic fertilizers.

Plantation Initiative: IIT Bhubaneswar believes what Ralph Waldo Emerson says, "The creation of a thousand forests is in one acorn." Acorn is a symbol of prosperity, youthfulness, power and spiritual growth. Symbolically, it means that a small effort of planting a tree can go a long way in protecting nature and mother earth which you all will agree is the burning need of our times.

IIT Bhubaneswar is highly committed to promoting the green belt and hence takes humongous steps towards making the campus and nearby places green. IIT Bhubaneswar has created and maintains outstanding landscapes and greenery in the campus. Plantation of trees also helps create a wellness environment important for the campsites to enjoy the working and residential space. In addition to 40,000 plants planted in the last couple of years. This year more than 3,000 plants have already been planted. The exotic and indigenous evergreen and deciduous flowering trees and plants such as Bauhinia, Eugenia, Foxtail palm, etc were some of the varieties chosen to be planted to create the healthy echo-system for attracting the exotic and migratory birds. Every effort was made to restore the damage that occurred due to Fani. Along with the plantation of new plants, the old ones were restored and I am happy to share that most of the trees and plants survived. The massive task related to the teak plantation was completed along the boundary wall of our campus. These are some of the few highlights in moving towards the promotion of green campus.

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 a "Cycle Friendly Campus" by providing sustainable and convenient tree-lined cycle paths 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 a 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 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 the 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 environmentally friendly and also keep the building cool and clean.

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

IIT BHUBANESWAR IS RAGGING FREE

The Institute strongly adheres to the anti-ragging policy and implements it through the true spirit of action. The institute takes several timely actions including close monitoring to ensure the system is in place. Also the administration, concerned faculty and staff conduct several meetings with the newly joined fresher's as well as senior students appraising them about the policy of the institute and counselling them about the good practices of interaction with new students and development of brotherhood towards personality building.

The Dean (SA) closely monitors the activities on the campus being supported by Warden and faculty members to make it ragging free. To build up the confidence in the minds of fresher's, faculty do regularly visit the hostels to ensure the truest interaction between fresher's and senior students and spend nights in the hostel during the initial few months.

Academics

Indian Institute of Technology Bhubaneswar is one of the elite technology institutes of India spurred by sustained creation of knowledge and innovation through high quality R&D activities and commitment to holistic education. The Institute aims to develop and pursue dynamic and flexible curricula designed to facilitate creativity and cognitive thinking among students through a productive partnership with industry. Keeping pace with the changing scenario for providing adequate competent Technocrats and Scientists, IIT Bhubaneswar has raised its student intake significantly in B.Tech and Dual Degree to 475 from 419 including supernumerary seats to female students; in M.Sc the student intake raised from 100 to 125 with the implementation of @ 10 % reservation for EWS category, apart from 246 in M.Tech. The current strength of students stands at 2486 Students (B.Tech. – 1174, Dual-Degree – 417, M.Tech. - 388, M.Sc – 178, Ph.D – 329). The Institute has a spectrum of 143 full-time faculty members, 25 officers (22 on regular basis and 3 on contracts) and other supporting staff. The Institute offers 6 Nos. of B.Tech. 9 Nos. of Dual Degree Programmes, 5 Nos. of M.Sc., 14 Nos. of M.Tech Programmes and Ph.D. Programme in its 7 Schools. The admission for the academic year 2020-21 into the courses Ph.D., M. Tech., M.Sc., BTech and Dual Degrees took place on 24th, 24th - 25th August, and 15th November, 2020, respectively.

COVID 19 could have impacted IIT Bhubaneswar very seriously in a number of ways. A lot of innovative, proactive and advance actions have been taken at the institute well in advance before the announcement of the first phase lockdown in March 2020. Due to timely following actions the possible negative impacts could be very effectively and successfully avoided or marginalised.

Switching to Online Education with Zero-gap

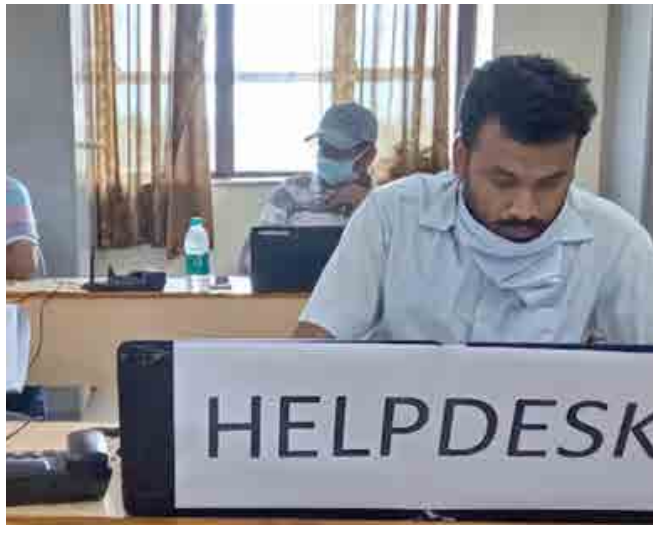
Teaching and learning was taken with utmost priority in online mode without compromising with the quality, syllabus content and the academic schedules. The institute could switch to online education with absolutely no gap due to pre-planning and taking actions well

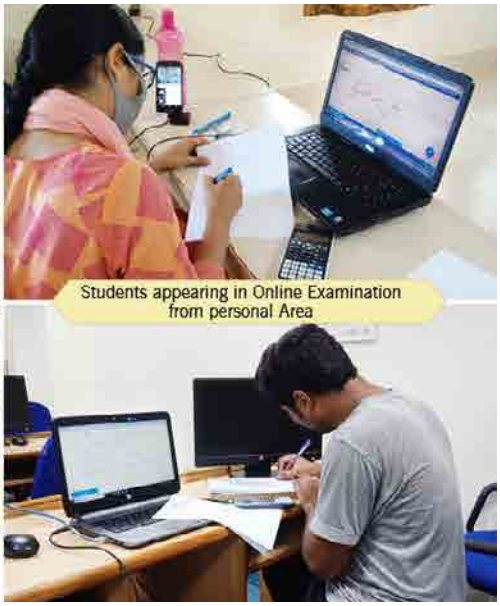
ahead of the lockdown period. Institute gave the option to students to stay on the campus or go home during the lockdown periods. More than 400 students stayed back at the hostels, all through theire physical and mental well-being were taken care of through regular health check-up and counselling. The institute could protect its campsites from Covid-19 and the campus was Covid-free, except for a brief period of one and half months, in between.

Lab classes were conducted through live video steaming of experiments conducted on the table which is unique. Classes could be run on time by online means as per academic calendar.

Holding Pen and Paper Exams by Online and with no compromise on evaluation

A unique method of holding comprehensive and detailed online examinations (pen and paper) with realtime online invigilation has been developed in-house and adopted very successfully to conduct examinations for all the students, in the previous semester (Spring 2019-20). Perhaps, it is the only IIT among 23 IITs to do so. The outgoing students were graduated in time without any compromise on the examination standards. The practice has become a routine, applied to autumn 2020-21 and spring 2020-21. The institute has been honoured with the prestigious University of the Year award in the 11-30th year of existence category at FICCI Higher Education Excellence Award 2021 with these unique achievements. Institute would serve as a role model in the country and do its best in times to come.





The institute ran its academics in uncompromised standard and completed its spring end semester examination of 2020-21 on May 2021 for all of its students except for the 1st year B.Tech and Dual Degree which will took a month and half more due to late admission and late starting of the semester across all IITs.

Admission, Rejuvenation and Orientation (R&O) programme for Fresh Students

The Institute conducted the Autumn session Ph.D. admission selection (written test and interviews) in online mode. Admissions for Ph.D., M.Tech and MSc freshers and the regular UG, Dual-Degree, PG and Research scholars were held in online mode. Their education started online, on board, giving them a feeling of belongingness to the institute running their academics in full standards during the pandemic as a challenge. To keep the morals of students high during the pandemic, Institute conducted interactive sessions with freshers and continuing students with institute heads in three times. Students were encouraged to participate in the sessions, share their problems and seek solutions. Students have grossly benefitted from these sessions.

The Orientation Programme for the new entrants (B.Tech/ Dual Degree/Ph.D. / M.Tech / M.Sc) was conducted on virtual mode Schools organised a series of talks on 'Introduction to Engineering' for first-year students in which an overview of different disciplines of engineering was presented by school experts for giving a broad discipline knowledge to the students. Institute has a plan to rejuvenate the students by organizing programmes from the Art of Living Foundation after they come to campus. This programme was organized for the freshers for the entire semester, last year. Student activity clubs and counselling cells organize interactive sessions with the fresher's introducing them to different activities of the institute gymkhana. Visits to places of historical and monumental importance around the institute and Odisha to make them aware about the locality, culture and heritage in the past.

9th convocation conducted in an unique hybrid mode

IIT Bhubaneswar conducted its 9th convocation, live in a very unique hybrid mode with the participation of few degree recipients in person and rest in online mode. This mode of conducting convocation was the first of its kind very unique over the modes taken up by many other sister institutes.

The 9th Annual Convocation was held on 4th December 2020 in the Community Centre, Argul Campus, IIT Bhubaneswar. Dr. Ramesh Pokhariyal 'Nishank', Hon'ble Union Minister of Education, Ministry of Education, Govt. of India graced the occasion via video conferencing as Chief Guest and delivered the convocation address. Shri Sanjay Dhotre, Hon'ble Minister of State for Education, Ministry of Education, Govt. of India attended the event online as Guest of Honour and addressed. Dr. Rajendra Prasad Singh, Chairman, Board of Governors (BoG), the Director IIT Bhubaneswar Prof. Ratnam V. Raja Kumar and other dignitaries were present on the occasion. Total 446 graduates, (200 B. Tech., 141 M.Tech. 70 M.Sc., and 35 Ph.D.) were conferred degrees during the occasion.

Shri Aditya Pal from B.Tech. (Computer Science and Engineering) was awarded the President of India Gold Medal for topping among all B. Tech. branches, Shri Sanket Dey Chowdhury of M.Tech. (Environmental Engineering) was awarded the Director's Gold Medal for topping among all M.Tech. Programmes and Shri Souvick Chakraborty of M.Sc. (Physics) was awarded the Director's Gold Medal for topping among all M.Sc. disciplines. Several other medals and endowment awards were also distributed.

ACADEMIC INFORMATION FOR 2020 – 21

Programmes Offered

4-year B.Tech. Programme	Civil Engineering, Electrical Engineering, Mechanical Engineering, Computer Science and Engineering, Metallurgical and Materials Engineering, Electronics and Communication Engineering
5-year Dual Degree (B.Tech. + M.Tech)	B. Tech in Mechanical Engineering + M. Tech. in Mechanical System Design, B.Tech in Mechanical Engineering + M. Tech. in Thermal Science and Engineering, B. Tech. in Mechanical Engineering + M. Tech. in Manufacturing Engineering, B. Tech in Civil Engineering + M. Tech. in Structural Engineering, B. Tech in Civil Engineering + M. Tech. in Transportation Engineering, B.Tech. in Civil Engineering + M. Tech. in Transportation Engineering, B. Tech in Civil Engineering + Environmental Engineering, B.Tech. in Computer Science and Engineering + M.Tech. in Computer Science and Engineering, B.Tech. in Electrical Engineering + M.Tech. in Power Electronics and Drives, B.Tech. in Metallurgical and Materials Engineering + M.Tech. in Materials Science and Engineering.
M. Tech. Programme	Climate Science and Technology, Electronics and Communication Engineering, Transportation Engineering, Structural Engineering, Metallurgical & Materials Engineering, Mechanical Systems Design, Thermal Science and Engineering, Power System Engineering, Environmental Engineering, Water Resources Engineering, Computer Science and Engineering, Geotechnical Engineering, Manufacturing Engineering, Power Electronics and Drives
Joint M.Sc.-Ph.D. Programme	Physics, Chemistry, Mathematics, Geology, Atmosphere and Ocean Sciences.
Ph.D. Programme	School of Basic Sciences, School of Earth, Ocean & Climate Sciences, School of Electrical Sciences, School of Humanities, Social Sciences and Management, School of Infrastructure, School of Mechanical Sciences, School of Minerals, Metallurgical & Materials Engineering.

Year-Wise Sanctioned (Approved) Intake

Academic Programme	2020-21	2019-20	2018-19	2017-18
B.Tech & Dual Degree	437	389	350	350
M. Tech.	246	246	173	154
Joint M.Sc. - Ph.D.	125	100	100	100
Ph.D.	449			

Year wise admitted strength of students in various academic Programmes

Year	B.Tech & Dual Degree	M.Tech	M.Sc	Ph.D.	Total
2010-11	126			25	151
2011-12	112			21	133
2012-13	113	42		50	205
2013-14	148	50	57	44	299
2014-15	164	71	71	48	354
2015-16	162	74	76	58	370
2016-17	249	106	73	61	489
2017-18	338	125	70	51	584
2018-19	354 *	156	75	90	675
2019-20	407 *	192	82	63	744
2020-21	442 *	221	96	117	876

**including Supernumerary Female student and preparatory course completed students*

Total Actual Student Strength (2020-21)

Programme	No. of Male Students	No. of Female Students	Total Students	Within State	Outside State	Socially Backward (SC, ST, OBC-NCL)
B.Tech & Dual Degree	1337	254	1591	60	1531	814
M.Tech	324	64	388	80	308	178
M.Sc.	128	50	178	31	147	93
Ph.D	255	74	329	135	194	127

COURSE WISE STUDENT STRENGTH

B.Tech & Dual Degree

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
1.	B.Tech. (Civil Engineering)	62	48	13	169	31	32	0
2.	B.Tech (Electrical Engineering)	62	55	13	199	40	34	3
3.	B.Tech. (Computer Science and Engineering)	63	51	14	205	40	40	1
4.	B.Tech (Electronics and Communication Engineering)	50	41	10	159	29	34	7
5.	B.Tech. (Mechanical Engineering)	62	51	14	179	35	35	0
6.	B.Tech. (Metallurgical and Materials Engineering)	25	19	6	76	12	13	1

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
7.	Dual Degree (B. Tech in Mechanical Engineering + M.Tech. in Mechanical System Design)	12	11	3	56	9		
8.	Dual Degree (B. Tech in Mechanical Engineering + M.Tech. in Thermal Science & Engineering)	13	10	2	51	6		
9.	B. Tech. in Mechanical Engineering +M. Tech. in Manufacturing Engineering	13	12	2	40	7		
10.	Dual Degree (B.Tech in Civil Engineering + M. Tech. in Structural Engineering)	13	8	3	42	10		
11.	Dual Degree (B.Tech in Civil Engineering + M. Tech. in Transportation Engineering)	13	8	3	35	7		
12.	B.Tech in Civil Engineering + M.Tech. in Environmental Engineering	13	8	3	27	7		
13.	B.Tech. in Computer Science and Engineering + M.Tech. in Computer Science and Engineering	12	10	2	39	8		
14.	B.Tech. in Electrical Engineering + M.Tech. in Power Electronics and Drives	12	10	2	35	8		
15.	B.Tech. in Metallurgical & Materials Engineering + M.Tech. in Materials Science and Engineering	12	8	2	25	5		
	Total	**437**	**350**	**92**	**1337**	**254**	**188**	**12**

M.Tech.

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
1.	Electronics and Communication Engineering	20	12	2	20	11	13	0
2.	Power System Engineering	20	13	4	27	8	10	3
3.	Power Electronics Drives4.	20	13	5	27	7		
4.	Computer Science and Engineering	20	18	1	27	5	9	7
5.	Mechanical Systems Design	20	20	0	35	2	18	1
6.	Thermal Science And Engineering	20	17	0	33	1	15	1
7.	Manufacturing Engineering	20	16	2	31	2		
8.	Structural Engineering	14	13	2	20	3	7	3
9.	Transportation Engineering	13	11	1	18	1	3	1

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
10.	Environmental Engineering	13	12	1	16	2	6	3
11.	Water Resources Engineering	13	8	3	13	5	2	6
12.	Geotechnical Engineering	13	7	5	12	7		
13.	Climate Science And Technology	20	13	3	26	4	13	2
14.	Metallurgical & Materials Engineering	20	12	2	20	11	13	0
	Total	**246**	**187**	**34**	**324**	**64**	**110**	**31**

M.Sc.

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
1.	Chemistry	26	16	6	29	13	7	7
2.	Physics	26	15	7	28	14	11	2
3.	Mathematics	24	15	4	31	9	12	4
4.	Geology	25	15	8	29	9	13	5
5.	Atmosphere and Ocean Sciences	24	8	2	11	5	9	0
	Total	**125**	**69**	**27**	**128**	**50**	**52**	**18**

Ph.D.

Sl. No.	Name of Programme	Approved Intake	No. of students admitted in 2020-21*		Total number of students in 2020-21		No. of Students passed in 2019-20	
			Male	Female	Male	Female	Male	Female
1.	School of Basic Sciences	449	22	19	68	30	10	2
2.	School of Earth, Ocean & Climate Sciences		8	3	27	6	3	0
3.	School of Electrical Sciences		15	3	50	12	7	0
4.	School of Humanities & Social Sciences		4	2	9	10		
5.	School of Infrastructure		12	6	34	10	5	1
6.	School of Mechanical Sciences		10	0	39	1	4	0
7.	School of Minerals, Metallurgical & Materials Engineering		11	2	28	5	2	1
	Total	**449**	**82**	**35**	**255**	**74**	**31**	**4**

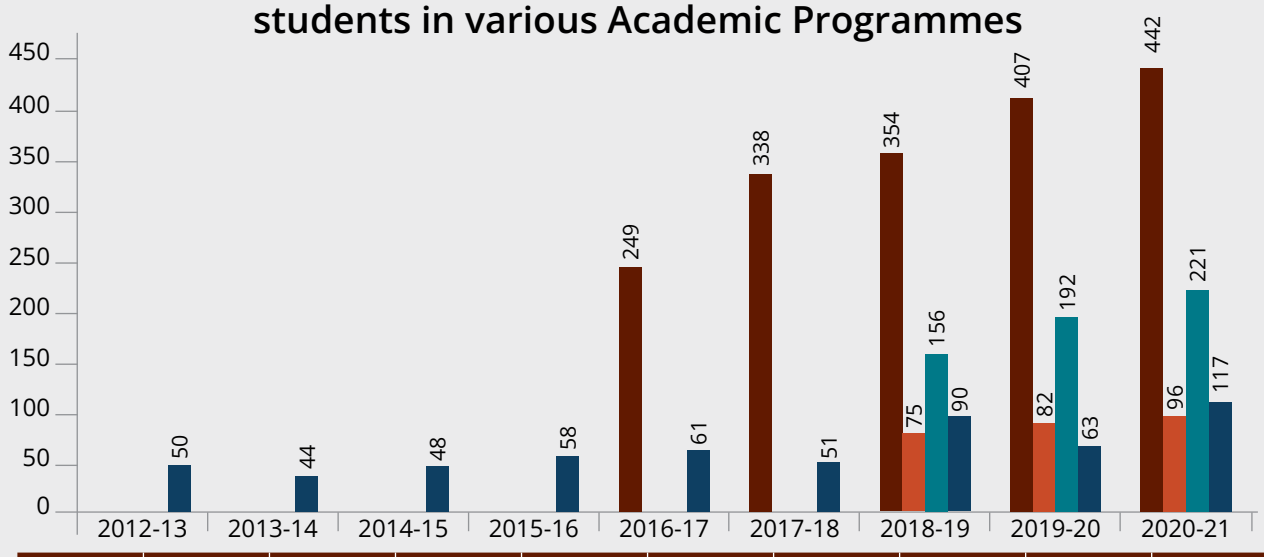
Total fee per student for academic year 2020-21 (per semester)

COURSES	GENERAL	OBC-NCL	SC/ST/PWD	SPONSORED
B.TECH	₹1,48,759.00	₹1,48,759.00	₹48,759.00	NOT APPLICABLE
M.TECH	₹53,759.00	₹53,759.00	₹48,759.00	₹73,259.00
M.SC	₹48,759.00	₹48,759.00	₹48,759.00	NOT APPLICABLE
PH.D	₹51,259.00	₹51,259.00	₹48,759.00	₹50,759.00

GRAPHICAL REPRESENTATION OF DIFFERENT ACADEMIC PROGRAMMES UPTO 2020-21

(Based on Admission Records)

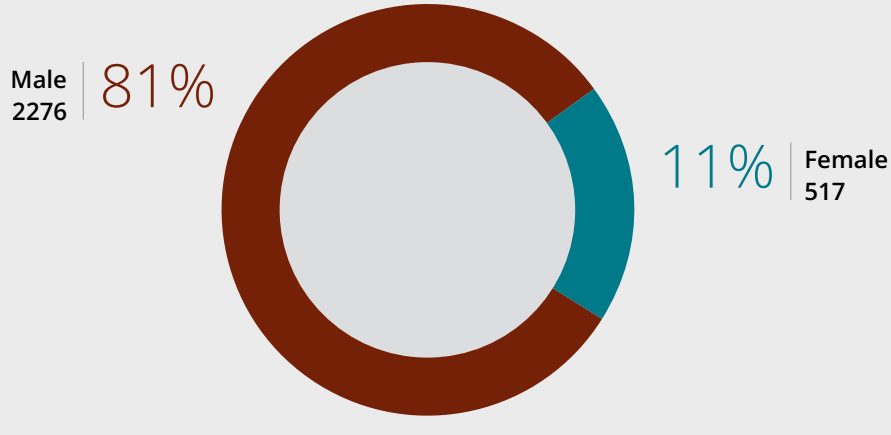
Year wise Admitted strength of the existing batch of students in various Academic Programmes



	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
B.Tech.					249	338	354	407	442
M.Sc.							75	82	96
M.Tech.							156	192	221
Ph.D.	50	44	48	58	61	51	90	63	117

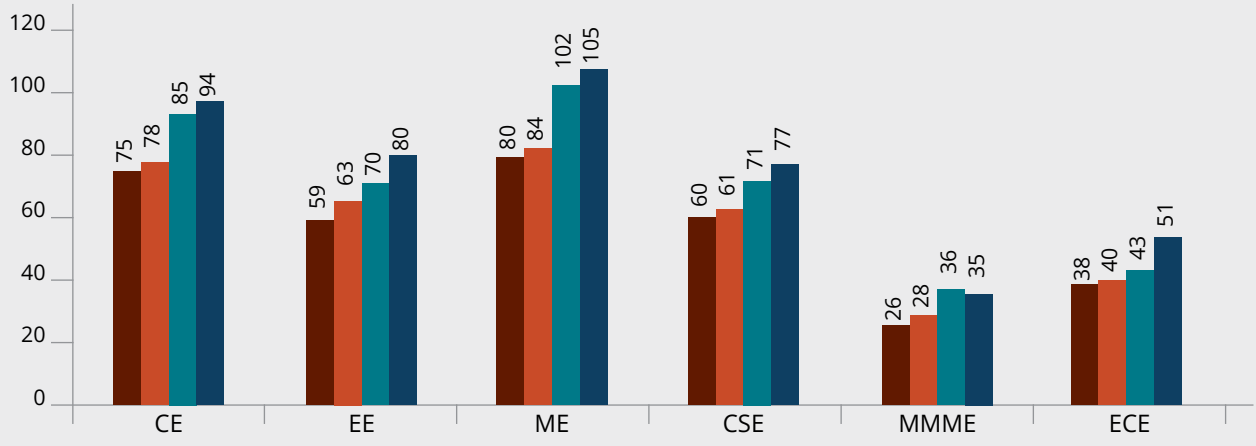
B.Tech. M.Sc. M.Tech. Ph.D.

Genderwise Student strength



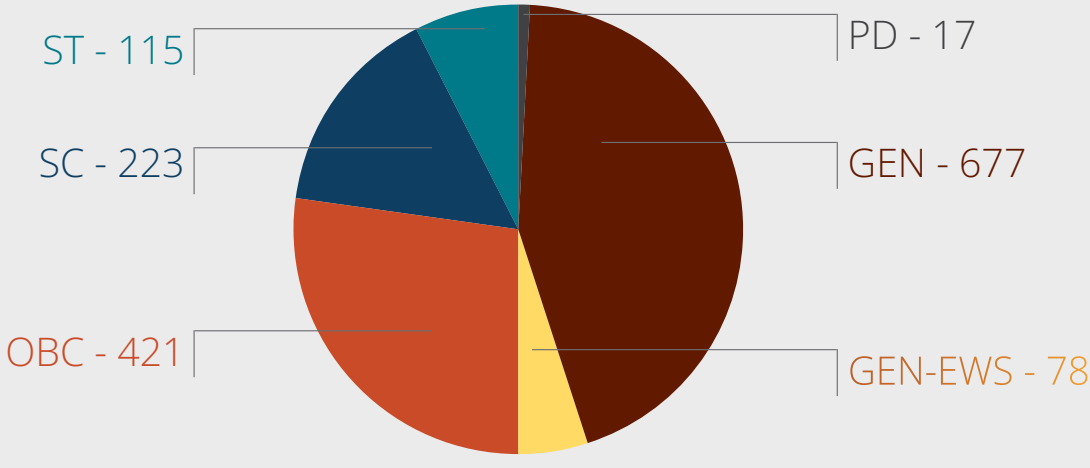
B.Tech. & Dual Degree Programme

Student Admitted in B.Tech. & Dual Degree Programme (Year wise)

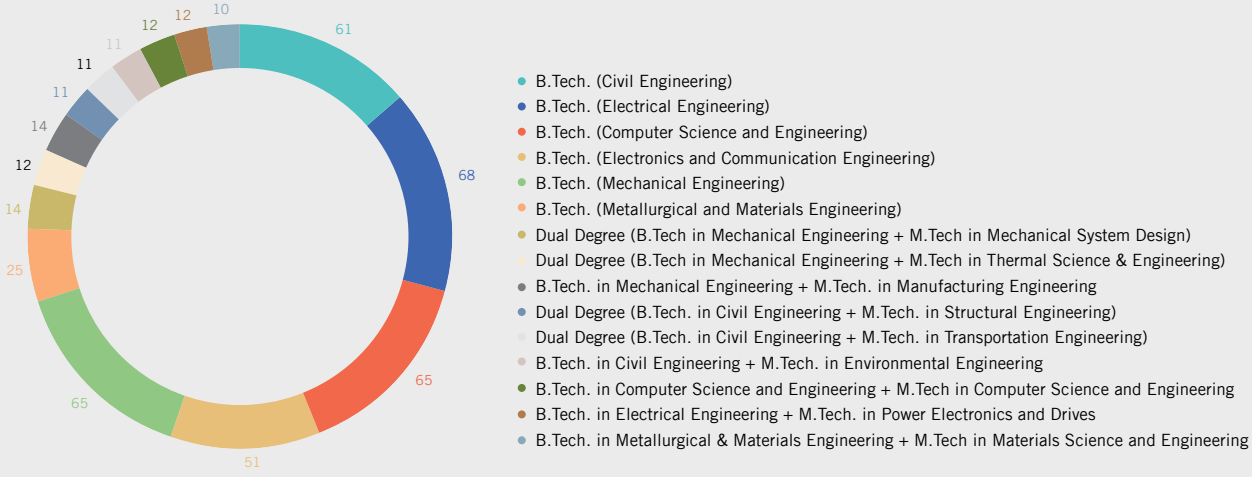


	CE	EE	ME	CSE	MMME	ECE
2017-18	75	59	80	60	26	38
2018-19	78	63	84	61	28	40
2019-20	85	70	102	71	36	43
2020-21	94	80	105	77	35	51

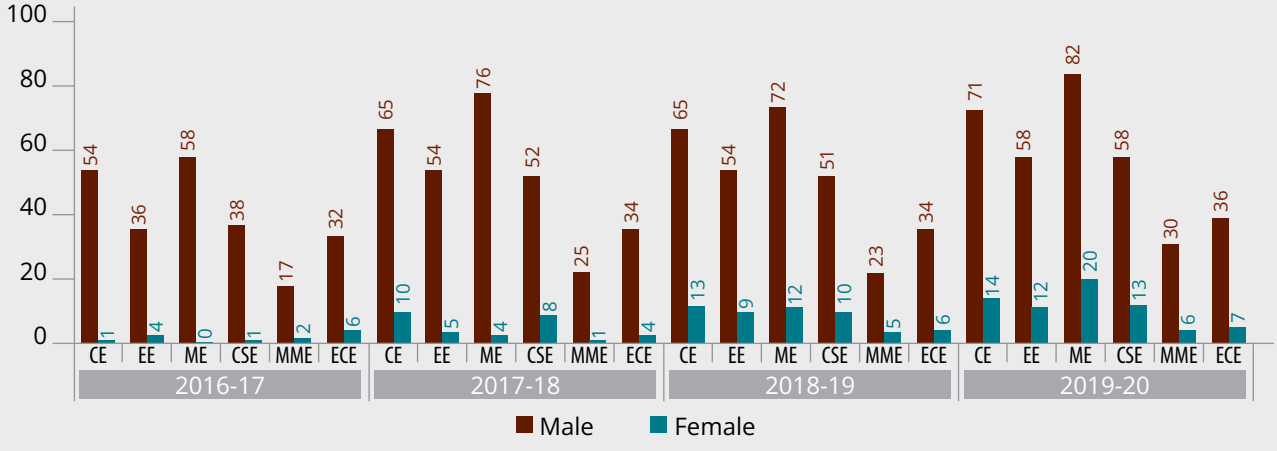
Student Admitted category wise



UG Student Admitted in different Programmes : 2020-21

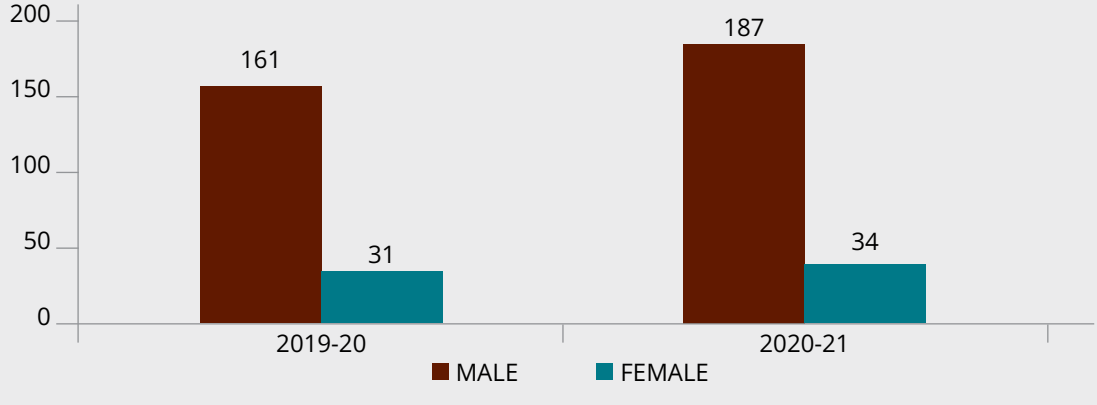


Gender Statistics of Students in B.Tech & Dual Degree Programe

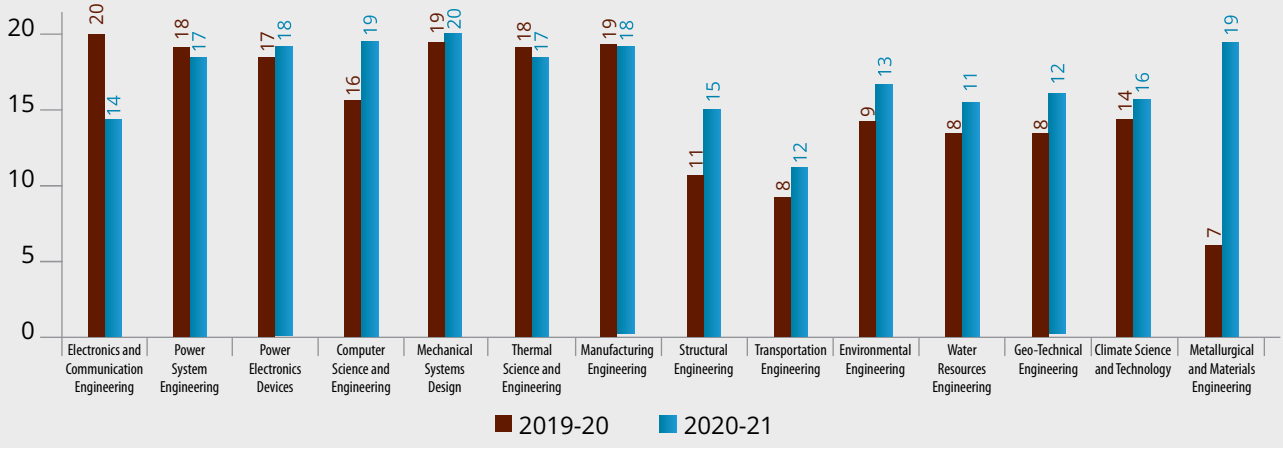


M.Tech. Programme

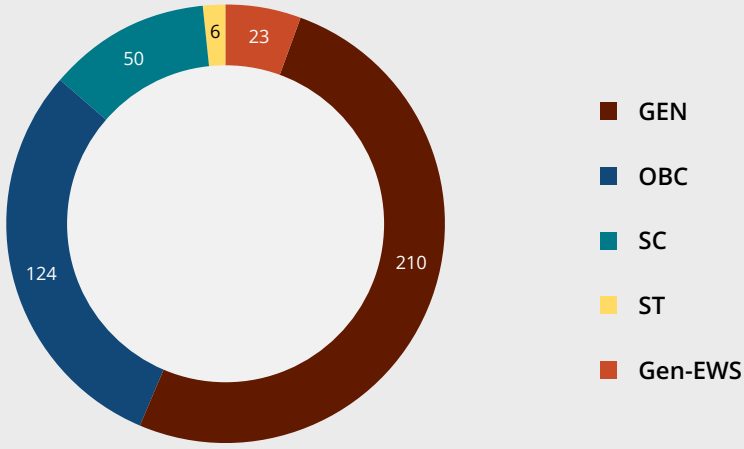
Gender Statistics



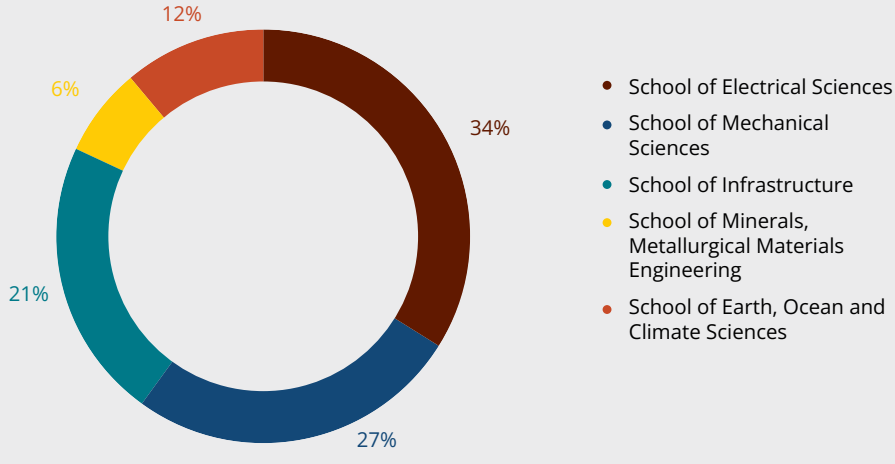
Admission Status (in different disciplines)



Distribution of Students in different categories

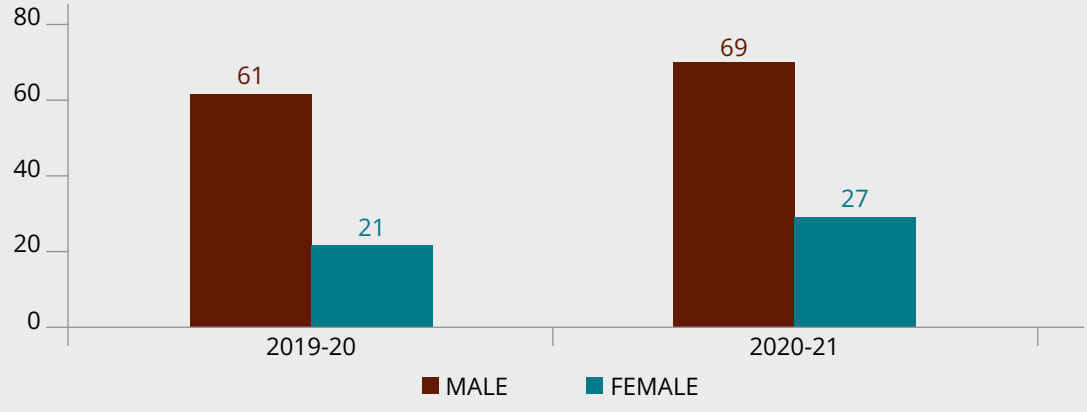


School wise representation of Students

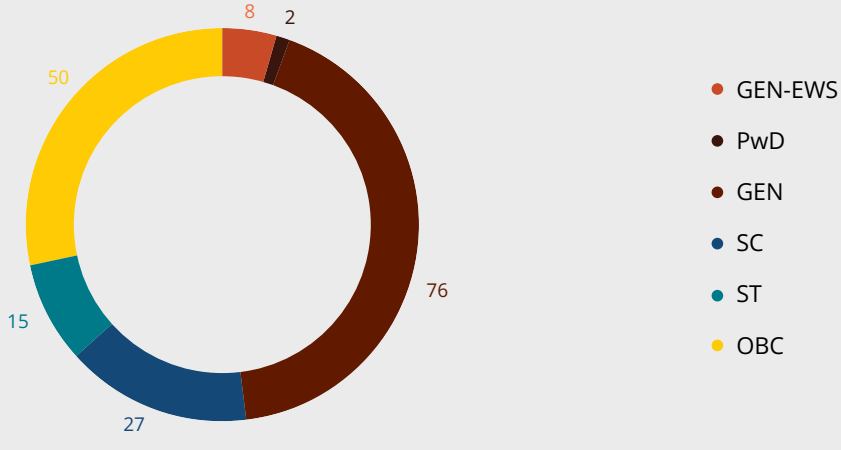


Joint M. Sc. – Ph.D. Programme

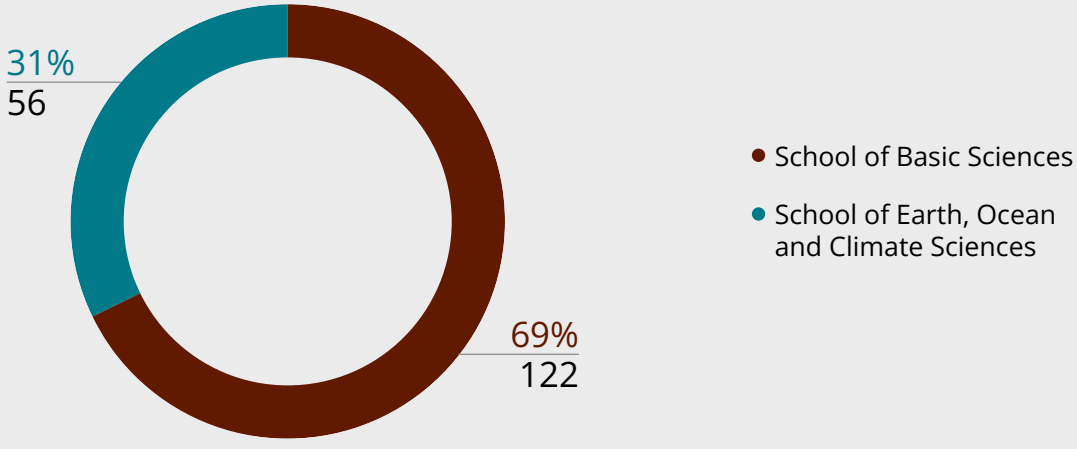
Gender Statistics

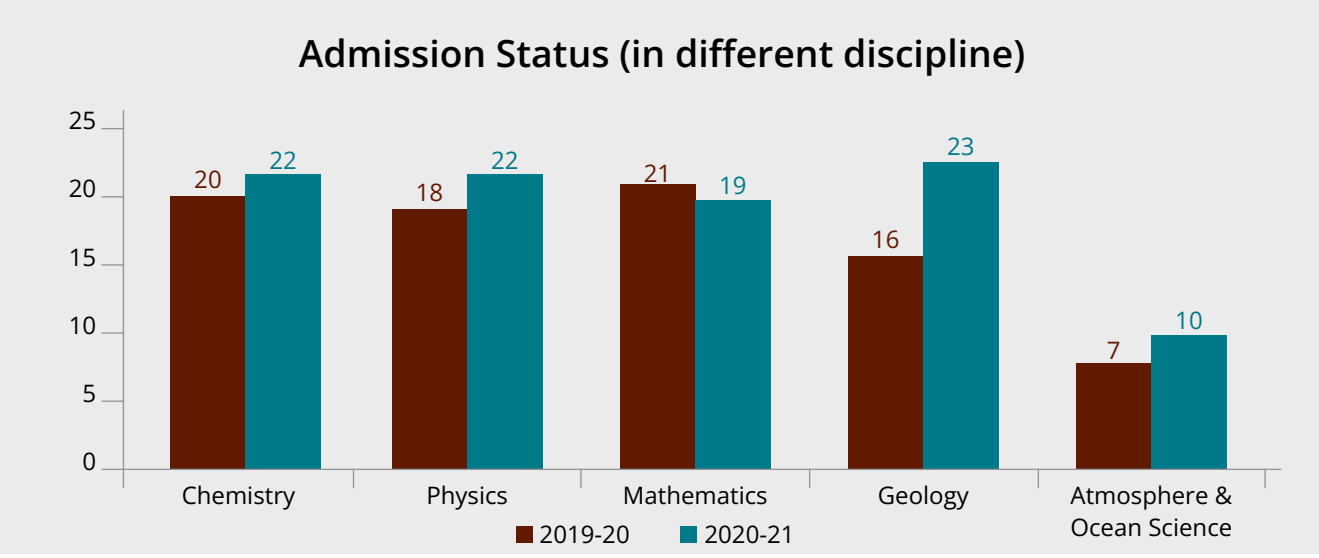


Distribution of Students in different categories

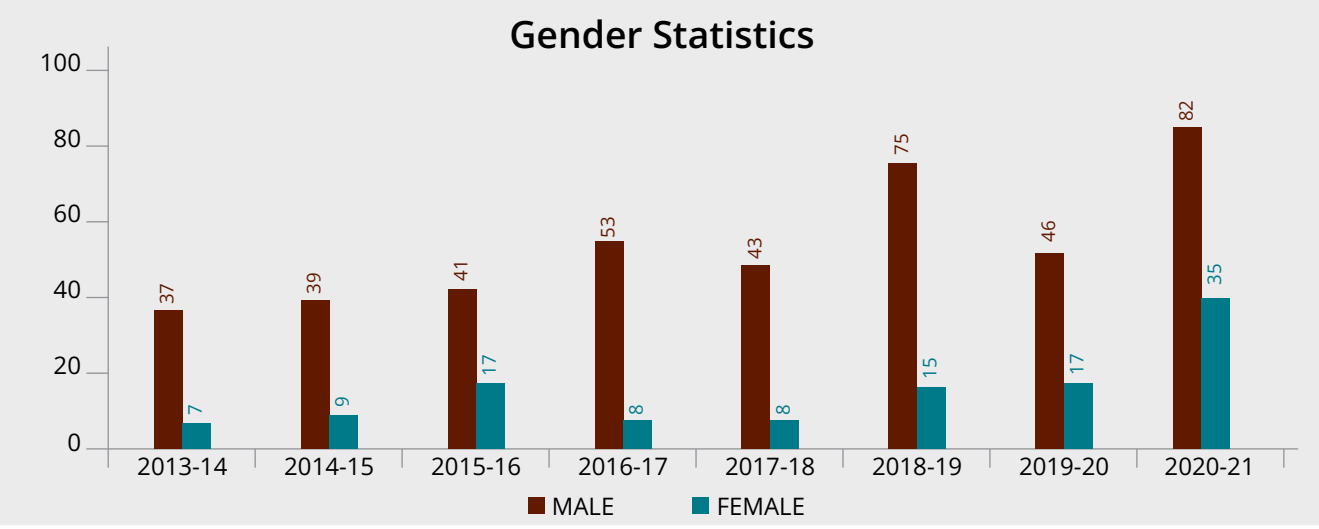


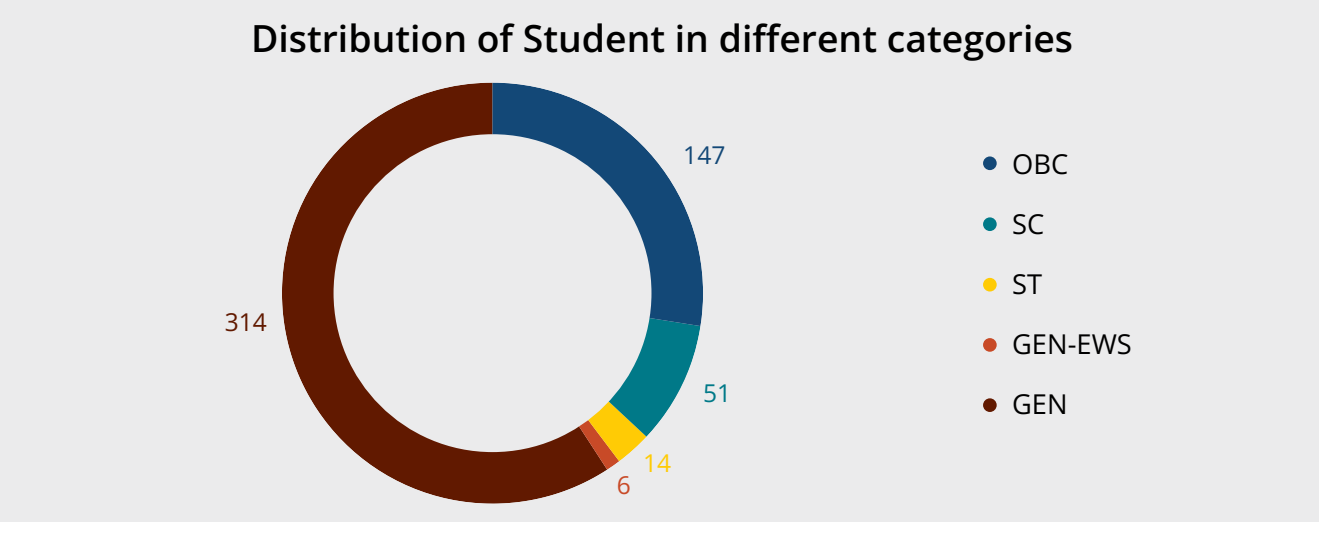
School wise representation of Students

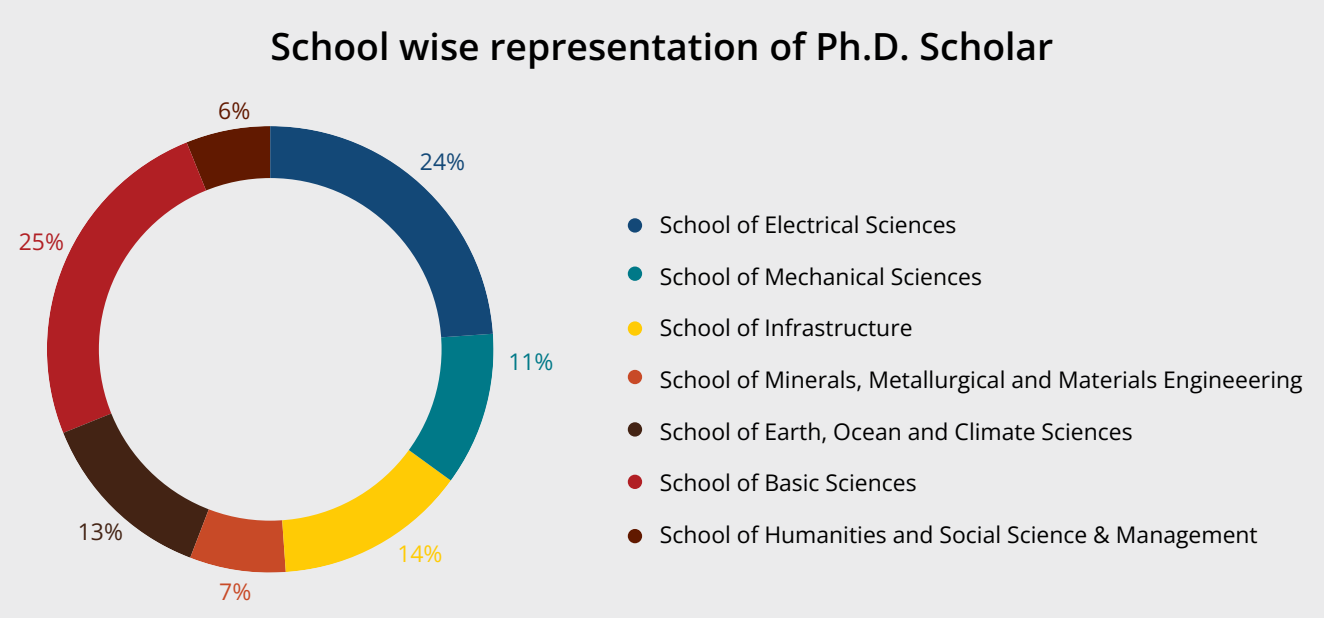




Ph.D. Programme



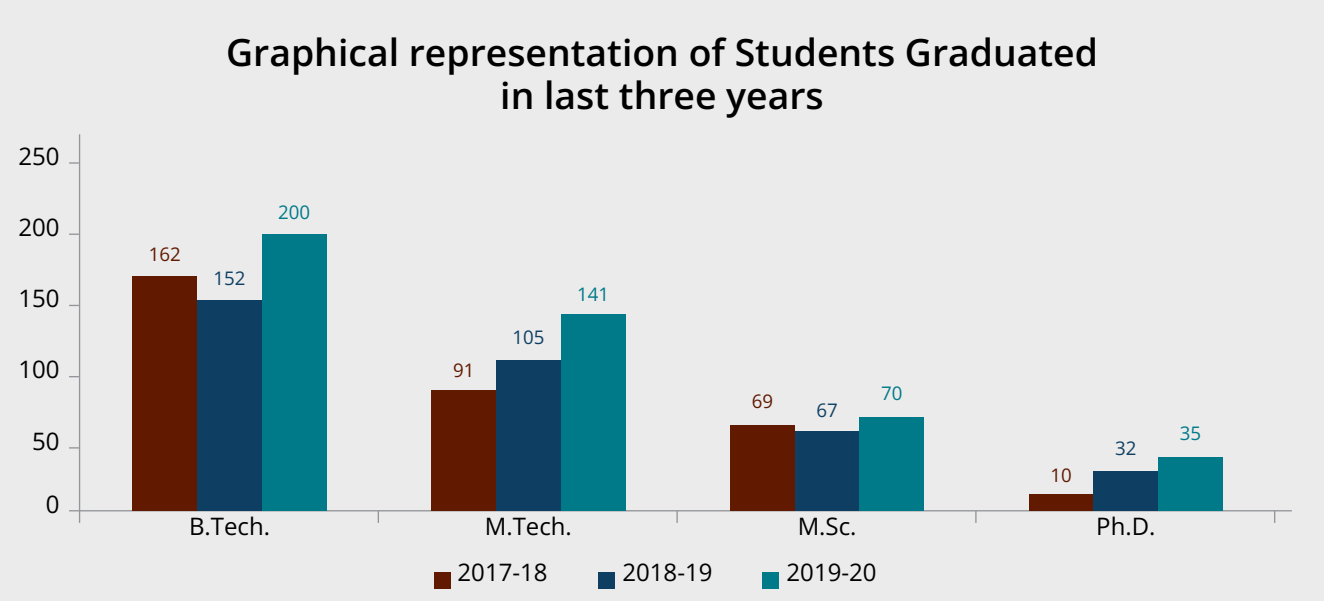




Graduation Data (Last Three Years)

Disciplines	Ph.D.	M. Tech.	M.Sc.	B.Tech.
Graduation Data 2017-18				
Civil Engineering		1		34
Computer Science and Engineering				43
Electrical Engineering				38
Mechanical Engineering				38
Electronics & Communication Engineering		14		
Materials Science & Engineering		11		9
Climate Science & Technology		6		
Mechanical Systems Design		14		
Thermal Science and Engineering		16		
Power System Engineering		14		
Structural Engineering		8		
Transportation Engineering		7		
School of Basic Sciences	3			
School of Electrical Sciences	2			
School of Infrastructure	1			
School of Mechanical Sciences	2			
School of Humanities, Social Sciences & Management	2			
Atmosphere and Ocean Sciences			4	
Chemistry			16	
Geology			15	
Mathematics			18	
Physics			16	
Total	**10**	**91**	**69**	**162**
Graduation Data 2018-19				
Civil Engineering				32
Computer Science and Engineering				44
Electrical Engineering				35
Mechanical Engineering				31

Disciplines	Ph.D.	M. Tech.	M.Sc.	B.Tech.
Electronics & Communication Engineering		14		
Metallurgical and Materials Engineering				10
Material Science and Engineering		07		
Climate Science & Technology		15		
Mechanical Systems Design		13		
Thermal Science and Engineering		16		
Power System Engineering		11		
Structural Engineering		08		
Transportation Engineering		09		
Environmental Engineering		05		
Water Resources Engineering		07		
School of Basic Sciences	13			
School of Electrical Sciences	08			
School of Infrastructure	04			
School of Mechanical Sciences	03			
School of Humanities, Social Sciences & Management	02			
School of Earth, Ocean and Climate Sciences	02			
Atmosphere and Ocean Sciences				
Chemistry			17	
Geology			12	
Mathematics			21	
Physics			17	
Total	**32**	**105**	**67**	**152**
Graduation Data 2019-20				
Civil Engineering				32
Computer Science and Engineering		16		41
Electrical Engineering				37
Mechanical Engineering				35
Electronics & Communication Engineering		13		41
Metallurgical and Materials Engineering		18		14
Climate Science & Technology		15		
Mechanical Systems Design		19		
Thermal Science and Engineering		16		
Power System Engineering		13		
Structural Engineering		10		
Transportation Engineering		4		
Environmental Engineering		9		
Water Resources Engineering		8		
School of Basic Sciences	12			
School of Electrical Sciences	7			
School of Infrastructure	6			
School of Mechanical Sciences	4			
School of Humanities, Social Sciences & Management				
School of Earth, Ocean and Climate Sciences	3			
School of Minerals, Metallurgical and Materials Engineering	3			
Atmosphere and Ocean Sciences			9	
Chemistry			14	
Geology			18	
Mathematics			16	
Physics			13	
Total	**35**	**141**	**70**	**200**



SCHOLARSHIP

B.Tech. & Dual Degree & Joint M.Sc.-Ph.D

Programme	Name of Scholarship	2020 (Batch)	2019 (Batch)	2018 (Batch)	2017 (Batch)	2016 (Batch)
B. Tech. & Dual Degree	MCM Scholarship 2020-21	70	45	37	65	--
	Free Studentship 2020-21	--	--	6	1	--
	Financial Assistance 2020-21	--	7	1	5	2
Joint M.Sc.–Ph.D.	INSPIRE & Other Scholarship	4	11	--	--	--

Awards & Medals and Participation in Conference

Programme	Awards & Medals	National Conference	International Conference
B. Tech.	6	--	--
M. Tech.	7	--	--
Joint M. Sc. – Ph.D.	5	--	--
Ph.D.	35	6	4

Special Events in 2020-21

Programme	Date
Senate Meetings	17.04.2020
	02.06.2020
	30.06.2020
	10.07.2020
	11.08.2020
	05.01.2021
9th Annual Convocation	04.12.2020
13th Foundation Day	12.02.2021
National Science Day	28.02.2021

School of Basic Sciences (SBS)

About the School

The School of Basic Sciences is a unique school with an emphasis on interdisciplinary research in areas of Physics, Chemistry, Mathematics and Biosciences.

Presently SBS offers programs as follows:

- Joint M.Sc.- Ph.D. in Physics, Chemistry and Mathematics
- Ph.D. in Physics, Chemistry, Mathematics and Biosciences
- Post-doctoral program

The School is proud to have two Centres of Excellence, namely MOE Centre of Excellence for Novel Energy

Materials (CENEMA) and S. K. Dash Centre of Excellence of Bio-sciences and Engineering & Technology (SKBET)

Statistics

- No. of faculty: 41
- No. of publications (2020): 196
- No. of Class Rooms with multimedia projectors: 6
- No of Ongoing Sponsored Research Projects for 2020-21- 43

Major Teaching Areas

The school lends is support to basic science courses (Biochemistry, Chemistry, Physics and Mathematics) to the undergraduate (B.Tech.) prgrammes running at IIT Bhubaneswar in. In addition, the school offers full-fledged Master of Science (Joint M.Sc.-Ph.D.) programmes in Chemistry, Physics and Mathematics disciplines. The intake capacity in each of these M.Sc. Programmes is 20.

Major Research Areas

The school enjoys a multitude of interdisciplinary research. However, the major research areas can be broadly categorized into the disciplines of Biochemistry, Chemistry and Biosciences, Mathematics and Physics.

Biochemistry

Protein Chemistry and Spectroscopy, Structure-Function Elucidation of Various Small Heat Shock Proteins Related to Different Diseases (Cataract, Leprosy and Tuberculosis); AAA+ATPase, Cancer biomarkers.

Chemistry

There are three broad research areas in Chemistry research – inorganic, organic, and physical and theoretical chemistry.

Inorganic Chemistry: Biomedicinal Chemistry: T1, T2 and paraCEST based contrast agent for Magnetic Resonance Imaging; Fluorogenic and Chromogenic Chemosensor: sensing cations, anions and some hazardous and explosive molecules/ions.

Coordination Chemistry: Synthesis of [nxn] grid complexes and 3d-4f metal complexes and their magnetochemistry and Emission properties; Bioinorganic perspective of coordination complexes: Stabilization of unusually high oxidation states of metal ions; Ionic Liquids and their application; Synthesis and Coordination Aspects of Homo and Heterometallic Complexes; Metal-Based Anticancer/ Imaging Agents; Functional Materials and Luminescent Materials; Nanoparticle-Based Sensors; Metal-Organic and Covalent Open Frame (MOF and COF) Compounds; Design of Functional Organometallics, Multimetallic Catalysis for Fine Chemicals, Novel Activation of C1-Platform Chemicals, Mechanistic studies of C-H, C-O, C- N, C-X activation on Organometallic Template, Green Chemistry: On-Water Catalysis, Nanoparticle catalysis.

Organic Chemistry: Heterocyclic Chemistry, Asymmetric synthesis using chiral pool approach; Enantioselective catalysis and new reaction methods; New molecular entities with biological properties; Dipolar Cycloadditions; C-H functionalization, Pericyclic reactions, Metathesis, Umpolung chemistry, Radical chemistry, traditional & newer functional group transformations for application in marine alkaloids synthesis, terpenoids and

polyketide based natural products; Carbohydrate Chemistry, novel synthetic

methods development, Bioactive Natural and
Unnatural Products synthesis; Supramolecular Chemistry, Molecular Recognition, Polymer chemistry: Synthesis of Chiral Polymers and their applications in chiral induction; Synthesis of Achiral and Chiral Resins and their applications in synthesis; PIL stabilized metal nanoparticles and their applications; Polyelectrolyte-DNA interaction studies; PILs for gas separation membranes; Synthesis of MIPs and resins for nuclear waste treatment; Synthesis of (RAFT derived) ionic, pH, temperature and solvent responsive homo- and block copolymers towards their self-assembling for drug delivery; Design, Synthesis and Characterization of Peptides; Anticancer and antimicrobial activities of plant-derived natural products.

Physical, Theoretical, and Computational Chemistry: Molecular modeling; molecular dynamics (MD) simulations; Development and application of multi-configurational quantum mechanical methods to study energetics and dynamics of bound and transient states; Investigation of photochemical reactions in the non-adiabatic ("beyond-Born-Oppenheimer") realm; Computational modeling of chemical reactions using quantum mechanical (QM) and mixed quantum mechanical – molecular mechanical (QM/MM) methods; Investigation of bacterial resistance toward beta-lactam based antibiotic drugs using QM/MM methods.

Mathematics

The main areas of research in Mathematics are Analysis, Applied Functional Analysis, Complex dynamics and Fractals, Matrix Theory, Graph theory, Optimization Theory, Queueing Theory, Applied Probability Models, Computational Fluid Dynamics, Numerical Methods, and Soft Computing

Physics

Experimental:

- Expertise on PVD, PLD, CVD, MBE, and MOCVD growth processes and methods.
- Expertise on Transport measurements and other Physical property measurements including magnetic and electronic properties, scanning tunneling microscopy and spectroscopy, electron microscopy, X-ray and Ion Scattering, cryogenic temperature measurements.
- Expertise on sensors and device fabrication and their applications.

  Growth, characterization and prototype applications of low-dimensional systems (1D and 2D materials) in the realm of nanoscience and nanotechnology and quantum technology, surface and interface physics
- Novel materials for energy applications, sensor applications, industrial applications, and strategic research.

- Strongly correlated electron system, the study of real-time kinetics including ultrafast dynamics
- Optical fiber sensors, nano- and bio-photonics, terahertz sensing and spectroscopy, waveguide & interferometer, materials for quantum optics.
- Accelerator ion beam based research such as engineering nanostructured materials, ion-matter interaction processes, ion beam induced synthesis and characterization with ion beams, atomic and molecular surface physics.

Theory/Computational

- Expertise on computational physics and quantum information.
- First principles molecular dynamics simulations, quantum transport, quantum biology.
- Non-equilibrium statistical mechanics, nanomagnetism, quantum dissipation and decoherence.
- Computational condensed matter physics; electronic and magnetic properties of 2D materials; functional materials; energy storage; chromatin folding and DNA transcription.
- Theoretical and experimental high energy physics: quantum field theory, quantum information, string theory, black holes (theory) and beyond standard model physics (experiment – international collaborations)

Theme areas:

(a) Emergent phenomena and energy materials: 2D layers, nanostructures for solar cells, supercapacitors, and fuel cells

(b) Device physics: sensors, photonic devices, electronics, and health care

(c) Computational condensed matter physics

(d) Quantum technology: quantum information (theory), Qbits (future), devices based on quantum technology.

The discipline of Physics, School of Basic Science will focus on synthesis and detailed characterization (structural, electronic, optoelectronic, topological, and correlated quantum states) of materials based on family of two-dimensional (2D) transition metal dichalcogenides (TMDs) (MX2, where M is metal centres such as Mo, W, and X, is chalcogen such as S, Se, Te). Effectively, the plan for the next five years is to build background knowledge that will be essential for working on technologies for the realization of quantum computers. Briefly, the proposal focuses on emergent electronic properties of 2D TMDs structures, quantum nanophotonics, and theoretical aspects of quantum transport and dynamics.

Two-dimensional materials have been at the forefront of condensed matter physics for more than a decade. Joining graphene and hBN are a family of 2D TMDs which exhibit diverse electrical properties ranging from metallic, semiconducting, ferromagnetic, and superconducting to topological phases.

TMDs have also opened an avenue to create material structures through "materials by design" by realizing van der Waals (vertical) and lateral heterostructures. Multiple degrees of freedom (e.g. properties of individual TMD layers, their stacking, and the relative azimuthal rotation between the layers in vdW HS; properties of individual TMD layers and type of interface in lateral HS) enable us to synthesize "materials by design" which is not present in conventional materials system. Consequently, the complex lateral and vertical heterostructures formed by 2D TMDs will provide an even richer and versatile platform to explore new emergent and complex phenomena which are rather weak or absent in their pristine counterparts.

These materials will have potential applications in the realization of quantum bits as well as next-generation solar cells, transistors, diodes, p-n photodiodes, and CMOS devices. While new exotic physical phenomena and their technological importance are envisaged in various TMD structures, extensive experimental studies need to be carried out for exploring these phenomena. The discipline of physics, School of Basic Science, IIT Bhubaneswar has the following plan:

1. **Synthesis:** We propose to develop new mathematical and computational models to advance the fundamental understanding of the growth of heterostructures in order to predict layer morphologies and to provide a rationale framework to optimise the growth process. Using this understanding, we plan to synthesize various 2D TMD materials by harnessing the concepts of kinetics and thermodynamics of growth reactions. We will mainly use Chemical Vapour Deposition (CVD) technique to realize TMD structures. We aim to synthesize ternary alloys of 2D TMDs materials, vdW (vertical) and lateral TMDs. While ternary alloys of will allow more precise tuning of their electronic Properties, lateral and Vertical heterostructures will possess fascinating and exotic 1D electronic states at their interface.
2. **Structural characterization:** Structural characterization of the synthesized TMD structures will be carried out using Raman spectroscopy, Atomic Force Microscopy (AFM), Scanning Tunneling

Microscopy (STM). AFM and STM measurements will be used to image the TMD structures for the determination of the lateral size and layer thickness for the optimization of the growth process. AFM also allows to record a wealth of information such as maps of elastic modulus, adhesion, deformation, local surface conductivity, and contact potential. Additionally, STM measurements will be used to record images of the TMD structures with atomic resolution capturing information about surface reconstructions, superlattices like moire pattern in vdWheterostructures as well as electronic properties like the electronic density of states, work function. Further, we will use Raman spectroscopy to investigate the electronic, optical, and lattice-vibration properties of the synthesized structures.

3. **Electrical transport measurements and devices:** We will realize devices based on TMD structures and investigate their electronic properties through electronic transport in a cleanroom environment. Towards this end, we will fabricate devices in Field Effect Transistor (FET) and Hall bar geometries using large area TMD structures. FET geometry will allow us to measure carrier type, carrier mobility (often used as a figure of merit), and carrier density in the TMD structures.

4. **Quantum optical measurements:** We will study the electrical, optical and magnetic characterization of different 2D quantum dot emitters (QDE) and their heterostructures for Generation of single photon. Further, the synthesized QDEs will be integrated with Nanowires and we will study its anti-bunching behaviour, saturation measurement and coupling efficiency towards single photon emitter: experimentally and computationally. Further, to have more insight into the coupling of the QDEs to the nanowire, polarization dependence excitation and emission will be done. These systems will be used for the development of interferometer, resonators and single molecule detection.

5. **Computational modeling:** We will conduct a large scale computational search to identify novel compositions of TMDs and their heterostructures. Furthermore, interlayer stacking sequence and different orientation of the adjoining monolayers further expands the composition phase space of TMD materials.

   This class of materials is so broad and varied in composition that to identify the “best performers” in the enormous parameter space through experiments is impractical and expensive. As a result, a high-throughput computational screening approach is needed where predictions of chemical and mechanical stability, changes in interlayer spacing, strain in the layers during heterostructure formation and basic electronic properties can be made efficiently. We will also devise the high-throughput approaches for novel composition discovery and property predictions based on existing approaches such as genetic algorithm and machine learning.

6. **Quantum dynamics and quantum thermodynamics:** To enhance the deeper understanding of ‘designer material’ devices and to prepare for the quantum-bit based technologies, we will investigate the fundamentals of quantum dynamics, quantum transport at the nanoscale, and quantum thermodynamics. Starting from the first principles, we aim to develop new methodologies and will try to implement new computational treatments to address the novel phenomenon in quantum dynamics, thermal energy management, and Optoelectronics is essential for the realization of quantum computers.

Details of Strength of Physics Discipline

We strongly believe that the faculty members at the Discipline of Physics, School of Basic Sciences, IIT Bhubaneswar are among the best groups in the scientific community in the world working in the areas of theoretical and experimental condensed matter physics, Nano and micro-photonics, open quantum systems, black holes and string theory, experimental high energy physics, and cosmology.

Further, the faculty members have national and international collaboration with groups from many renowned and prestigious universities and institutes such as TIFR Mumbai, TIFR Hyderabad, IISER Pune, ICTS Bangalore, IISc Bangalore, University of Toronto, Canada, NTU Singapore, National University of Sydney, Aalto University, Finland; Columbia University, New Jersey Institute of Technology, Stanford University, Kings College London, TU Vienna, and KU Leuven.

State of the art Facilities

The School has procured state-of-art equipment to pursue advanced research. The following advanced instrumentation facilities have been established through the central instrumentation facility:

- X-ray Diffractometers(XRDs)
- Scanning Electron Microscope (SEM)

- Raman Spectrophotometer
- Rheometer Nuclear Magnetic
- Resonance (NMR)
- Physical Properties Measurement System (PPMS)
- Gas Chromatography-Mass Spectrometry(GC-MS

IIT Bhubaneswar is a member of both Belle and Belle II collaborations at KEK, Japan and a member of CMS collaboration, at Large Hadron Collider (LHC), CERN, Geneva.

The School is fully equipped with a central computing server system and is integrated and functional for all sorts of high computing research and analysis.

SBS Laboratories

The School of Basic Sciences presently has the following laboratories equipped with relevant modern equipment and instruments:

- Atomic Molecular and Surface Physics Lab
- Biochemistry Lab
- Bioinstrumentation Lab
- Chemical Biology Lab
- Coordination Chemistry and Materials Chemistry Lab
- Coordination Chemistry Lab
- Theoretical Chemistry Lab
- Quantum Chemistry Lab
- Experimental High Energy Physics Lab
- M.Sc. Chemistry Lab
- M.Sc. Mathematics Lab
- M.Sc. Physics Lab
- Magnetic Materials Lab
- Nano Photonics &Plasmonics Lab
- Nanostructure & Soft Matter Physics Lab
- Organic Chemistry Lab
- Organic Synthesis Lab
- Protein Chemistry Lab
- Quantum Chemistry Lab
- Renewable Energy Lab
- Supramolecular Chemistry Lab
- Undergraduate Chemistry Lab
- Undergraduate Physics Lab

Infrastructural strengths

The following experimental and theoretical research facilities are currently available.

Facility	Research
Physical Property Measurement System (PPMS)	For electronic transport measurements at low-temperature (2K) and high magnetic field (9T)
Pulsed Laser Deposition (PLD) setup	For creating dissimilar heterostructures
Field Emission Scanning electron Microscope (Carl Zeiss)	For morphological and elemental characterization of the synthesized TMD structures
Raman Spectrometer - (triple Raman Spectrometer, T64000, Horiba)	For optimization of high quality growth of TMDs structures
Solar Simulator	For solar-cell measurements
Scanning Tunneling Microscope (ambient condition) - in the process of procurement	For structural and electronic characterization of the TMD structures
Wire bonder	For bonding devices on sample holders
Single crystal and powder X-ray Diffractometer	For structural characterization and phase analysis
Source meter + Impedance analyzer + Nano-voltmeter	For electrical characterization
Time-resolved photoluminescence	For study of fast electronic deactivation processes
Electron- and Ion-implantation setup (Indigenously developed)	For ion/electron modification of TMDs and other nanomaterials
Optical microscope	For optical access to the structures
MATLAB + LabView + Comsol + VASP	For computational simulation and modelling of materials and material properties

School of Earth, Ocean and Climate Sciences (SEOCS)

About the School

The School of Earth, Ocean and Climate Sciences (SEOCS) has established in 2012 to provide an intellectual, congenial and vibrant atmosphere for developing state-of-the-art education and research in Earth System Sciences through an integrated inter-disciplinary systemic view of Earth-Ocean-Atmospheric interactions processes for sustainable development. Earth is a complex and dynamic system. While understanding and appreciating its work is essential; knowledge of its dynamics is not only important but also necessary for sustainable living. Earth scientists, atmospheric scientists, and oceanographers have challenging responsibilities to help guide the planet through the current climate crisis.

Though rich in natural resources, Odisha is also prone to natural calamities and extreme events such as tropical cyclones, heavy rainfall, heatwave, thunderstorm and lightning, flood, etc., drought. The region also faces massive problems of pollution due to large mining operations and coal combustion, coastal erosions, mangrove depletion, etc.

The famous Chilka lake and bio-reserve areas like Similipal are under severe threats. Even though these appear as local and regional problems, they have far-reaching global implications. Among many other global research thrust areas, SEOCS is also contributing to these aforementioned regional research challenges. Presently SEOCS offers programs as follows:

Academic Programs

- Joint M.Sc. – Ph.D. in Geology Joint M.Sc. – Ph.D. in Atmosphere and Ocean Sciences
- M. Tech. in Climate Science & Technology
- Ph.D. in Geological, Atmospheric and Oceanic Sciences

The School offers postgraduate-level degree programs besides doctoral research avenues in the areas of Geosciences and Climate Sciences intending to impart state-of-the-art education and training on both fundamental and applied aspects of Earth, Ocean and Climate Sciences besides enabling the students to carry out cutting edge research and innovation in Earth System Sciences.

The School aims to create well trained, educated and competent human resource to address various issues like protection of water and air, development of renewable energy, hydrocarbons, disaster warming, prediction and preparedness, watershed and flood management, coastal erosion, environment pollution assessment, resource conservation and recycling, development of clean technologies, climate change prediction and impact on socio-economic well-being.

The School's research is focused on Physical oceanographic monitoring and oceanographic modeling. The research in the atmospheric sciences focused on understanding Indian Summer Monsoon and Tropic

Cyclone dynamics and future predictions, besides environmental modeling. The Geoscience research is focused to resolving and understanding the saltwater intrusion into coastal aquifers, groundwater pollution, coastal processes, environmental monitoring and assessment, understanding of paleomonsoon and paleoclimate in centennial to the multi-millennial time scale, crustal deformations etc.

Statistics

- Number of Faculty: 11
- Post-doctoral Fellows: 03
- Ph.D. awarded/submitted: 09
- Ph.D. students enrolled: 11
- Number of Ph.D. students: 33
- Number of M.Sc. students: 51
- Number of M.Tech. students: 25
- Number of Publications (2020): 49
- Ongoing Sponsored Research Projects = 15

State-of-The-Art-Laboratories

The School has established state-of-the-art facilities for Geophysical and Geochemical analyses, Petrological and Paleontological studies, Paleoceanography and Paleoclimatology, Hydrogeochemical and Environmental studies, Remote Sensing & GIS, Modelling and Visualization Weather Analysis and Forecasting, and Simulations of Atmospheric and Oceanic Processes. The list of laboratories are as follows

- Advance Geochemistry Laboratory
- Advanced Mineralogy & Crystallography Laboratory
- Applied Paleontology Laboratory
- Climate Observatory
- Cloud physics
- Computational Geosciences & Geophysical Laboratory
- Geophysical Lab
- Hydrogeological and Hydro-metrological Laboratory
- Instrumentation and Observation Laboratory
- Modeling and Visualization Laboratory
- Ocean Analysis and Modeling Laboratory
- Ore Geology Laboratory
- Petrology & Geochemistry Laboratory
- Remote Sensing and GIS Laboratory
- Structure Geology Laboratory
- Sedimentology Laboratory
- Paleoclimatology and Paleoceanography Laboratory
- Weather Analysis and Forecasting Laboratory

The institute has also got possession of land along the coastline near Loudigaon adjacent to IISER Berhampur, to monitor the land-sea interaction processes in and around the Bay of Bengal region. It is envisaged to establish a coastal observatory for collecting real-time observational data and closely monitor the Bay of Bengal. Several national and international institutes have come forward to collaborate and address challenging scientific problems.

School of Electrical Sciences (SES)

About the School

The School of Electrical Sciences was established in the year 2008. Presently SES offers the following academic programs:

- 4-year B. Tech. in Electrical Engineering, Computer Science & Engineering, Electronics and Communication Engineering
- 5-year dual degree (B. Tech. and M.Tech.) in Electrical Engineering, Computer Science & Engineering
- M. Tech. in Electronics & Communication Engineering, Power System Engineering, Computer Science and Engineering and Power Electronics and Drive (July 2019)
- Ph.D. Programmes: In all major areas of Electrical Sciences

The school has a distinguished record in both teaching and research. Faculty members are active in research and development and are publishing their research findings in highly reputed national and international leading journals and in national and international conferences. In addition, the faculty members are engaged in a number of consultancies and in project activities sponsored by government and leading industries.

Statistics

- No. of Faculty: 29
- No. of Ph.D. Students enrolled: 10

- Number of Ph.D. Students Graduated: 05
- Number of M. Tech. Students Enroll: 66
- Number of Ph.D. Students Enroll: 18
- No. of publications (2020): 52
- No of Ongoing Sponsored Research Projects for 2020-21- 32

State of the Art Facilities

The School has numerous state of the art laboratories and facilities including VLSI system design and fabrication lab, RTDS lab, Renewable Energy system lab, Radiating system design lab and computational facilities for application development and research. Full-fledged FPGA implementation and development facilities linked with embedded system tools and MATLAB provide a smooth platform for ambitious developers.

Laboratories

The School has full-fledged laboratories to train the undergraduate, postgraduate students, and research scholars from the very basics to modern trends in the field of Electrical Engineering, Electronics and Communication and Computer Science Engineering. Students utilize the modern lab facilities and equipment to carry out design and testing of various circuits, projects, programs, and proof of concepts of various research aspects in electrical, electronics, communications, and computer engineering. At present, 34 laboratories include:

- Advanced Communication Lab
- Algorithm Lab
- Analog & Digital Electronics Lab
- Basic Electronics Lab
- Biomedical Signal Processing Lab
- Cloud Lab
- Communication Engineering Lab
- Computer Architecture and Embedded Systems Lab
- Computer Networking Lab
- Control & Instrumentation Lab
- Database Systems Laboratory
- Digital Signal Processing Lab
- Electric Machines Lab
- Electrical Technology Lab
- FACTS and Power Quality Laboratory
- High Performance Computing laboratory
- Image & Video Processing Lab
- Measurement and Instrumentation Lab
- Micro-fabrication and Characterization Lab
- Multimedia Lab
- Operating System & DBMS Lab
- Optical Communication Lab
- Power Electronics & Electric Drives Lab
- Power Quality & FACTS Lab
- Power System Analysis & Protection Lab
- Real Time Digital Simulation (RTDS) Lab
- Real time Embedded Systems Lab
- Real-time Signal Processing Lab
- Renewable Energy Systems
- RF, Microwave & Characterization Lab
- Security Lab
- Signal Processing Lab
- Smart Grid & Hybrid Energy System Lab
- Telemedicine Lab
- Wireless Communication & Sensor Networks Lab
- VLSI Simulation Lab




School of Humanities, Social Sciences and Management (SHSS&M)

About the School

The School aims at imparting inter-disciplinary education in Humanities and other Social Sciences to its students. It has developed into a full-fledged department having expertise in three different disciplines – Economics, English and Psychology. Having a team of six young and dynamic faculties, well-versed in inter-disciplinary areas like environment, finance, management, personality development, communication skills and neural science, this school seeks to generate erudite citizens who would be a perfect amalgamation of technical knowledge, creativity, empathy and social responsibility.

Statistics

- Number of Faculty: 07
- Number of Ph.D. students graduated: 09
- Number of Ph.D. students enrolled at present: 17
- Number of Ph.D. students submitted the thesis: 01
- Number of Publications (2020): 19
- Ongoing Research Projects: 01
- Completed Research Projects: 01
- Academic Awards / Fellowships / Funding: 3

Inegrated Computational Lab with Data Bank (ICLDB)

The ICLDB is meant to be used by the research scholars and faculty members for Computation and forecasting of various socioeconomics variables.

Research Areas

- English language training programme
- Forest Resource Management
- Impact of climate change on Agricultural sector
- Mining Sector and Productivity; Valuation of natural resource
- Solid Waste Management
- Insurance
- Indian Writing in English;
- Migrant/Diaspora LiteratureTravel Literature; Autobiographies; Creative Writing;
- Film Studies and Popular Culture
- Postcolonial World Literature; American Literature; Canadian Literature
- Cross-cultural Communication; Business Communication
- Clinical Psychology: Cognitive Neuroscience, Cognitive Psychology, Hemispheric Lateralisation, Personality, Neurolinguistics
- Developing Critical Vocabulary of ESL Learners; Cognitive Reading Skills; Second Language Acquisition; Teacher Education and Development; Communication Skills; Technology and Language Learning
- Non-Western Philosophical Schools: Advaita Vedanta, Buddhism and other schools of Indian Philosophy.

School of Infrastructure

About the School

School of Infrastructure at IIT Bhubaneswar has come up to dedicate its excellence in engineering education, creation of knowledge, innovation in research and leadership in professional services. The mission of the School is to offer an unbounded academic and research environment in undergraduate, postgraduate and doctoral programs. The academic activities of the School emphasize on a comprehensive understanding of fundamental principles, the development of creative ability to handle the challenges of real-world Civil Engineering problems, and the analytical ability to solve problems having interdisciplinary in nature. Our goal is to do research in challenging engineering problems and provide efficient engineering solutions in the various sub-disciplines of Civil Engineering. The school has a strong focus in the research areas of Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering and Water Resources Engineering.

Presently the School offers programs as follows:

- B. Tech. in Civil Engineering, Dual-degree B. Tech in Civil Engineering + M. Tech. in Environmental Engineering, Dual-degree B. Tech in Civil Engineering + M. Tech. in Structural Engineering, Dual-degree B. Tech in Civil Engineering + M. Tech. in Transportation Engineering
- M.Tech in Environmental Engineering, M.Tech. In Structural Engineering, M. Tech. in Transportation Engineering, M.Tech. In Water Resources Engineering and M.Tech. in Geotechnical Engineering
- Ph.D. Programmes

The Department is actively involved in basic and applied research and consultancy and provides high quality technical advisory support through various R & D projects and consultancy to various organizations. The School also encourages its students to engage in extracurricular activities, promotion of team spirit, and refining their budding managerial skills.

Statistics

- Number of Faculty: 21
- Number of Ph.D. students enrolled at present: 36
- Number of M.Tech students: 81
- Number of Dual Degree students: 15
- No. of publications (2020): 85
- No of Ongoing Sponsored Research Projects for 2020-21- 14

State of the Art Facilities

The School is having an Advanced Computational Laboratory facility with modeling and simulation packages like Staad Pro, Staad Pro Foundation, PLAXIS 3D, ABAQUS, HYDRUS 3D, VMODFLOW, Matlab, AutoCAD and Gid for practical training in handling real-world civil engineering problems.

The Environmental Engineering Laboratory of the School is equipped with state-of-the-art equipment like Ion chromatograph, Double beam UV visible spectrophotometer, HPLC, TOC analyzer, high speed centrifuge, respiratory BOD analyzer, AAS, GC, Freeze Dryer, Radiometer, UV-Vis. Spectrophotometer, Zeta Potential cum Particle Size Analyzer, etc. for carrying out various sophisticated analyses of water and wastewater.

The Geotechnical Engineering Laboratory houses advanced instruments such as Testing frames with O-ring, large sieve shakers, GPR, Cyclic Triaxial Setup, Laser Profilometer, Flexible Wall Permeameter, etc.

The Structural Engineering and Concrete Technology Laboratories house state-of-the-art facilities such as Dynamic Actuators, Shake Table, sub-sonic wing tunnel, Servo Controlled Compression Testing Machines, NDT Equipment, Corrosion Analyser, etc. for analysis and evaluation of various types of civil engineering structures. The Transportation Engineering Laboratory is equipped with state-of-the-art instruments to carry out advanced experiments and simulations works such as bituminous mix design, pavement evaluation, rutting measurement, evaluation of multi-modal urban transportation network, traffic flow etc. The Laboratory facility houses sophisticated instruments such as Dynamic Shear Rheometer, Repeated Load Triaxial Test, Wheel Tracking Machine with Roller Compactor, Superpave Gyratory Compactor etc. Besides the lab has a computational facility for those working in the Transportation System Planning and Traffic Engineering field.

The Water Resources Engineering Laboratory is capable of carrying out various experiments and simulations relating to fluvial hydraulics, flow through submerged and emergent vegetation. The laboratory is equipped with state-of-the-art equipment like 20 m recirculating hydraulic flume, Down looking and Side looking Acoustic Doppler Velocimeters, Acoustic Doppler Profilers, Recirculating Tilting Flumes with Wave Generator and sensors like Flow Visualization Apparatus, MIKE_SHE software, Water Depth Recorder, Digital Flowmeter, etc.

Laboratories

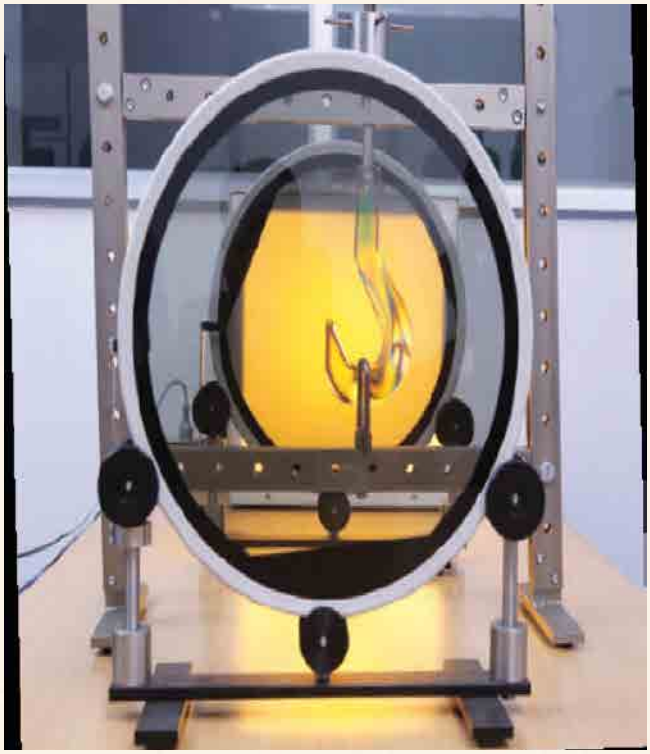
The School of Infrastructure currently runs with eight well-equipped undergraduate and postgraduate laboratories as follows:

- Advanced Computational Laboratory
- Concrete Technology Laboratory
- Engineering Mechanics Laboratory
- Environmental Engineering Laboratory
- Geotechnical Engineering Laboratory
- Groundwater Hydrology Laboratory
- Hydro-meteorology Laboratory
- Soil Dynamics Laboratory
- Structural Engineering Laboratory
- Surveying Laboratory
- Transportation Engineering Laboratory
- Water Resources Engineering Laboratory

All of the above laboratories are equipped with modern facilities to carry out high-end research works in any of the micro specializations of the Civil Engineering field. In addition to the state-of-the-art laboratories, the classrooms are equipped with multimedia projectors. Besides, the school is having 20 faculty cabins, Five classrooms, 80 desktop computers, One seminar room, and one classroom with an audio-visual facility, recreation room, and conference room.

The school is collaborating with various agencies/ industries like Airport Authority of India Ltd, NBCC, Vedanta Limited, IDCO, Voltas Ltd, Odisha Mining Corporation (OMC), RWSS (Govt. of Odisha) and Tata Steel Ltd in research and consultancy work. Currently, the school is working on 12 research projects. The school has 3 on-going SPARC proposals. Besides this, our faculty presents regularly research papers at conferences in India & abroad, conducts workshops and conferences for the dissemination of research findings. Recently, lectures from foreign faculty were organized from 22 February - 14 April 2021 for UG Freshers, All BTech and Dual degree students in Civil Engineering to provide them updated knowledge and expose them to various disciplines of civil engineering.

School of Mechanical Sciences (SMS)



About the School

The School of Mechanical Sciences at IIT Bhubaneswar endeavors to be both globally competent and locally relevant.

Presently the School offers programs as follows:

- B. Tech. in Mechanical Engineering, B. Tech. in Mechanical Engineering + M. Tech. in Mechanical System Design, B. Tech. in Mechanical Engineering + M. Tech. in Thermal Science & Engineering, B. Tech. in Mechanical Engineering + M. Tech. in Manufacturing Engineering.
- M. Tech. in Mechanical System Design.
- M. Tech. in Thermal Science and Engineering.
- M. Tech. in Manufacturing Engineering.
- Ph.D. Programmes

Thrust areas of the School include Systems design, Energy & Environment, Advanced Manufacturing, Autonomous Robotics, Agricultural automation and Product Design.

The faculty members of the school are also involved in basic research in their own areas of specialization while also coming together to blend their shared expertise in creating technologies, products and processes that will enrich both the national and local economy. The school sees its role in nation-building via three important avenues of contribution – building of (i) human, (ii) knowledge and (iii) wealth capitals through the creation of a comprehensive idea-to-industry cycle.

Statistics

- No of faculty: 19
- No. of B. Tech Students: 213
- No. of Dual degree: 170
- Number of M. Tech. Students: 98
- No. of Ph.D. Students enrolled (2020-21): 07
- No. of Ph.D. Students graduated
- (2020-21): 05

- No. of publications (2020): 60
- No of Ongoing Sponsored Research Projects for 2020-21- 21

State of the Art Facilities

The Advanced Product Development Laboratory houses an advanced Stratasys 3D-printer, high-end FORTUS 400 FDM based rapid prototyping machine and a high accuracy 3-D Optical Profilometer.

The thermo-fluid laboratory has NEXA PEM fuel cell training system, Mach-Zehnder Interferometer for visualization of various heat transfer phenomena, Hotwire anemometer, 2D time-resolved PIV system, and a Differential scanning thermometer.

The advanced manufacturing laboratory has various in-house developed equipment such as 400W Fiber laser micro workstation, Laser-Milling Hybrid processing and Pulsed Micro-Electroforming. Besides, the lab also houses CNC Router with a digitizer for Reverse Engineering, CNC milling, Wire EDM and Gear hobbing machine.

Laboratories

The school has the following laboratories with major equipment's:

Advanced Manufacturing Laboratory

Optical Profilometer, Profile projector, Grinders, Laser-based Micro-machining Workstation.

CAD/CAM/CAE Laboratory

The school has a computational laboratory consisting of 45 workstations installed with various software packages like Ray Tracing software, ANSYS, SolidWorks, NASTRAN, Hyper works, Pro-E, CATIA, ADAMS, COMSOL, MATLAB, Lab VIEW, ASAP-PRO, DELMIA, Smart Team and Tecplot360

Sense & Process Laboratory

Sound Impedance Tube, Handheld Sound Analyzer.

Materials Testing Laboratory

Hardness testing machines: Rockwell, Brinell, Vickers, Spring testing machine, Torsion testing machine, Rotary bend fatigue testing machine, Erichsen cupping test machine, Photo-elastic bench, Izod-

Charpy impact tester and 100-ton Universal testing machine.

Opto-Thermal Lab

Mach-Zehnder Interferometer setup

Machine and Mechanism Laboratory

Epicyclic gear train apparatus, Static and Dynamic Balancing, Whirling of shaft, Gyroscope, Governors, Anti-Friction bearing, Hydrodynamic lubrication, Basic kinematics demonstrations.

Fluid Dynamics Laboratory

4 Channel hot wire anemometer, 70 cfm 13 bar screw type compressor experimental set ups for measurement of fluid viscosity, Flow measurement equipment, Measurement equipment for forces on immersed bodies, Schlieren flow visualization setup, Kaplan turbine, 3 axis force sensor, Pitot probe with traverse and a 2D time resolved PIV.

Micro-fluidics Laboratory

High speed cameras, Inverterted fluorescence microscope, Inverted microscope, Syringe pumps, Droplet dispenser and High end work stations.

Heat Transfer Laboratory

Radiation Heat Transfer Unit, Unsteady State Heat Transfer Unit, Combined Cycle Refrigeration Unit with Cycle Inversion Valve, Critical Heat Flux Boiling Heat Transfer Unit, 5Å~3 Tube Bundle Boiling Heat Transfer Testing Setup, PCM Based Electronic Chip Cooling Setup, Contact angle goniometer, Differential scanning thermometer, Solar, Filament drowse condensation unit.

IC Engine Laboratory

Variable compression ratio engine, Axial flow gas turbine unit, Flame propagation and stability unit, NEXA fuel cell training system, 4 stroke 4 cylinder CRDi Diesel engine with open ESU and Exhaust gas analyzer.

Advanced Product Development Laboratory

Fused deposition method based rapid prototyping production system, Optical three dimensional (3D) profiler system.

Artificial Intelligence and Mechatronics Lab

Stewart platform, Humanoid robot platforms (Bioloid and Lamark), Manipulator arm, Hexapod robot, Four wheeled robots, Tabletop CNC milling and Turning machines.

Advanced Manufacturing Laboratory

Optical profilometer, Grinders, Laser-based micro-machining workstation.

Metrology Laboratory

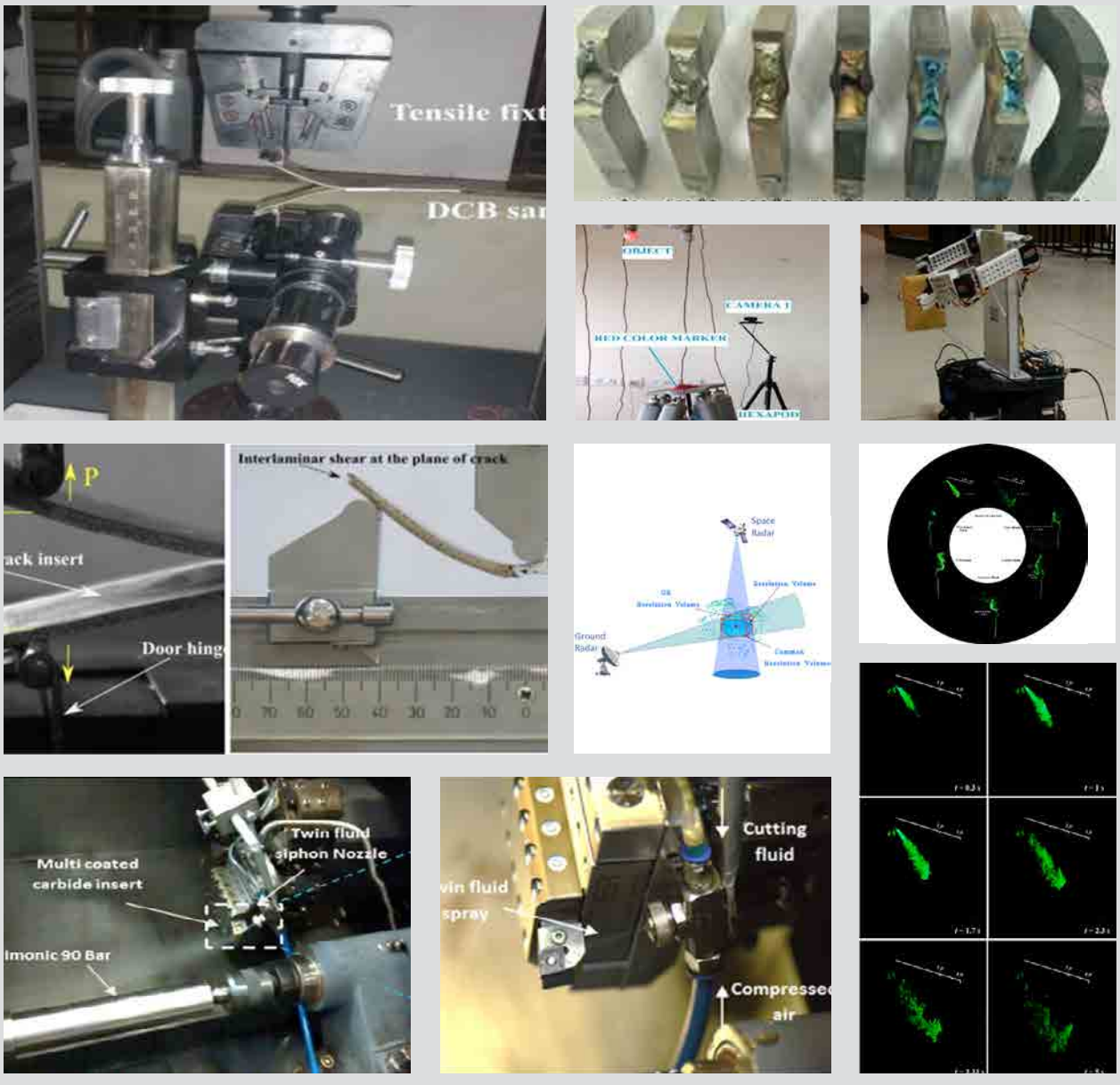
Profile projector, Height master, Precision surface plate, and other measuring equipment.

CWF Laboratory

TIG and MIG welding, General purpose belt grinder and surface polisher, Hydraulic specimen mounting press, Induction furnace, Resistance furnace, Foundry equipment and machinery, Muffle furnace, 80 Ton hydraulic press.

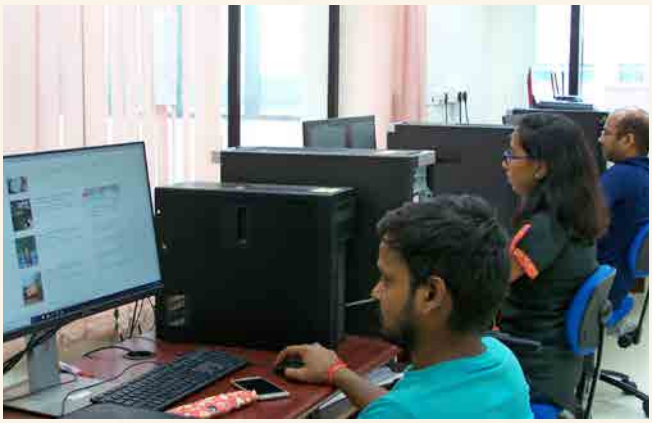
Machine Tools and Machining Laboratory

Wire cut EDM, Ultrasonic drilling cum milling machine, CNC vertical milling center, Master gear hobbling, Radial drilling machine, Industrial grinder, Lathe machine, Milling machine, Hydraulic surface grinder, Die sinking EDM, Piezoelectric type 6-component dynamometer, Lapping machine, Talyrond (surface roundness measurement).



A study by IIT Bhubaneswar has highlighted that a five-layered mask has minimum leakage of the droplets which may trigger the airborne transmission of COVID-19 and other similar diseases

School of Minerals, Metallurgical And Materials Engineering (SMMME)



About the School

The School of Minerals, Metallurgical and Materials Engineering at IIT Bhubaneswar, established in 2012, is a unique initiative where minerals, metals and materials have come into a collaborative existence with a mission to be Locally relevant and globally competitive. Presently the School offers programs as follows:

- B. Tech. in Metallurgical and Materials Engineering,
- B. Tech.-M. Tech. Dual degree in Metallurgical and Materials Engineering,
- M. Tech. in Metallurgical and Materials Engineering and
- Ph.D. Programme

Located in the state of Odisha, one of the most mineral rich states of India, the school is aware that the maximum economic benefit from a mineral could be achieved when economically transformed to its final product leading to ultimate benefit.

Statistics

- No of faculty: 12
- Number of ongoing Sponsored projects : 17
- No. of symposiums organized: 02
- No. of Ph.D. Students graduated (2020-21): 02
- No. of publications (2020): 53

Research

The school's thrust areas are: Transport and Structural Materials, Energy Materials and Devices, Strategic and Functional materials, various manufacturing processes (including Additive Manufacturing). The focus of school activities is therefore multi-directional with an emphasis on both teaching and research. In this regard, the school has drawn a road-map to progress via a partnership with the Institute of Minerals and Materials Technology (CSIR-IMMT) at Bhubaneswar and student and faculty exchange with Warwick Manufacturing Group (WMG) at Warwick University, UK and Shanghai Jiao Tong University, China. The School has also received a generous endowment of 30 million INR from MGM Group to establish a permanent Chair Professorship.

State of the art Facilities

The School continuously strives to create and upgrade its advanced experimental and computational facilities. The School has procured a Field Emission Scanning Electron Microscope with EDX and EBSD facility which is under the Central Instrumentation Facility. Others include the microscopy facilities like Inverted and upright Optical microscopes with image analysis facility, Melting and heat treatment facilities, Metallography facility for sample preparation, Universal Hardness, Testing Machine, Electrochemical workstation and High Performance Computer Clusters together with multiscale and multiphysics simulation software.

Laboratories

The School has been developing a number of laboratories to cater to undergraduate and postgraduate teaching and well as various research activities of the School and the Institute. Currently, it houses the following laboratories:

- Electrometallurgy and Thermodynamics Laboratory
- High Temperature Processing Laboratory
- Mechanical Testing Laboratory
- Metallography Laboratory
- Modelling and Simulation Laboratory
- Optical Microscopy Laboratory
- Physical Metallurgy Laboratory
- Materials Characterization Laboratory
- Process Control and Instrumentation Laboratory
- Powder Processing Laboratory

The faculty members are engaged in sponsored projects from Science and Engineering Research Board, Department of Science and Technology, UGC-DAE Consortium of Scientific Research - Kalpakkam, Planning Coordination Department - Government of Odisha, Uchchatar Aviskar Yojana – MOE, National Aluminum Company, Naval Research Board and Ministry of Mines, Govt. of India.

The school is actively providing technical consultancy services to industries such as Tata Sponge Iron Limited, Jindal Stainless Steels Ltd. and Pradeep Phosphates Ltd.

Centres of Excellence

Virtual and Augmented Reality Centre of Excellence (VARCoE)

Virtual Reality and Augmented Reality (VR and AR) have massive innovation potential across a wide range of industries and research fields. This research and innovation is currently across a range of industries including – product and skill development, health and medical science, art and architecture, transport, construction, tourism, entertainment, education, and productivity software. For achieving goals of such great magnitude Government of Odisha, STPI, Philanthropists like Shri Subroto Bagchi and Ms. Susmita Bagchi and IIT Bhubaneswar have come together to start this CoE.

Objective

The center is intended to span a wide spectrum of disciplines with particular emphasis on interaction technologies including virtual, augmented and mixed reality as well as mobile computing, epigenetic and evolutionary robotics, and haptic communication. The center will engage in research, teaching and services for developing advanced methods and algorithms for near-real 3D user interfaces and exploratory data analysis in virtual environments. Emphasis will also be laid on application-driven, interdisciplinary research in collaboration with all the reputed institutions worldwide, and partners from industry, covering fields like defense, simulation science, production technology, product development, neuroscience, architecture, and medicine.

Our CoE highlights the growth & development of Augmented and Virtual Reality solutions for achieving the digital transformation. This CoE aimed at partnerships among industry, academia, R&D Labs and innovators. The following are the major objectives of IIT Bhubaneswar CoE.

- Give impetus to research, technology development, product development, technology incubation and entrepreneurship in Virtual & Augmented Reality and allied fields.
- Develop a state-of-the-art research, development and testing facility/laboratories for advanced algorithms, applications and methods in aid of Virtual and Augmented Reality for Immersive Visualization and allied areas.
- Develop application platforms for specific skill development programs based on the industry needs and relevance.
- Produce new generation of entrepreneurs and incubators, who are ready to reap the benefits of the incubation and start-up facilities.
- To create a core group of researchers in the area of AR/VR.
- Applications of AR-VR in education including virtual labs (could be primary, secondary, collegiate and higher education)
- Application of AR-VR in skilling and skilling system development.
- Application of AR-VR in Biomedicine/Bio-engineering & health care applications.
- Immersive visualization.
- To create startup grants for select startups registered at Startup Center - IIT Bhubaneswar, STPI – Bhubaneswar and Startup – Odisha and a few for the most innovative projects from PAN India
- Joining Associations like Global Virtual Reality Association, subsequently creating a Chapter at Bhubaneswar.

Workshop, Hackathon and Start-up Colloquium on Virtual and Augmented Reality (WAVR-2021) [09th April -10th April 2021)

IIT Bhubaneswar in association with Software Technology Parks of India (STPI), MeitY and Govt. of Odisha organised a two day (09th-10th April, 2021) Workshop, Hackathon and Start-up Colloquium on Virtual and Augmented Reality in Hybrid mode. The Inaugural ceremony of the Conclave and Hackathon was inaugurated by Dr. Omkar Rai, Director General, STPI and Chief Guest of the event via video conferencing. The event was presided over by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar and participants were welcomed by prof. R K panda, Dean Alumni Affairs and International Relations, IIT Bhubaneswar.

Speaking on the occasion, Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar while welcoming all the participants

spoke about the genesis of the Centre of Excellence (CoE) in Augmented and Virtual reality and its activities happening in the AR/VR at the Institute. He emphasized that taking into consideration the two clarion calls, of "Make in India" and "Aatma Nirbhar Bharat," by Hon'ble Prime Minister of India, there was a need felt for creation of an ecosystem for manufacturing, research and development activities and creation of leadership in the core areas of AR-VR..

He also mentioned about the successful launch and execution of Conclave and Hackathon in the year 2020 by the CoE of the Institute for the budding entrepreneurs, engineering students star-ups for the creation of disruptive and inspiring products/solutions in the AR-VR domain. He also expressed his happiness on the ongoing research work on AR-VR in several fronts ranging from applications development to driving simulator design and also underlined the need for more initiatives in this direction. He also acknowledged the philanthropic support from Smt. Susmita Bagchi, Chairman, Mo School, and Shri. Subroto Bagchi, Odisha Skill Development Authority, Department of MSME, Govt. of Odisha, and STPI for joining hands together with IIT Bhubaneswar for the creation of Centre of Excellence in AR-VR (VARCoE) at the institute.

Chief Guest Dr. Omkar Rai, Director, STPI spoke in detail about the role of technology in addressing the gravest challenges of the world by delivering path breaking solutions. He also mentioned that it's imperative for the Indian IT industry to stand tall and support the nation in overcoming the challenges and making it an example for audiences spread across the globe. He reiterated that the thrust on further easing business norms and incentivising start-ups, embracing emerging technologies such as AI, ML, IoT, AR, and VR for catalysing the growth of the Indian economy. He stressed on the need for indigenous technologies and the creation of a suitable ecosystem for collaborative research and innovation thereby helping tech companies and start-ups for building indigenous affordable products for the citizens of the nation. He also complimented IIT Bhubaneswar and the leadership of Prof. R.V. Raja Kumar for the exemplary work in the domains of AR-VR. He also mentioned about the CoE being the first of its kind in the country and foreseeing it a leader in the coming times.

VARCoE focuses on creating an ecosystem for carrying out R&D in immersive visualization and applications, giving impetus to skill development, manpower creation through the innovative education program and foster technology incubation and entrepreneurship. The Conclave and Hackathon include several guest talks, interactive sessions, workshops by student teams. Some of the esteemed speakers during the two day conclave include talks by Shri. Nihav Jain, Lead Software Engineer (SDK &Tools), Magic Leap, Canada, Dr. P P Roy, Associate Professor, IIT Roorkee, Shri. Praveen Bhaniramka, Chief Executive Officer, Viz Experts, Shri. Sanan Goyal, Project Manager - India Question What's Real, Ramesh Anumukonda, Chief Gamer, Founder A Plus Associates LLP and Dr. Neha Tuli Asst.Professor, Chitkara University and Co-Founder 6DoF. The talks and sessions will be followed by an award ceremony on the last day.

Also present on the occasion were Prof. R. K. Panda, Dean Alumni Affairs and International Relations, Dr. P.K Sahu, Professor-in-charge, VARCoE, Dr. Rajan Jha, Associate Professor and Member, VARCoE, Dr. V. Panduranga, Associate Professor, and Dr. Kodanda Ram Mangipudi, Assistant Professor, IIT Bhubaneswar. The inaugural ceremony ended with vote of thanks by Dr. P.K. Sahu, PIC-VARCoE, IIT Bhubaneswar.

The detailed program schedule of the WAVR-2021 is as follows.

On Day 1 (09-04-2021)			
Inaugural Session	Welcome Speech Prof. R K Panda, Dean (AA&IR)	10:00 AM-10:15 AM	
	Inaugural Address by Prof. R V Raja Kumar, Director, IIT Bhubaneswar	10:20 AM-10:40 AM	
	Address by Chief Guest	10:45 AM-11:05 AM	
	Felicitation of Guests	11:05 AM-11:10 AM	
	Vote of thanks by Dr. Prasant Kumar Sahu, PIC-VARCoE	11:10 AM-11:15 AM	
Session -1	Shri. Nihav Jain, Lead Software Engineer (SDK & Tools), Magic Leap, Canada	Multi-user Collaborative Environments in AR / VR	Dr. Yogesh Bhumkar 12:00 PM-01:00 PM
Session -2	Dr. P P Roy, Associate Professor, IIT Roorkee	AR and VR using Machine Learning	Dr. P K Sahu and Dr. D P Dogra 02:00 PM 3:00 PM

Session 2 A	Mr. Shubham Gargrish Mr. B. Nayak Mr.Aravinth S	Hackathon concept, ideas,and models presentation	Dr. Rajan Jha, Dr. Soumya Prakash Das, Shri Smaran Satpathy, Incubation Manager, EP BBSR, Shri. Sanan Goyal Project Manager, India, Question What's Real 03:00PM-05:30 PM
Session 2 B	Mr. Ankit A Bhurane Mr. Praddyum Mr. Verma Aravinth R	Hackathon concept, ideas,and models presentation	Dr. Manoranjan Satpathy, Dr. Kodanda Ram Mangipudi, Prof. Ashok Panda, Panda, Mr. Niraj Ruparel, Groupem
On Day 2 (10-04-2021)			
Session 3	Shri. Praveen Bhaniramka, Chief Executive Officer, Viz Experts	Virtual & Augmented Reality for Design & Engineering Industry - Applications, Current Status & the Future	Dr. V Panduranga 09:05-10:00 AM
	Shri. Sanan Goyal Project Manager - India Question What's Real	Technical scope of the ARVR industry and potential problems to solve in both Hardware and Software	Dr. P. K Sahu 10:00 AM-11:00 AM
	Mr. Anumukonda, Former Country Manager, Unity	Unreal Engine : AR/ VR/ MR Use Cases VR	Dr. Soumya P Dash 11:00 AM -11:50 am
Session 4	Mr. Amit Kumar Mr. Sanket Mohanty Mr. Bhanu Sharma Mr. Vivek Gorrepati	Hackathon concept, ideas, and models presentation 11:25 AM-01:25 PM	Dr. Satya Narayan Panigrahi, Dr. Kisor Kumar Sahu, Shri. Praveen Bhaniramka, Chief Executive Officer, Viz Experts
Session 5A	Dr. Neha Tuli Asst.Professor Chikara University and Co-Founder 6DoF	Role of Augmented Reality in Ed-Tech 02:00 PM-02:30 PM	Dr. Srikanth Gollapudi, Ms Lopa Mishra Jana, COO, EP BBSR, Shri. Sanan Goyal, Project Manager - India, Question
Session 5A	Mr. Sushant Mr. Apoorv Jain Mr. Dipayan Chowdhury Mr. Yelgawakar	Hackathon concept, ideas, and models presentation	
Session 5B	Mr. Infant Sam Christian Mr. Dhivya G. Mr. Abinesh R. Mr. Nishithraa N.	Hackathon concept, ideas, and models presentation	Dr. Mano Ranjan Satpathy, Dr.Srikanth Gollapudi, Prof. A K Panda, STPI BBSR, Mr. Dhaval Joshi, BigCyc 02:35 pm-05:05 PM
Startup Colloquium			
Session 6	Mr. Infant Sam Christian Mr. Dipayan Chowdhury Mr. B Nayak Dr. Neha Tuli Mr. Sidharth Arya Mr. Narendra	Presentation by prospective startup for shortlisting	Shri Subodh Suchan, Director STPI H.Q., Shri. Manas Panda, Director STPI, BBSR, Dr. Prasant Kumar Sahu, Dr. M S Manikandan, Dr.Yogesh Kumar, Dr. Satya Narayan Panigrahi, Mr. Pravesh Kumar, Accenture, Mr. Anumukonda, Former Country Manager, Unity 02:30 PM-05:05 PM
Award Distributions			
Concluding Session	05:20 PM-05:40 PM	Prof. Bharmodev, IIT, Bhubaneswar, Dr.P K Sahu, PIC-VARCoE, Dr. Srikanth, Dr.KRam Mangipudi, Dr. M S Manikandan, Director Research Park	

The summary of the Experts' talk are listed below.

Expert Talk 1

Title: Multi-user Collaborative Environments in AR / VR

Speaker: Shri Nihav Jain

Topic: The talk introduces the basics that go behind creating collaborative environments and were shown 2 common implementation paradigms, describing the end-to-end journey the developer will need to go through to make their application possible - from solving the AR problems.

Expert Talk 2

Title: AR and VR using Machine Learning.

Speaker: Dr. P.P. Roy

Topic: The talk highlighted the need and significance of the application of Machine learning in ARVR.

Expert Talk 3

Title: Virtual & Augmented Reality for Design & Engineering Industry - Applications

Speaker: Shri. Praveen Bhaniramka

Topic: The talk covers the topic of Rework in the Design & Engineering industry and use of AR/VR for reducing rework in industry. The talk provided 2 case studies related to shipbuilding industry.

Expert Talk 4

Title: Technical scope of the ARVR industry and potential problems to solve in both Hardware and Software

Speaker: Shri. Sanan Goyal, QWR

Topic: The talk was mainly focussed on the XR Industry and Potential Problems to Solve.

Expert Talk 5

Title: Unreal Engine: AR/ VR/ MR Use Cases

Speaker: Sri. Ramesh Anumukonda

Topic: The talk was mainly highlighted the Unreal Engine and its uses in real-time 3D object creation

Expert Talk 6

Title: Role of Augmented Reality in Education

Speaker: Dr. Neha Tuli

Topic: The talk introduces the Uses of AR/VR in education sector as well as its impact on teaching-learning processes transformations need for India.

Concluding Day

IIT Bhubaneswar successfully conducted the two day (09th-10th April, 2021) conclave on AR-VR Conclave and Hackathon at IIT Bhubaneswar in hybrid mode in association with Software Technology Parks of India (STPI), MeitY and Govt. of Odisha. Prof. Brahma Deo, MGM Chair Professor, IIT Bhubaneswar was the Guest of Honor on the occasion.

Speaking on the occasion, the Guest of Honor, Prof. Brahma Deo, MGM Chair Professor, IIT Bhubaneswar congratulated all the participating Institutions and teams for their innovations and enthusiasm. He also reiterated that workshop, hackathon and start up colloquium (WAVR-2021) was successful in giving impetus to the budding entrepreneurs and engineering students in the AR-VR domain. He also made a mention about the state-of-the-art equipment's in the CoE in AR-VR will be made available shortly thereby leading people from across the country to undergo training and workshops at the Institute. He expressed his happiness that the two day conclave and hackathon boasted of provoking sessions by combining the best of brains in the country leading to fruitful outcomes in the areas of AR-VR.

Dr. P.K. Sahu, PIC-VARCoE, IIT Bhubaneswar presented the concluding report of the two days conclave and Hackathon. The invited speakers, session chairs and jury members of the WAVR-21 were felicitated on the occasion by Prof. Brahma Deo on virtual mode. The valedictory ceremony was followed by award distribution to the winners of the AR-VR Conclave and Hackathon.

The three best teams who won the cash award of Rs. 50,000, Rs.30, 000 and Rs. 20,000 were **team lead by Mr. Vivek Gorrepati (IIT Hyderabad), Mr. Praduyman Varma (KIIT University), and Mr. Sanket Mohanty (Defence Institute of Advanced Technology, DRDO, Pune)**. In addition to this a consolation prize of Rs. 10,000 was awarded to Mr. Aditya Yelikar (University of Mumbai). Besides the cash prizes internship opportunity and a GIFT from XROM to the 1st prize winner were announced. As well as internship provision for three more teams will be offered by XROM. The winners and selected entries who scored above (60 %) of marks during Hackathon will be offered an incubation facility at VARCoE. It could be physical / virtual incubation. A formal letter/offer in this regard will be issued, after due approval from the competent authority.

Start-ups interested for incubation will be evaluated by the Selection Committee which evaluated the start-up colloquium round and those found suitable will be given seed capital funding of Rs. 5 lakhs (in the form of a kind to set up their activities under VARCoE, IIT Bhubaneswar).

Sl. No.	Name	Prize Category	Amount (INR)
1.	Mr. Vivek Gorrepati, IIT HYDERABAD, Dr. Rohit G, AIIMS Bhubaneswar RAAGA Likhitha Musunuri, IIT Hydrabad, Dr.Devyani Singh, AIIMS Bhubaneswar	1st prize	₹50000.00
2.	Praddyum Verma, KIIT , Anirban DAS, KIIT, Sanchit Sharma, KIIT, Aishika Das, KIIT	2nd prize	₹30000.00
3.	SriSanket Mohanty, Research Fellow Computer Science Department Defense Institute of Advanced Technology DRDO Girinagar Pune,	3rd prize	₹20000.00
4.	Sri. Aditya Yelgawaka,(Former Mumbai University), Infosys	Consolation prize	₹10000.00

Also present on the concluding ceremony were Dr. P.K Sahu, Professor-in-charge, VARCoE, Dr. Srikant Golapudi, Assistant Professor and Dr. Kodanda Ram Mangipudi, Assistant Professor, IIT Bhubaneswar. The inaugural ceremony ended with vote of thanks by, Dr. Kodanda Ram Mangipudi, Assistant Professor, IIT Bhubaneswar.

Centre of Excellence for Novel Energy Materials (CENEMA)

The core research focus of CENEMA is to work on advanced energy materials using state-of-the-art experimental, theoretical and computational methods. The group has taken a steadfast approach in developing state-of-the-art solutions for both energy harvesting and storage, to promote sustainable growth. Since energy is a multidimensional research topic, collaborative association with institutes such as NISER, IOP, and IMMT has been taken up to provide cutting-edge solutions based on affordable methodologies.

Focus Areas

- To synthesize high-grade, novel and multifunctional materials/compounds as catalysts for energy conversion and as electrode materials for next generation energy storage devices (e. g. battery, supercapacitor).
- Fabrication of symmetric, asymmetric, and hybrid coin-cell type supercapacitor devices and exploring the possibilities for the development of larger supercapacitor modules for a wide range of applications such as electric vehicles, smart electronic devices, and wearable electronics.
- Make use of abundant, less-toxic, and non-hazardous elements or compounds to use as core components of the harvesting/storage modules, and to reach out to the general public through technology transfer and rapid commercialization with the help of industrial support.
- Detailed theoretical modelling and computational approach through first principles density functional theory (DFT) to devise a way in sorting out the best possible materials/compounds for energy-related applications. This would help in finding an optimized system for both energy harvesting and storage, and reduce both time and cost by eliminating undesired synthesis/characterization/measurement steps.
- The center has overseen the research and development of the next generation energy storage technologies, i.e., supercapacitors., battery and continues to do so in terms of extensive research and academic activities, steadfast collaborative association with industry partners (NALCO and TATA), and dissemination (and sharing) of the research output with scientific communities at the national and international platforms. Our theoretical group is actively involved in carrying out extensive and rigorous modelling-based calculations to help find the most feasible and optimized solution to problems associated with energy harvesting and storage.

Activities at a Glance

- Large scale synthesis through techniques like hydrothermal, sol-gel, and reflux methods to afford high performance electrode materials and catalysts based on two-dimensional layered transition metal chalcogenides and their graphene hybrids.
- Implementation of high-end laboratory synthesis through chemical vapor deposition (CVD) technique for the preparation and specialized application of a certain class of materials.
- Development of flexible and compact supercapacitor modules for smart electronic devices. We have been fabricating 2032 type coin-cell supercapacitor devices using both symmetric and asymmetric configurations of electrodes for use in both powers- and energy-based applications.
- Synthesis of metal-free catalysts for water-splitting reaction to yield hydrogen and oxygen, respectively used for fuel cells and metal-air batteries. Few bi-functional catalytic materials have been developed at the centre which showed good electrochemical activities towards HER and OER.
- Finding suitable alternatives to the commercially available noble-metal-based state-of-the-art catalysts, by exploring low-cost and earth-abundant materials to promote both hydrogen evolution reaction and oxygen evolution reaction.
- Extensive material characterization through X-ray diffraction, Field-emission scanning electron microscopy, High-resolution transmission electron microscopy, Elemental mapping, Energy Dispersive X-ray spectroscopy, and X-ray photoelectron

spectroscopy, etc. have been made available at the center and at the collaborating/partner institutes for material characterization.

- Detailed electrochemical investigation of supercapacitor devices (in symmetric, asymmetric, and hybrid configurations) and water splitting with the aid of high-end electrochemical workstations for precise results.
- CENEMA is also working on low-cost and long-term energy storage devices which will be integrated to the solar photovoltaic modules in order to provide a continuous supply of electricity to the grid-deprived population in remote locations.
- Through modelling approach, we have successfully addressed the most notable issue of dendritic growth, often found in the lithium-ion systems, by showing the possibility of replacing bulk metallic lithium or its compound with lithium-atomic-clusters. This will not only eliminate the issue of dendritic growth in lithium-based battery systems but also enhance the net effective electrode potential of the cluster-based batteries through the selection of a suitable electrolytic solvent.

Industry Partners

- Partnership with industries like NALCO and TATA through various collaborative projects and sharing state-of-art fabrication and characterization techniques for technology development through rapid commercialization.
- In a recent work, our group has synthesized an aluminium-graphene composite system through a powder metallurgy route which showed excellent thermal conductivity values, even better than the copper. The said composite is a potential low-cost alternative to the metallic copper for use in solar water heating modules due to its enhanced thermal conductivity properties. The synthesis and fabrication of the composites have been done in active collaboration with NALCO as the industry partner.
- Strong collaboration with NALCO has been taken up at CENEMA through several innovative research projects worth ₹3.0 crores.

Publications/Patents and Start-Ups

We have recently our work on the enhanced thermal conductivity of aluminium-graphene composite in collaboration with NALCO. Additional results in the form of manuscripts have also been communicated on this topic. Two patents have been filed on our findings and a few more are on the pipeline. In the collaborative projects with NALCO, we have achieved several results of commercial interest such as improved thermal properties of aluminum-graphene composites, high mechanical strength and current carrying capacity (ampacity), and low-cost energy storage devices. The results will soon be published in peer-reviewed journals and relevant patents will also be filed.

We continue to collaborate with the first start-up from IIT Bhubaneswar, KARMA, on renewable energy research for the development of affordable and customized solar-powered photovoltaic modules and distribute the same through proper channels to the sizeable grid-deprived population at remote locations throughout India. Also, we are connecting with a large framer base and small-scale vendors to help them understand the benefits of solar-powered micro-pump-sets and small cold-storage vehicles to inculcate the long-term impact of renewable energy in our country.

S. K. Dash Centre of Excellence of Biosciences and Engineering and Technology (SKBET)

S K Dash Centre of Excellence of Biosciences and Engineering and Technology (SKBET) was established in IIT Bhubaneswar in 2014 with a generous grant from Dr. Dash Foundation, the USA to carry out research on probiotics and broader areas of biology, engineering, and technology. The center has a world class laboratory with a state-of-the-art instrumentation facility to carry our research on microbiology, cell biology, molecular biology, and bioinformatics. The new research laboratories were inaugurated on 18th December 2018 by the director of AIIMS Bhubaneswar, Dr. Gitanjali Batmanamane; the chairman and founder, UAS Laboratories, LLC. Dr. Sita Kanta Dash; the Director, IIT Bhubaneswar, Prof. Ratnam V. Raja Kumar; and the Co-ordinator, SKBET, Prof. Saroj Kumar Nayak.

The center has a goal of developing probiotics nutraceuticals and pharmaceuticals that can be used to improve immunity, reduce aging processes, and treat various gastrointestinal disorders. In the initial years of the establishment of SKBET, the center focused on its capacity building to carry out cutting-edge probiotics research. The center has screened various potential probiotic strains for their probiotic properties and successfully identified nine novel probiotic strains that are at par with an established probiotic strain, LA DDS1 with respect to antimicrobial activity against eight multidrug-resistant bacteria. Two of the newly identified probiotics strains secrete good amounts of antioxidants to the external media. Therefore, these two strains are being investigated for anticancer and anti-inflammatory disorders and found to be effective in cultured mammalian cell systems. All the nine probiotics strains are currently being tested in C57BL/6 and BALB/c mouse models and found to be safe. Further studies with these probiotics strains in mouse models for the prevention/treatment of obesity, diabetes, and various inflammatory disorders are currently going on. Sixteen synbiotic products have been formulated and characterized in-vitro using the probiotics strains identified in the center. These sixteen products will be studied in cell culture, and mouse models followed by clinically trialed to reduce/treat the geriatric, inflammatory, and gastrointestinal disorders. In addition, thirteen articles have been published from the center and seventeen dissertation projects have been successfully carried out in the center as of summer 2020. The center is thriving and advancing to discover next-generation probiotics strains and innovate new probiotics products which can be used as nutritional supplements as well as the pharmaceutic intervention of various gastrointestinal and inflammatory disorders. The center is also working to innovate the synthetic microbial products to prevent/ treat abovesaid disorders as well as to improve the life expectancy of the human.

A newly installed Lyophilizer in the Microbiology laboratory of SKBET

A newly installed water deionization unit in the Molecular Biology laboratory of SKBET

A newly installed BSL2 biosafety cabinet in the Cell Bilogy laboratory of SKBET

A newly installed CO2 incubator with Oxygen sensor for mammalian cell culture in the Cell Biology laboratory of SKBET

Design Innovation Centre (DIC)

Design Innovation Centre (DIC) has been set up under National Initiative for Design Innovation (NIDI) scheme which is launched to work as a force multiplier that can help the country move up the value chain by making Indian industry globally competitive. It is an initiative under the Ministry of Education (MOE) to encourage design-based approach focused on innovation and creativity. Under this scheme along with twenty Design Innovation Centers, one Open Design School (ODS) & a National Design Innovation Network (NDIN) also has been set up to maximize the reach of design education.

The setting up of a Design Innovation centre (DIC) at IIT, Bhubaneswar under the National Initiative for Design Innovation (NIDI) scheme is a good opportunity for the introduction of design learning and innovation in eastern India. Design Innovation Center, IIT Bhubaneswar has involved itself in many progressive involvements since 2015 to till date in the field of creativity. It infuses a culture of innovative thinking in the budding engineers to undertake projects which lead to the development of educational and community driven products primarily for children but of course, not limited to there.

Innovative concepts materialized during 2020-21

1. Automatic non-contact temperature assessment device

One method to measure a person's surface temperature is the use of "no-touch" or non-contact temperatures assessment devices, such as infrared telethermographic systems or non-contact infrared thermometers. The use of other temperature assessment devices, such as oral thermometers, requires physical contact which may increase the risk of spreading infection during the pandemic. Keeping these things in mind, DIC, IIT Bhubaneswar has developed an automatic non-contact temperature assessment device to detect the temperature of any individual. These devices have many benefits, but they need to be used properly. Since an elevated temperature does not conclusively indicate a COVID-19 infection, further evaluation and diagnostic testing are needed to determine if someone has a COVID-19 infection.

2. Automatic non-contact Hand Sanitizer

Demand for hand sanitizers has surged since the coronavirus broke out and spread around the world. Hand sanitizers are usualCly applied by squirting the sanitizer liquid when one presses a pump with one's hand. This causes many people to come into contact with the pump handle, which increases the risk of viral transmission. Some hand sanitizers on the market are automatically pumped. However, because sanitizer containers and pump devices are designed to be compatible only between products produced by the same manufacturer, consumers must also repurchase the container for the liquid if they replace the hand sanitizer. Apart from its, none of the market sanitizer provides misting technology to boost up the sanitizer spread area & effectiveness, not even the rechargeable support to run it without interruption.

DIC, IIT Bhubaneswar has developed automatic (IR based) hand sanitizer of 2 different types includes all the latest features within it.

Version 1: Automatic Hand Sanitizer with its own pump system, container & misting technology for industrial use.

Version 2: Automatic Hand Sanitizer with its own pump system, container, misting technology & rechargeable battery pack for personal use as well as industrial use

Version 3: Version 2 with IoT feature to check the level & battery status from a remote distance. (Project in concept)

3. Smart energy efficient or wattage controlled LED

Wattage is an unit of measurement for energy use & you've spent your life purchasing light bulbs based on different wattage according to use. If you want the lamp to put out more light, bought a higher wattage bulb. For less light, chosen a lower wattage. One has to fix more than 2-3 LEDs in a single room to fulfill the requirements. It's not a reasonable deal to carry Forward with this concept.

To deal with the above problem, DIC, IIT Bhubaneswar has developed a smart wattage controlled led whose wattage or in other words, lumens can be controlled according to the use by the IR remote. Which can save a good quantity of units while paying the electricity bill at the end of the month. Light your home using the same amount of light for less money. An average household dedicates about 5% of its energy budget to lighting. Switching to energy-efficient lighting is one of the fastest ways to cut your energy bills.

Developed LED is not only the energy efficient device but also an emergency partner. In absence of electricity or power cut, it continues its work as a dedicated battery pack has been included with the device to run it hassle free for 3-5 hours depending on wattage consumption.

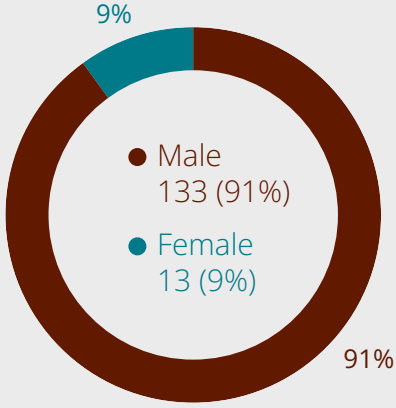
The device is also checked with other communicative technology like Bluetooth & Wi-Fi . The IR remote can be replaced with the Android App connecting the LED with Bluetooth for the local area & with Wi-Fi for a wide area.

DIC Status till Date

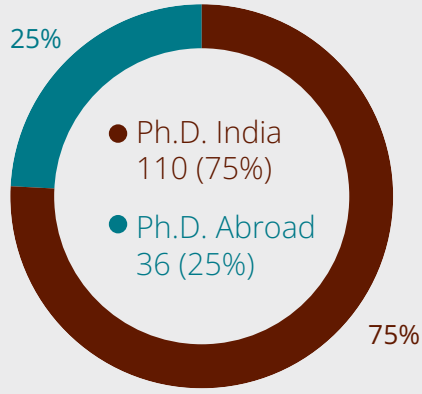
- Reached out to About 15000 students
- Start-ups raised: 03
- Spokes Partner: 04
- Patents filed: 20
- Students project taken up: Around 85
- Major events conducted: Around 25

Our Faculty

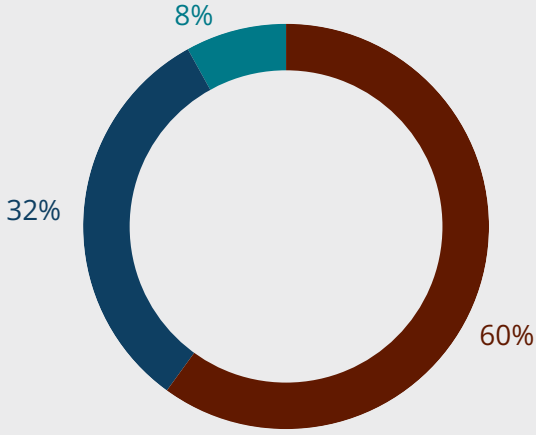
Gender wise Distribution of Faculty



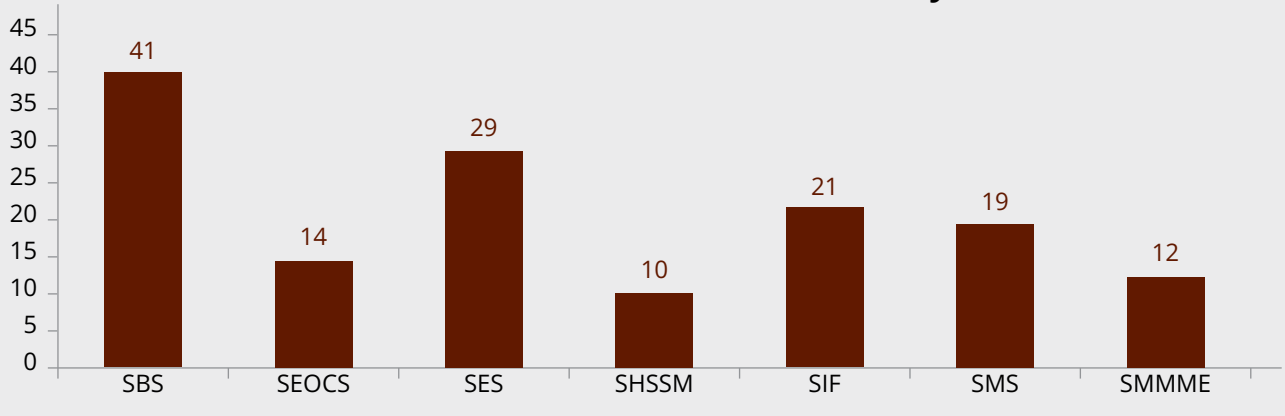
All Faculty with Ph.D.



Faculty with Post-Doctoral Experiences



School wise Distribution of Faculty



School of Basic Sciences			
Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
1.	**Prof. Saroj Kumar Nayak** Professor nayaks@iitbbs.ac.in	Jawaharlal Nehru University, 1995	First Principles Molecular dynamics Simulations, Nanostructures, Quantum transport, Quantum Biology
2.	**Prof. Sujit Roy** Professor sroy@iitbbs.ac.in	IIT Kanpur, 1987	Organometallic Chemistry, Homogeneous Catalysis
3.	**Prof. V. R. Pedireddi** Professor vr.pedireddi@iitbbs.ac.in	University of Hyderabad, 1993	Solid State Chemistry; Supramolecular Chemistry; Self-Assembly of Biological, Organic and Organic-inorganic Ensembles
4.	**Prof. P. V. Satyam** Professor satyam@iitbbs.ac.in	Institute of Physics/ Utkal University, Bhubaneswar, Odisha, 1997	Surface and interfaces, electron microscopy, experimental condensed matter physics, energy materials.
5.	**Prof. T. V. S. Sekhar** Professor sekhartvs@iitbbs.ac.in	IIT Madras, 1995	Numerical Methods; Computational Fluid Dynamics
6.	**Prof. V. R. Yerikalapudy** Visiting Professor ryvasudeva@iitbbs.ac.in	Andhra University, 1980	Mathematical Modelling for Ultrasonic Nondestructive Testing; Numerical Methods in elastic wave motion and vibration; Techniques of Applied Mathematics
7.	**Prof. Prawal Sinha** Visiting Professor prawal@iitbbs.ac.in	IIT Bombay, 1976	Mathematical Modelling- Lubrication Theory
8.	**Dr. Akshay Kumar Ojha** Associate Professor akojha@iitbbs.ac.in	Utkal University, 1997	Soft computing; Optimization Theory(Geometric programming and Fractional Programming; Data Mining and Portfolio Optimization
9.	**Dr. Kari Vijayakrishna** Associate Professor kvijayakrishna@iitbbs.ac.in	IIT Madras, 2006	Synthesis of task specific ILs and polymerizable IL monomers; Synthesis of Chiral Polymers and their applications in chiral induction; Synthesis of Achiral and Chiral Resins and their applications in synthesis; PIL stabilized metal nanoparticles and their applications; Polyelectrolyte-DNA interaction studies; PILs for gas separation membranes; Synthesis of MIPs and resins for nuclear waste treatment; Synthesis of (RAFT derived) ionic, pH, temperature and solvent responsive homo- and block copolymers towards their self-assembling for drug delivery
10.	**Dr. Vasudeva Rao Allu** Associate Professor avrao@iitbbs.ac.in	IIT Madras, 2010	Complex Analysis; Geometric Function Theory; Harmonic Mappings in the Plane.
11.	**Dr. Ashis Biswas** Associate Professor abiswas@iitbbs.ac.in	Bose Institute, 2006	Elucidation of structure-function relationships in small heat shock proteins and its importance in human diseases (leprosy and tuberculosis) using biochemical and biophysical techniques.; Investigating the effect of various post-translational modifications on the eye lens crystalline proteins and their role in developing cataract formation in human lens using biophysical methods.; Elucidating the mechanism behind the interaction of metal complexes (anti-cancer agents) with DNA and proteins using various biochemical techniques.

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
12.	**Dr. Chandrasekhar Bhamidipati** Associate Professor chandrasekhar@iitbbs.ac.in	Institute of Physics, 2006	Heat Engines, Thermodynamics and Statistical Mechanics; Black Holes; String Theory
13.	**Dr. Rajan Jha** Associate Professor rjha@iitbbs.ac.in	IIT Delhi, 2007	Optical Devices; Plasmonics; Fiber Optic
14.	**Dr. Sabyasachi Pani** Associate Professor spani@iitbbs.ac.in	IIT Kharagpur, 2004	Variational Inequalities and Complementarity Problems; Applied Functional Analysis; Optimization Techniques
15.	**Dr. Sasmita Barik** Associate Professor sasmita@iitbbs.ac.in	IIT Guwahati, 2007	Combinatorial Matrix Theory; Graph Theory;
16.	**Dr. Shantanu Pal** Associate Professor spal@iitbbs.ac.in	IIT Bombay, 2006	Development of novel methodology and total synthesis of biologically active natural products; Development of chemically modified small molecules as therapeutic agent; Synthesis of modified nucleic acid as anticancer or antiviral drug.
17.	**Dr. Shyamal Chatterjee** Associate Professor shyamal@iitbbs.ac.in	The University of Heidelberg, Germany, 2007	Experimental atomic, molecular and surface physics; Nanomaterials; Biomolecules, clusters
18.	**Dr. Snehasis Chowdhuri** Associate Professor snehasis@iitbbs.ac.in	IIT Kanpur, 2005	Theoretical Chemistry; Statistical Mechanics; Molecular Dynamics Simulation
19.	**Dr. Tarakanta Nayak** Associate Professor tnayak@iitbbs.ac.in	IIT Guwahati, 2007	Complex Dynamics; Fractals; Independence polynomials and independence fractals of graphs
20.	**Dr. Abhijit Datta Banik** Assistant Professor adattabanik@iitbbs.ac.in	IIT Kharagpur, 2007	Queueing Theory, Applied Probability Models, Stochastic Modelling and Simulation, Stochastic Models in Operations Research and their application in Communication systems, Transportation, Manufacturing, Production and Inventory Systems.
21.	**Dr. Akhilesh Kumar Singh** Assistant Professor aksingh@iitbbs.ac.in	IIT Kanpur, 2007	Fluorogenic and Chromogenic Chemosensors; Magnetic Materials and MRI Contrast Agents; Synthesis and Characterization of Task Specific Ionic Liquids and Their Application
22.	**Dr. Anasuya Roychowdhury** Assistant Professor aroychowdhury@iitbbs.ac.in	University of Texas Medical Branch, 2009	Chemomechanistic physiology and regulation of class of enzyme ATPase; Role of ATPase in Cancer Biology; Role of ATPase in Biological Clock
23.	**Dr. Kousik Samanta** Assistant Professor kousik@iitbbs.ac.in	Texas A&M University, College Station, USA, 2009	Quantum Chemistry; Scattering theory; Mixed quantum-classical dynamics
24.	**Dr. Malay Kumar Bandyopadhyay** Assistant Professor malay@iitbbs.ac.in	Jadavpur University, Calcutta, 2008	Open Quantum System; Non-equilibrium Statistical Mechanics; Nanomagnetism

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
25.	**Dr. Niharika Mohapatra** Assistant Professor niharika@iitbbs.ac.in	IIT Bombay, 2006	Multiferroics; Thermoelectrics; Topological phases of matter
26.	**Dr. Satchidananda Rath** Assistant Professor srath@iitbbs.ac.in	Institute of Physics Bhubaneswar, 2006	Semiconductor nanosheets, Dilute magnetic semiconductor, Metal clusters, graphene, Optical properties, fast transitions, Raman scattering, Small angle x-ray scattering, Rheology; Solar cell, Light Emitting Diodes
27.	**Dr. Seema Bahinipati** Assistant Professor seema.bahinipati@iitbbs.ac.in	University of Cincinnati, Ohio, U.S.A., 2008	Experimental High Energy Physics [B Physics, CP Violation, Beyond Standard Model Physics]
28.	**Dr. Soumendra Rana** Assistant Professor soumendra@iitbbs.ac.in	IIT Bombay, 2007	G-protein Coupled Receptor Biology; Molecular Modelling and Computational Biology; Design, Synthesis and Characterization of Peptides
29.	**Dr. Srikanta Patra** Assistant Professor srikanta@iitbbs.ac.in	IIT Bombay, 2005	Metal Mediated Organic Transformations (Catalysis); Metal Based Anticancer Drugs; Functional Materials, Luminescent Materials, Sensors
30.	**Dr. Tabrez Khan** Assistant Professor tabrez@iitbbs.ac.in	University Of Mumbai, 2009	Synthetic Method Development; Natural products and natural product inspired bioactive molecule synthesis
31.	**Dr. Bankim Chandra Mandal** Assistant Professor bmandal@iitbbs.ac.in	University of Geneva, Switzerland, 2014	Numerical Analysis, Scientific Computing, Partial Differential Equations, Domain Decomposition Methods
32.	**Dr. Sunil Kumar Prajapati** Assistant Professor skprajapati@iitbbs.ac.in	IIT Delhi, 2013	Algebra
33.	**Dr. Abhishek Chowdhury** Assistant Professor achowdhury@iitbbs.ac.in	Harish Chandra Research Institute (DAE), Allahabad, 2016	String Theory; Black Holes; QFT; Moonshine
34.	**Dr. Hemant Kumar** Assistant Professor hemant@iitbbs.ac.in	Indian Institute of Science, Bangalore, 2014	Computational condensed matter; Electronic and magnetic properties of 2D materials; Functional materials; Energy storage; Chromatin folding and DNA transcription
35.	**Dr. Aneesh M.** Assistant Professor aneesh@iitbbs.ac.in	IIT Kanpur, 2016	Operator theory; Operator dynamics; Functional analysis
36.	**Dr. Arpan Kabiraj** Assistant Professor akabiraj@iitbbs.ac.in	IISc. Bangalore, 2016	Geometric group theory ; Low-Dimensional Topology
37.	**Dr. Nirmalendu Acharyya** Assistant Professor nirmalendu@iitbbs.ac.in	IISc. Bangalore, 2015	Mathematical physics; Open quantum systems; Biosensing

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
38.	**Dr. Pramod Padmanabhan** Assistant Professor ppadmana@iitbbs.ac.in	Syracuse University, 2012	Physics on Noncommutative Spacetimes
39.	**Dr. Indrajit Jana** Assistant Professor ijana@iitbbs.ac.in	Univ. of California, Davis, 2017	Probability Theory, Random Matrix Theory
40.	**Dr. Abhijit Sutradhar** Visiting Faculty abhijits@iitbbs.ac.in	IIT Kharagpur, 2017	Biofluid mechanics; Magnetic drug targeting; Nanofluid convection in porous media
41.	**Dr. Avijit Kumar** Visiting Faculty avijitkumar@iitbbs.ac.in	University of Twente, the Netherlands, 2013	Two-Dimensional Materials; Metal-Organic Frameworks (MOFs); Molecular Assembly; Molecular Electronics; Scanning Tunneling Microscopy (STM); non-contact Atomic Force Microscopy (nc-AFM).
School of Earth, Ocean and Climate Sciences			
42.	**Prof. Uma Charan Mohanty** Visiting Professor ucmohanty@iitbbs.ac.in	Odessa Hydro-Meteorological Institute, USSR, 1978	Tropical Meteorology, Numerical Weather Prediction, Monsoon Dynamics, Regional Climate Studies and Meso-scale Modelling
43.	**Prof. Hrusikesh Mishra** Visiting Professor hrusikesh@iitbbs.ac.in	University of Wollongong, New South Wales, Australia, 1987	Coal Geology/Petrology, Coal Preparation, Coal Petrology and its application in Coal & Hydrocarbon exploration
44.	**Prof. Rambhatla G. Sastry** Visiting Professor rgsastry@iitbbs.ac.in	Moscow State University, Russia, 1980	Geophysics/ Satellite gravity, Geotechnical geophysics (Engineering Geophysics), Exploration Geophysics
45.	**Prof. Axel Hofmann** Visiting Professor of Foreign Origin alexhofmann@iitbbs.ac.in	University of Johannesburg, 2002	Archaean geology, sediment geochemistry and economic geology
46.	**Dr. Debadatta Swain** Assistant Professor dswain@iitbbs.ac.in	University of Pune, 2009	Satellite & Physical Oceanography; Ocean-Atmosphere Interactions & Modelling; Atmospheric Dynamics
47.	**Dr. Kiranmayi Landu** Assistant Professor kiranmayi@iitbbs.ac.in	IISc Bangalore, 2008	Climate Dynamics; Tropical Meteorology; Extreme Weather events
48.	**Dr. Sourav Sil** Assistant Professor souravsil@iitbbs.ac.in	IIT Kharagpur, 2012	Physical Oceanography; Ocean Circulation Modelling; Coastal Dynamics
49.	**Dr. Raj Kumar Singh** Assistant Professor rksingh@iitbbs.ac.in	IIT Kharagpur, 2009	Paleoclimatology and Paleoceanography; Marine Micropaleontology; Hydrogeology
50.	**Dr. Sandeep Pattnaik** Assistant Professor spt@iitbbs.ac.in	Andhra University, 2006	Tropical Meteorology; Monsoon, Cloud Physics; Extreme Events (e.g. Tropical cyclone, Heavy Rainfall, Lightning)

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
51.	**Dr. Syed Hilal Farooq** Assistant Professor hilalfarooq@iitbbs.ac.in	IIT Bombay, 2010	Hydrogeochemistry; Geothermal Energy; Organic Geochemistry
52.	**Dr. Vinoj. V** Assistant Professor vinoj@iitbbs.ac.in	IISc Bangalore, 2009	Aerosol Cloud Climate Interactions; Satellite Remote Sensing, Radiative Forcing, Field Measurements; Monsoon and Climate Change, Climate Modelling
53.	**Dr. Yengkhom Kesojit Singh** Assistant Professor yksingh@iitbbs.ac.in	IIT Bombay, 2011	Structural geology and tectonics; geochronology; photogrammetry; GIS and remote sensing; Natural hazard and disaster management; Augmented reality and virtual reality.
54.	**Dr. Pathikrit Bhattacharya** Assistant Professor pathikri@iitbbs.ac.in	Princeton University, 2017	Mechanics of earthquakes and faulting; laboratory friction experiments; physics and mechanics of friction; earthquake statistics; fluid-rock interactions; fault-zone hydrology; high performance computing in modelling of earthquake processes; Bayesian inference on highly correlated spaces.
55.	**Dr. Sourav Bhattacharya** Visiting Faculty sourabh@iitbbs.ac.in	IIT Kharagpur, 2014	Ore Geology; Hydrothermal Ore Deposits; Fluid Inclusions & Laser Raman Microspectroscopy
School of Electrical Sciences			
56.	**Prof. R. V. Raja Kumar** Professor, Director director@iitbbs.ac.in	IIT Kharagpur, 1987	Wireless communications systems; Wireless networking protocols; Channel equalization and baseband processing; Detection methods and systems; Tracking algorithms; Adaptive filtering algorithms and their performance analysis; Estimation of time-varying signals and systems; Spectral Estimation methods; Audio and video coding; VLSI based processors for wireless communication systems; Voice and multimedia over IP
57.	**Prof. N. C. Sahoo** Professor ncsahoo@iitbbs.ac.in	National University of Singapore, 2001	Renewable Energy Systems; Power System Optimization and Control; Control of Electric Drives
58.	**Dr. Chandrashekhar Narayan Bhende** Associate Professor cnb@iitbbs.ac.in	IIT Delhi, 2008	Renewable Energy, Distributed Generation; Power Quality, Custom Power Devices; Application of soft computing techniques to power systems
59.	**Dr. Manoranjan Satpathy** Associate Professor manoranjan@iitbbs.ac.in	IIT Bombay, 1997	Software Testing and verification; Advanced Computer Architecture; Programming Languages
60.	**Dr. Prasant Kumar Sahu** Associate Professor pks@iitbbs.ac.in	IIT Kharagpur, 2008	Optical Communication; Remote Sensing; Speech and Signal Processing
61.	**Dr. Pravas Ranjan Sahu** Associate Professor prs@iitbbs.ac.in	IIT Kanpur, 2006	Digital Communications, Mobile Communications, Receiver performance in fading channels.
62.	**Dr. Subhransu Ranjan Samantaray** Associate Professor srs@iitbbs.ac.in	NIT Rourkela, 2007	Power System protection; Smart-Grid; PMU and WAMs

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
63.	**Dr. Barathram Ramkumar** Associate Professor barathram@iitbbs.ac.in	Virginia Tech, 2011	Signal Processing; Wireless Communication; Bio-Signal Processing
64.	**Dr. Sankarsan Mohapatro** Associate Professor sankarsan@iitbbs.ac.in	IISc Bangalore, 2011	High Voltage Engineering; Industrial Application of High Voltage for Pollution Control; Renewable Energy Systems
65.	**Dr. Vijaya Sankara Rao Pasupureddi** Associate Professor vijay@iitbbs.ac.in	IIT Kharagpur, 2011	Analog, RF and Mixed-Signal VLSI Integrated Circuits and Systems; IC Design for Wireless and Wireline Communications; New Radio System Architectures for Next-Generation Wireless Standards; RF/Wireless System-on-Chip(SoC);
66.	**Dr. Debalina Ghosh** Assistant Professor deghosh@iitbbs.ac.in	Syracuse University, Syracuse, NY, USA, 2007	Remote Sensing; Electromagnetic Engineering and Antennas; Radar Systems
67.	**Dr. Debi Prosad Dogra** Assistant Professor dpdogra@iitbbs.ac.in	IIT Kharagpur, 2012	Visual Surveillance and Computer Vision; Human Computer Interface; Augmented Reality
68.	**Dr. Dipankar De** Assistant Professor dipankar@iitbbs.ac.in	IISc Bangalore, 2011	Switched Mode Power Converter and Design of Integrated Magnetics; Application of Power Electronics in Power Systems; Wide band-gap Device based Power Conversion
69.	**Dr. Joy Chandra Mukherjee** Assistant Professor joy@iitbbs.ac.in	IIT Kharagpur, 2015	Distributed Algorithms, Time-varying Network Algorithms, Intelligent Transportation Systems, Smart Grid
70.	**Dr. M. Sabarimalai Manikandan** Assistant Professor msm@iitbbs.ac.in	IIT Guwahati, 2009	Signal and Image Processing; Biometric and Multimodal Interfaces; VLSI and Embedded System
71.	**Dr. Niladri Bihari Puhan** Assistant Professor nbpuhan@iitbbs.ac.in	Nanyang Technologcal University, Singapore, 2007	Image Processing; Biometrics; Biomedical Imaging
72.	**Dr. Padmalochan Bera** Assistant Professor plb@iitbbs.ac.in	IIT Kharagpur, 2011	Networks and System Security; Cryptography; Software Defined Networks
73.	**Dr. Srinivas Bhaskar Karanki** Assistant Professor skaranki@iitbbs.ac.in	IIT Madras, 2012	Power Quality; DC DC Converters for Renewable energy sources; Power Electronics Applications to Power Systems
74.	**Dr. Sudipta Saha** Assistant Professor sudipta@iitbbs.ac.in	IIT Kharagpur,2015	Wireless Sensor Network; Cyber-Physical Systems; Internet-of-Things

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
75.	**Dr. Chandrasekhar Perumalla** Assistant Professor pcsekhar@iitbbs.ac.in	IIT Delhi, 2014	Integration and Control of Renewable Energy Systems; Design and Development of Smart Controllers for Microgrid/Smart Grid Systems; Control of Active Distribution Systems; Energy Management in Hybrid AC/ DC Microgrid Systems; Application of Power Electronics to Power Systems; Application of Soft Computing to Power Quality Problems
76.	**Dr. Srinivas Pinisetty** Assistant Professor spinisetty@iitbbs.ac.in	INRIA Rennes, University of Rennes1, France	Formal methods, runtime monitoring
77.	**Dr. Srinivas Boppu** Assistant Professor srinivas@iitbbs.ac.in	University of Erlangen-Nuremberg, 2015	Programmable Hardware Accelerators
78.	**Dr. Debapratim Ghosh** Assistant Professor debapratim@iitbbs.ac.in	IIT Bombay, 2017	Microwave components, circuits, and systems, microwave measurement systems, analog and small-scale embedded systems
79.	**Dr. Anoop Thomas** Assistant Professor anoopthomas@iitbbs.ac.in	IISc. Bangalore, 2018	Coding techniques; Algebraic Error Correcting Codes; Index Coding; Network Coding; Coded caching; Coded Distributed Computing
80.	**Dr. Olive Ray** Assistant Professor olive@iitbbs.ac.in	IIT Kanpur, 2016	Renewable power integration; Converter modeling and control; Digital control of Power Electronics
81.	**Dr. Soumya Prakash Dash** Assistant Professor spdash@iitbbs.ac.in	IIT Delhi, 2019	Communication theory; Powerline communication; Smart grid communications; Diversity combining; Soft and evolutionary computing
82.	**Dr. Siddhartha S. Borkotoky** Assistant Professor borkotoky@iitbbs.ac.in	Clemson University, South Carolina, 2017	Wireless Communications; IoT; Application-Layer Coding; Adaptive Transmission Protocols
83.	**Dr. Nijwm Wary** Assistant Professor nijwmwary@iitbbs.ac.in	IIT Kharagpur, 2018	Analog CMOS VLSI circuit design; circuit design for high speed serial link; SERDES; on-chip and off-chip interconnects; full-duplex and coded differential signaling
84.	**Dr. Subhajyoti Mukherjee** Assistant Professor sjm@iitbbs.ac.in	Missouri University of Science and Technology, Rolla, MO, USA, 2017	Power Converter Modeling and Control, Wide Band-gap Devices based Power Converters, Soft switching Techniques, Multiport Converters, Transportation Electrification, Grid Connected Systems, and Application of Power Electronics for Renewable Sources of Energy.
School of Humanities, Social Sciences and Management			
85.	**Prof. Godabarisha Mishra** Visiting Professor gmishra@iitbbs.ac.in	Madras University, 1986	Sanskrit and Indian Philosophy
86.	**Prof. Johannes Eugene Marie Houben** Visiting Professor in Foreign Origin gmishra@iitbbs.ac.in	University of Utrecht, Netherlands, 1992	Sanskrit and Vedic Language; Sanskrit and Vedic texts; ancient Indian rituals; brahminical philosophies and Sanskrit knowledge systems, esp. Sanskrit linguistics, grammar and philosophy of language

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
87.	**Dr. Amrita Satapathy** Assistant Professor asatapathy@iitbbs.ac.in	Utkal University, 2009	Commonwealth Studies, Indian Diaspora Literature, Travel Writings/ Autobiographies/ Memoirs
88.	**Dr. Anamitra Basu** Assistant Professor anamitrabasu@iitbbs.ac.in	IIT Kharagpur, 2010	Laterality ; Psycholinguistics; clinical Psychology
89.	**Dr. Dukhabandhu Sahoo** Assistant Professor dsahoo@iitbbs.ac.in	Institute for Social and Economic Change, Bangalore, 2007	Open Macroeconomics; Development Economics; Environment and Natural Resource Economics
90.	**Dr. Naresh Chandra Sahu** Assistant Professor naresh@iitbbs.ac.in	IIT Kanpur, 2008	Environmental Economics; Finance; Mining and Rural Development
91.	**Dr. Punyashree Panda** Assistant Professor ppanda@iitbbs.ac.in	Berhampur University, 2008	Postcolonial World Literature, Indigenous Writings; Indian Writing in English; ELT, Cross-cultural Communication
92.	**Dr. Rajakumar Guduru** Assistant Professor rajakumarguduru@iitbbs.ac.in	English and Foreign Languages University, Hyderabad, 2011	Developing Critical Vocabulary of ESL Learners; Cognitive Reading Skills; Second Language Acquisition; Teacher Education and Development; Communication Skills; Technology and Language Learning
93.	**Dr. Madhusmita Dash** Assistant Professor madhusmita@iitbbs.ac.in	IIT Kharagpur, 2016	Economics of Natural Resource Management; New Institutional Economics; Environmental Economics; Rural Development; Renewable Energy; Trans-boundary Water Conflict
94.	**Dr. Vineet Sahu** Visiting Faculty at the level of Associate Professor vineetsahu@iitbbs.ac.in	University of Hyderabad, 2009	Philosophy
School of Infrastructure			
95.	**Prof. Rabindra Kumar Panda** Professor rkpanda@iitbbs.ac.in	Indian Agricultural Research Institute, New Delhi, 1984	Hydrology ; Watershed Management; Non-point Source Pollution of Water Resources
96.	**Dr. Dinakar Pasla** Associate Professor pdinakar@iitbbs.ac.in	IIT Madras, 2005	Concrete Technology
97.	**Dr. Sumanta Haldar** Associate Professor sumanta@iitbbs.ac.in	IISc Bangalore, 2008	Offshore wind energy foundation; Soil-structure interaction; Dynamics of soil and foundation
98.	**Dr. Pushpendu Bhunia** Associate Professor pbhunia@iitbbs.ac.in	IIT Kharagpur, 2008	Nutrients removal and recovery from wastewater; Vermi-filtration of domestic and industrial wastes; Recovery of energy and biogas generation from biodegradable wastes
99.	**Dr. Rajesh Roshan Dash** Associate Professor rrdash@iitbbs.ac.in	IIT Roorkee, 2008	Environmental Engineering; Treatment of Water and Wastewater; Solid Waste Management

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
100.	**Dr. Arindam Sarkar** Assistant Professor asarkar@iitbbs.ac.in	IIT Kharagpur, 2006	Flow through submerged and emergent vegetation; Scour around hydraulic structures; Mathematical flow modelling
101.	**Dr. B. Hanumantha Rao** Assistant Professor bhrao@iitbbs.ac.in	IIT Bombay, 2009	Geotechnical Engineering; Environmental Geotechnics;
102.	**Dr. Debasis Basu** Assistant Professor dbasu@iitbbs.ac.in	IIT Kharagpur, 2008	Sustainable Transportation, Operation of Public Transport; Transportation Economics; Traffic Studies
103.	**Dr. Goutam Mondal** Assistant Professor gmondal@iitbbs.ac.in	IIT Kanpur, 2011	Earthquake Engineering and Structural Dynamics; Seismic Analysis of Bridges; Soil-Structure Interaction
104.	**Dr. Manaswini Behera** Assistant Professor manaswini@iitbbs.ac.in	IIT Kharagpur, 2012	Water and wastewater treatment and reuse; Bioenergy recovery during wastewater treatment in microbial fuel cell; Solid waste management
105.	**Dr. Meenu Ramadas** Assistant Professor meenu@iitbbs.ac.in	Purdue University, USA, 2015	Hydrology; Water Resources; Drought Modelling
106.	**Dr. Partha Pratim Dey** Assistant Professor ppdey@iitbbs.ac.in	IIT Roorkee, 2006	Traffic Flow Modelling
107.	**Dr. Remya Neelancherry** Assistant Professor remya@iitbbs.ac.in	National Chiao Tung University Taiwan, 2010	Microwave photocatalytic treatment of complex wastewater; Catalytic copyrolysis of mixed solid waste; Solar photocatalytic treatment and preparation of supported catalyst
108.	**Dr. Shantanu Patra** Assistant Professor shantanupatra@iitbbs.ac.in	IIT Delhi, 2013	Geotechnical engineering, geosynthetics and their application
109.	**Dr. Suresh R Dash** Assistant Professor srdash@iitbbs.ac.in	University of Oxford, 2011	Structural Dynamics and Earthquake engineering; Soil - Structure Interaction; Seismic Analysis and Design of Pipelines
110.	**Dr. Umesh Chandra Sahoo** Assistant Professor ucsahoo@iitbbs.ac.in	IIT Kharagpur, 2009	Pavement Analysis and Design; Pavement Materials; Low Volume Roads
111.	**Dr. Devesh Punera** Assistant Professor devesh@iitbbs.ac.in	IIT Bombay, 2018	Structural Mechanics; Composite structures; Continuum theories of beams, plates and shell structures; Smart materials; Bio-mechanics.
112.	**Dr. Mohammad Masiur Rahaman** Assistant Professor masiurr@iitbbs.ac.in	IISc. Bangalore, 2018	Solid Mechanics, Fracture Mechanics, Peridynamics; Visco-plasticity and damage
113.	**Dr. Anush Konayakanahalli Chandrappa** Assistant Professor akc@iitbbs.ac.in	IIT Kharagpur, 2018	Transportation and Pavement Engineering

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
114.	**Dr. Mayank Mishra** Visiting Faculty at the level of Assistant Professor mayank@iitbbs.ac.in	University of Basilicata, Italy, 2017	Non-destructive testing of historical constructions; Machine Learning; Structural health monitoring; Optimization
115.	**Dr. Jothi Saravanan Thiyagarajan** Visiting Faculty at the level of Assistant Professor tjs@iitbbs.ac.in	The University of Tokyo, Japan, 2018	Structural Health Monitoring; Railway Track profile Estimation
School of Mechanical Sciences			
116.	**Prof. Swarup Kumar Mahapatra** Professor swarup@iitbbs.ac.in	Jadavpur University, 2000	Conjugate Heat Transfer; Radiation Modelling; Bio Heat Transfer
117.	**Dr. Arun Kumar Pradhan** Associate Professor akpradhan@iitbbs.ac.in	IIT Kharagpur, 2008	Solid Mechanics, Composite Materials & Structures, Fracture Mechanics & Delamination studies in Composites; Smart Materials & Structures; Natural Fibre Reinforced Composites
118.	**Dr. Manas Mohan Mahapatra** Associate Professor mmmahapatra@iitbbs.ac.in	IIT Kharagpur, 2008	Welding Residual Stress & Distortion control, Friction Stir Welding Tool Design, Friction Stir Processing and Friction Cladding; Thermal Spray and Laser Coating for Wear and High Temperature Applications; In-situ Metal Matrix Composites and their Manufacturability
119.	**Dr. Mihir Kumar Pandit** Associate Professor mihir@iitbbs.ac.in	IIT Kharagpur, 2009	Design and Solid Mechanics; Sandwich Structures; Composite Materials
120.	**Dr. Satyanarayan Panigrahi** Associate Professor psatyan@iitbbs.ac.in	IISc Bangalore, 2007	Underwater acoustic absorbers; Acoustics of mufflers and ducts; Acoustic metamaterials
121.	**Dr. Mihir Kumar Das** Associate Professor mihirdas@iitbbs.ac.in	IIT Roorkee, 2006	Two Phase Heat Transfer; PCM based Cooling System; Internal Combustion Engines
122.	**Dr. V. Pandu Ranga** Associate Professor pandu@iitbbs.ac.in	IIT Kharagpur, 2009	Robotics; Manufacturing; Soft Computing
123.	**Dr. Anirban Bhattacharya** Assistant Professor anirban@iitbbs.ac.in	IISc Bangalore, 2014	Multi-phase and multiscale transport phenomena; Phase change and grain structure modelling; Boiling heat transfer modelling
124.	**Dr. K. Srinivasa Ramanujam** Assistant Professor sramanujam@iitbbs.ac.in	IIT Madras, 2012	Active Passive Remote Sensing; Engineering Design and Optimization; Atmospheric Radiation

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
125.	**Dr. Prasenjit Rath** Assistant Professor prath@iitbbs.ac.in	Nanyang Technological University, Singapore, 2007	Transport Phenomena in Materials Processing; Ultrafast Transport; CFD/HT
126.	**Dr. Sasidhar Kondaraju** Assistant Professor sasidhar@iitbbs.ac.in	Wayne State University, 2009	Microfluidics; Micro/Nanoscale Thermofluids; Multiphase Flows
127.	**Dr. Satish Dhandole** Assistant Professor satish@iitbbs.ac.in	IIT Delhi, 2009	Dynamic Design; Vibro-acoustic; Mechanisms
128.	**Dr. Venugopal Arumuru** Assistant Professor venugopal@iitbbs.ac.in	IIT Bombay, 2014	Fluid Structure Interaction and unsteady Aero-Hydrodynamics; Heat Transfer augmentation; Acoustics
129.	**Dr. Yogesh G. Bhumkar** Assistant Professor bhumkar@iitbbs.ac.in	IIT Kanpur, 2012	High performance computing; Computational aero acoustics; Transitional and turbulent flows
130.	**Dr. Gaurav Bartarya** Assistant Professor bartarya@iitbbs.ac.in	IIT Kanpur, 2014	Conventional and nonconventional Machining Processes
131.	**Dr. Suvradip Mullick** Assistant Professor suvradip@iitbbs.ac.in	IIT Kharagpur, 2016	Laser material processing, Non-conventional machining
132.	**Dr. Pattabhi Ramaiah Budarapu** Assistant Professor pattabhi@iitbbs.ac.in	Bauhaus University of Welmar, Germany, 2015	Multiscale methods for fracture; molecular dynamics; fracture in multiphysics problems; structural dynamics
133.	**Dr. Soham Roychowdhury** Assistant Professor soham@iitbbs.ac.in	IIT Kharagpur, 2019	Computational Solid Mechanics; Mechanics of Inflatable Structures; Nonlinear Elasticity
134.	**Dr. Chetan** Assistant Professor chetan@iitbbs.ac.in	IIT Delhi, 2018	Sustainable Machining; Micro-Machining; Surface Engineering; Tribology in Manufacturing
School of Minerals, Metallurgical and Materials Engineering			
135.	**Dr. Brahma Deo** MGM Chair Professor bdeo@iitbbs.ac.in	University of Burdwan, 1975	Iron and steel making; Dynamic process control and optimization; Chaos control in dynamical systems
136.	**Dr. Animesh Mandal** Associate Professor animesh@iitbbs.ac.in	IIT Kharagpur, 2007	Aluminium alloys; Metal matrix composites; Semisolid processing of metallic systems
137.	**Dr. Amritendu Roy** Assistant Professor amritendu@iitbbs.ac.in	IIT Kanpur, 2012	Ferroelectric and multiferroic materials for memory and energy applications; Multi component alloy design; Electronic structure calculations
138.	**Dr. Kaushik Das** Assistant Professor kaushik@iitbbs.ac.in	McGill University, 2012	Mechanical Behaviour of Nanomaterials; Integration of Nanomaterials to Microelectromechanical Systems (MEMS)

Sl. No.	Name/Designation/ Email	Ph.D./Year	Specialization/Research Area
139.	**Dr. Kisor Kumar Sahu** Assistant Professor kisorsahu@iitbbs.ac.in	Kyoto University, 2006	Modelling and simulation of materials; Energy materials and systems; Structural and magnetic frustration of materials
140.	**Dr. Partha Sarathi De** Assistant Professor parthasarathi.de@iitbbs.ac.in	Missouri University of Science & Technology, USA, 2010	Friction stir welding and processing; High entropy alloys; Thermo-mechanical processing of metals
141.	**Dr. Soobhankar Pati** Assistant Professor spati@iitbbs.ac.in	Boston University, 2010	Electrochemistry ; Energy Materials; Sustainable Materials and Process
142.	**Dr. Srikant Gollapudi** Assistant Professor srikant@iitbbs.ac.in	North Carolina State University, 2007	Creep behavior of titanium, zirconium, magnesium and aluminum alloys and solders Mechanical alloying of amorphous and nanocrystalline alloys
143.	**Dr. Kodanda Ram Mangipudi** Assistant Professor kodanda@iitbbs.ac.in	University of Groningen, 2012	Computational Mechanics Mechanical behavior of (nano) composite materials Mechanics of cellular solids
144.	**Dr. Rama Krushna Sabat** Assistant Professor rsabat@iitbbs.ac.in	IISc Bangalore, 2015	Evolution of microstructure and texture during severe plastic deformation of a Magnesium-Cerium alloy
145.	**Dr. Sivaiah Bathula** Assistant Professor sivaiahb@iitbbs.ac.in	Delhi Technological University (DTU), Delhi, 2016	Thermoelectric Materials; Advanced Materials Processing Techniques; Advanced Materials Characterization Techniques; Novel Materials Synthesis Methodologies.
146.	**Dr. Mithipati Siva Bhaskar** Assistant Professor mithipati@iitbbs.ac.in	IISc Bangalore, 2017	Phase field modeling; Thermomechanical Processing; Steels; Metal Matrix Composites; Archaeo-metallurgy

Adjunct Faculty 2020-2021

Sl. No.	Name	Parent Institute	Name of the School visited
1.	Dr. Ing. Omkar Nath Mohanty	Director, Technology & Academic Initiative, RSB Metaltech Pvt. Ltd.	SMMME
2.	Prof. B. K. Panigrah	Director, Materials Chemistry & Metal Fuel Cycle Group, Indira Gandhi Centre for Atomic Research	SMMME
3.	Dr. Ashwini Nanda	Founder and CEO, HPC Research Inc., USA	SES
4.	Prof. Dhanush Dhari Misra	IIT (ISM) Dhanbad	SMMME
5.	Dr. Adway Mitra	Indian Institute of Technology Kharagpur	SES
6.	Prof. P. K. J. Mohapatra	Indian Institute of Technology Bhubaneswar	SES
7.	Dr. Pramod Padmanabhan	Institute of Basic Sciences, Daejeon	SBS

Sl. No.	Name	Parent Institute	Name of the School visited
8.	Dr. Nirmalendu Acharyya	Max Born Institute	SBS
9.	Padmashree Kumkum Mohanty	Odisha Sangeet Maha Vidyalaya	SHSS&M
10.	Dr. Damodar Tripathy	Indian Economic Service (Retd.)	SHSS&M
11.	Prof. Surya Narayan Misra	Former Vice-Chairman, IIPA (Odisha)	SHSS&M
12.	Prof. M. D. Srinivas	Chairman, Centre for Policy Studies	SHSS&M
13.	Prof. K. Ramasubramanian	Indian Institute of Technology Bombay	SHSS&M
14.	Prof. M. S. Sriram	Indian Institute of Technology Madras	SHSS&M
15.	Dr. Ileana Citaristi	Odissi Dancer and Choreographer, Founder Secretary Art Vision Dance Academy	SHSS&M
16.	Dr. Aruna Mohanty	Odissi Dancer and Choreographer, Odisha Dance Academy	SHSS&M
17.	Prof. Pratap Kumar Rath	Centre of Advanced Study in Psychology	SHSS&M
18.	Prof. Sangeeta Rath	Department of Psychology, Ravenshaw University	SHSS&M
19.	Prof. Amba Kulkarni	Department of Sanskrit, University of Hyderabad	SHSS&M
20.	Dr. Vineet Sahu	Department of HSS, IIT Kanpur	SHSS&M
21.	Prof. L. M. Patnaik	National Institute of Advanced Studies	SES
22.	Prof. Braja Kishore Swain	Jagannatha Sanskrit Vishvavidyalaya	SHSS&M
23.	Prof. Prativa Manjari Rath	Department of Sanskrit, Utkal University	SHSS&M
24.	Prof. Prawal Sinha	Indian Institute of Technology Kanpur	SBS
25.	Prof. Vasudeva R Yerikalapudy	Indian Institute of Technology Bhubaneswar	SBS
26.	Prof. Jatindra Kumar Nayak	Centre of Excellence in Language, Literature & Culture, Utkal University	SHSS&M
27.	Dr. Hemant Rath	TCS Innovation Lab, Bangalore	SES
28.	Prof. Santanu Banerjee	Department of Earth Sciences, IIT Bombay	SEOCS
29.	Prof. Bhaswati Patnaik	Department of Psychology, Utkal University	SHSS&M
30.	Dr. Balakrishna Pamulaparthy	General Electric (GE) Grid Automation	SES
31.	Prof. Damodar Suar	Department of Humanities and Social Sciences, IIT Kharagpur	SHSS&M
32.	Dr. Sateesh Kumar Peddoju	Indian Institute of Technology Roorkee	SES
33.	Dr. Vikram Vishal	Department of Earth Sciences, IIT Bombay	SEOCS
34.	Prof. Ravikant Vadlamani	Department of Geology and Geophysics, Indian Institute of Technology Kharagpur	SEOCS
35.	Dr. T. Raja Sekhar	Department of Mathematics Indian Institute of Technology Kharagpur	SBS
36.	Prof. Dipankar Dasgupta	University of Memphis	SES
37.	Prof. Brij Kumar Dhindaw	Indian Institute of Technology Kharagpur	SMMME
38.	Prof. Sarat Chandra Panigrahi	Indian Institute of Technology Kharagpur	SMMME

Publications

Book Chapter

School of Basic Sciences

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School of Earth, Ocean and Climate Sciences

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Research, Development and Collaborations

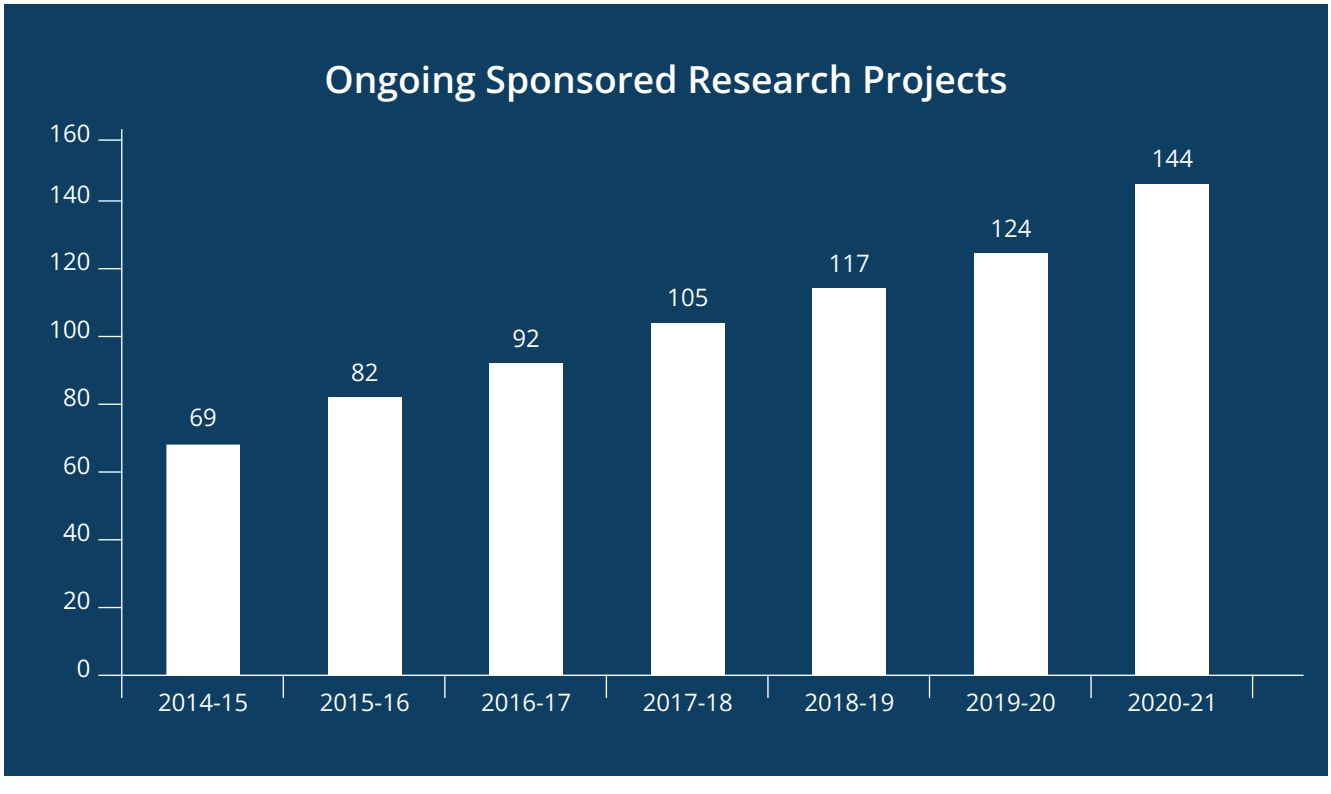
The Research and Development activities are increasing with time. The total value of projects received by the Institute so far (2008-21) is around ₹141.19 crore through 269 sponsored research and 269 consultancy projects. The breakup values of research and consultancy projects are ₹121.57 crore and ₹19.62 crore respectively. During the current year (2020-21), projects worth of ₹18.44 crore have been received, which includes ₹13.02 crore worth of sponsored research projects and ₹5.42 crore worth consultancy projects. The major funding agencies are DST, MOE, 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. In addition to the above, a total number of 86 project proposals worth ₹58.48 crore submitted recently are in pipeline.

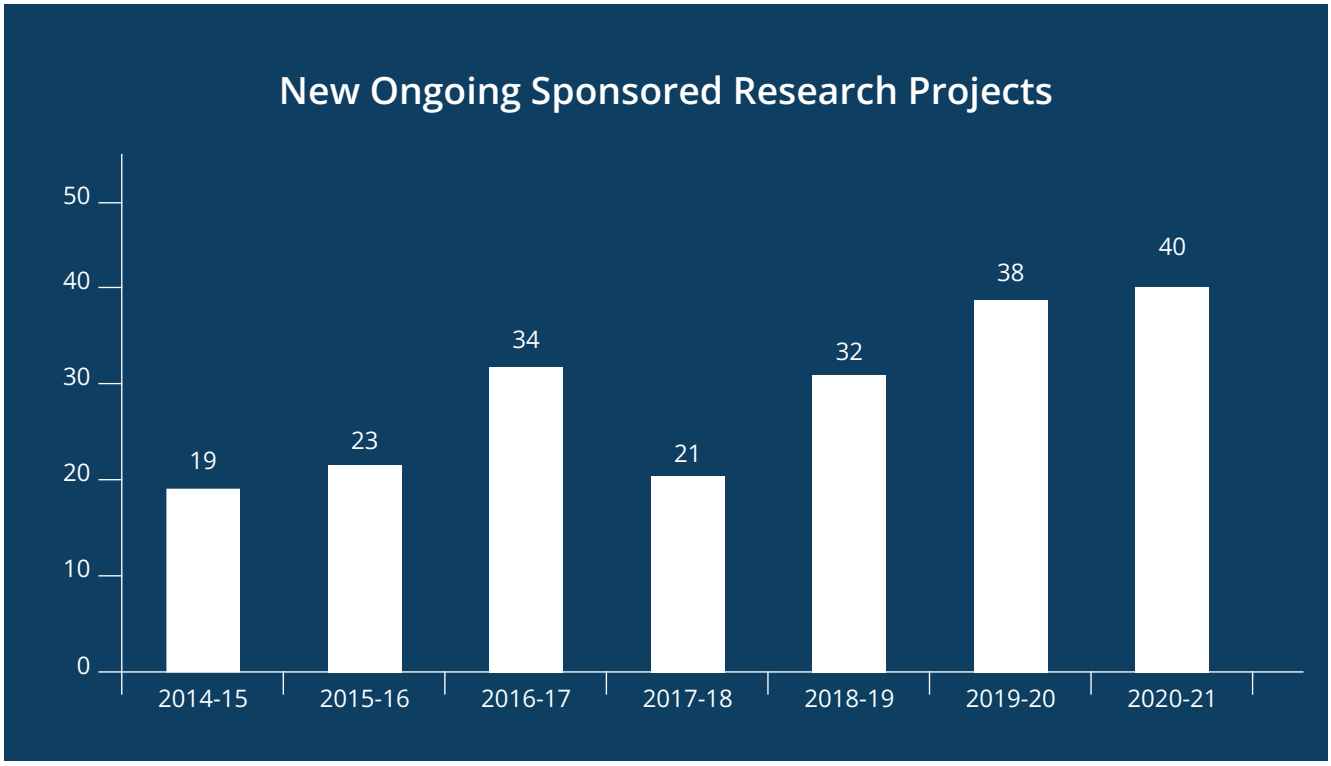
The major areas covered by these projects are Advance Materials, Energy, Nanotech Hardware, Health Care, Defence, CS & ICT, Environmental Sciences & Climate Change, Water Resources & River Science, Manufacturing and Sustainable Urban Design. Our faculty members participated in major initiatives of MOE like IMPRINT, Uchhatar Avishkar Yojana (UAY), Swachhta Action Plan, FIST and Unnat Bharat Abhiyan (UBA) etc. The Institute is also actively participating in the national R&D missions namely: "IMPacting Research, Innovation and Technology (IMPRINT)". A total of seven projects under IMPRINT worth ₹4.06 crore are now ongoing.

Ongoing Sponsored Research Projects for 2020-21

No. of ongoing sponsored projects for the year 2020-21 = 144

No. of new sponsored projects for the year 2020-21 = 40





Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
School of Basic Sciences			
1.	Center of Excellence for Novel Energy Materials (CENEMA)	MOE	Prof. Saroj Kumar Nayak
2.	Compact Muon Solenoid (CMS) Upgrade, Operation and Utilization	DST	Dr. Seema Bahinipati
3.	Structural studies on the interaction of hc5a with the N-terminus peptides of C5aR and C5L2 receptor	DST	Dr. Soumendra Rana
4.	Growth and characterization of semiconductor graphene hybrid nanosheets for solar cell applications	DST	Dr. Satchidananda Rath
5.	Synthesis of some natural marine pyrrole alkaloids and molecules inspired from them for multi-drug resistance (MDR) Cancer Cells	CSIR	Dr. Tabrez Khan
6.	Design and study of Nano and micro displacement sensor based on Photonic Crystal Fiber modal interferometer	ISRO	Dr. Rajan Jha
7.	Materials and related storage devices for grid-deprived communities	DST	Prof. Saroj Kumar Nayak
8.	Spectra of multidigraphs and their applications to complex networks	DST	Dr. Sasmita Barik
9.	Impact of lysine acetylation in Hsp16.3 on its structure, chaperone function and the growth, survival as well as pathogenesis of Mycobacterium tuberculosis	DST	Dr. Ashish Biswas
10.	Ion induced modification of nanostructured materials and tuning of surface wetting property	DST	Dr. Shyamal Chatterjee
11.	Development of dppz based mononuclear complexes of iridium and gold as potential luminescent probe and anticancer agent	CSIR	Dr. Srikanta Patra
12.	Independence polynomials of graphs and associated fractals	DST	Dr. Tarakanta Nayak

Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
13.	Development of Cost Effective process and known for production of Al-Mg alloys of enhanced mechanical properties, incorporating graphene/grapheme oxide, suitable for automobile application	NALCO	Prof. Saroj Kumar Nayak
14.	Effect of laser shock peening on the fatigue behavior of Nitinol shape memory alloy	DST	Dr. Srikanta Gollapudi
15.	Development of heterodimetallic complexes and their theranostic and catalytic aspects	DST-IMPRINT II	Dr. Srikanta Patra
16.	A Novel fluorescence-based assay for rapid detection and quantification of Exosomes	DST	Dr. Srikanta Patra
17.	Single chip test set for portable 5G network analyzers	DST	Dr. Debapratim Ghosh
18.	Development of Aluminium-based Materials for Energy Storage Application-Supercapacitor	NALCO-IMMT	Prof. Saroj Kumar Nayak
19.	High Pure Nano-Alumina for Solar Cell Anti-Reflection Coatings and Reinforcing Aluminium	NALCO	Prof. Saroj Kumar Nayak
20.	Taylor column phenomena of axially translating sphere in a rotating fluid - a numerical study	DST	Prof. T. V. S. Sekhar
21.	Design and development of metal-oxide hetero-structures for enhancement of photovoltaic energy conversion efficiency	DST	Dr. Niharika Mohapatra
22.	Space-time domain decomposition methods for non-linear cahn-hilliard equation and their implementations in parallel computers	DST	Dr. Bankim Chandra Mandal
23.	Design, Preparation and Evaluation of S (Sulphur) and P (Phosphorous) Mediated Functional Solids in the Form of Co-crystals, Metal-Organic Frameworks (MOFs) Structures and Covalent Organic Frameworks (COFs)	DST	Prof. V. R. Pedireddi
24.	Blending traditional and newer synthetic methods for regio-/stereoselective synthesis of functionalized carbo-/ heterocycles: Application towards the asymmetric total synthesis of some complex bioactive terpenoid-alkaloids	DST	Dr. Tabrez Khan
25.	Quasi-permutation representations and Gel'fand pair?	DST-MATRICS	Dr. Sunil Kumar Prajapati
26.	A study of harmonic analogue of certain univalent and analytic functions	DST-MATRICS	Dr. Basudeva Rao Allu
27.	Functional consequences of cancer testis antigen ATAD2 in pancreatic cancer	DBT	Dr. Anasuya Roychowdhury
28.	Spectrum of random band matrices	DST INSPIERD	Dr. Indrajit Jana
29.	Synthesis of Homo, Di and Tri (ABA type) Block Co-polymers of Less Activated Monomers by Reversible Deactivation Radical Polymerization	DST	Dr. Vijayakrishna Kari
30.	Metal Complexes of Macrocyclic/ Acyclic Ligands as T1 and ParaCEST-based Contract Agent for MRI	DST	Dr. Akhilesh Kumar Singh
31.	Multiscale (QM/MM) modelling approach to understand the bacterial resistance towards beta-lactam based antibiotics	DST	Dr. Kousik Samanta
32.	Photovoltaic assisted water harvestting from moisture using biometric surface	DST	Dr. Shyamal Chatterjee
33.	National Post-Doctoral Fellowship to Dr. Surjit Sahoo	DST	Prof. Saroj Kumar Nayak
34.	Growth of semiconductor heterostructure nanolayers for solar cell application	SERB	Dr. Satchidananda Rath
35.	Controlling Heat Float at Nanoscale: A Versatile Approach to Generate Sustainable Energy From Waste Heat	SERB	Dr. Malay Kumar Bandyopadhyay

Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
36.	C-H, C-O Activation and C1-Platform Chemicals: Synthetic and Mechanistic Studies on Two-metal Synergy	SERB	Prof. Sujit Roy
37.	Topological Phases Based on Metail-Organic Framework	SERB-DST	Dr. Avijit Kumar
38.	Contact Geometry Framework for Thermodynamics, Statistical Mechanics and Dissipative Dynamics?	SERB-DST	Dr. Chandrasekhar Bhamidipati
39.	Interaction of vortex beam with quantum emitters coupled to photonic nanowire	SERB-DST	Dr. Rajan Jha
40.	Consultancy work on "Development of Specialty Fiber Modal Interferometer as a Thermometer for Harsh Environment	IGCAR	Dr. Rajan Jha
41.	An enquiry into the problems in Geometric Function Theory	SERB-DST	Dr. Vasudeva Rao Allu
42.	Identification, synthesis and validation of potential ATAD2 ligands as a therapeutic strategy for stomach cancer	ICMR	Dr. Anasuya Roychowdhury
43.	Indigenous development of controlled interferometry based high-temperature industrial flow measurement device	DST	Dr. Rajan Jha
School of Earth, Ocean and Climate Sciences			
44.	Assessment and improvement of rainfall forecast skills over the state of Odisha with special reference to Mahanadi and Brahmani-Baitarani river system	CSIR	Dr. Sandeep Pattnaik
45.	Estimation of upwelling indices and study of propagating ocean fronts in the Indian and Global Oceans utilizing SCATSAT-1 gridded wind fields	ISRO	Dr. Debadatta Swain
46.	Numerical simulation of sub-mesoscale features along Odisha coast using SCATSAT winds	ISRO	Dr. Sourav Sil
47.	Detection of Lightning Phenomena and Associated Processes and its now-casting	ISRO	Dr. Debadatta Swain
48.	Impact of changing aerosol loading and urbanization on surface temperature and rainfall over select cities over India	DST	Dr. Vinoj V
49.	Development of long-term high resolution Land Use Land Cover (LULC) data for Bhubaneswar peri-urban & rural areas and future projection	DST-SPLICE	Dr. Debadatta Swain
50.	Quality control of HF Radar Surface currents for investigation of Sub-Mesoscale Coastal Processes and its use for assimilation in the INCOIS model	INCOIS	Dr. Sourav Sil
51.	Evaluation and development of hyperlocal forecasting system for smart city Bhubaneswar and neighbourhood regions	DST	Dr. Sandeep Pattnaik
52.	Urban Modelling: Development of multi-sectorial simulation lab and science based decision support framework to address urban environment issues	C-DAC under MeitY	Prof. U. C. Mohanty
53.	The inter-relationship between atmospheric aerosol distribution and tropical intraseasonal oscillations over the Indian region	DST	Dr. Vinoj V
54.	Subsurface variability of the Bay of Bengal from observations and models: relationship with Indian Monsoon and Cyclogenesis	DST	Dr. Sourav Sil
55.	High Resolution satellite mapping of particulate pollution (PM205) Hotspots over Bhubaneswar	SPCB	Dr. Vinoj V
56.	Study of carrying capacity of dolphins/habitatpreference and carrying capacity of tourist boats in Chilika Lake	Chilika Wildlife Division, Govt. of Odisha	Dr. Debadatta Swain

Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
57.	Middle Pleistocene to Holocene dynamics of Antarctic Circumpolar Current and its implications to global climate: Evidence from Southern Pacific	SERB	Dr. Raj Kumar Singh
58.	National Post-Doctoral Fellowship (N-PDF), (Life Sciences) to Dr. Amit Kumar Mishra	SERB-DST	Dr. Syed Hilal Farooq
School of Electrical Sciences			
59.	Special Manpower Development Program for Chips to System Design (SMDP-C2SD)	DeitY	Dr. Neti V L N Murty
60.	Visvesvaraya Ph scheme for Electronics and IT	DeitY	Dr. Neti V L N Murty
61.	Design and Development of Affordable and Movable Solar Photovoltaic (SPV) Water Pumping System	DAFP	Dr. S. B. Karanki and Dr. M. S. Manikandan
62.	Design and implementation of High-speed low-power embedded signal processor based custom power devices for power quality improvement	DST	Dr. S. B. Karanki
63.	Driver behavior modelling for autonomous driving	KPIT	Prof. N. C. Sahoo
64.	UK India Clean Energy research institute (UKICERI)	DST	Dr. S. B. Karanki
65.	Brush Less DC Machine Based Solar Pumping System	DST	Dr. C. N. Bhende
66.	Si/SiC Hybrid Semiconductor based solid state transformer for PV application		Dr. Dipankar De
67.	UI-ASSIST: US-India collaborative for smart distribution system with storage	Indo-US Science & Technology Forum	Dr. S. R. Samantaray
68.	HUB and SPOKE consortium for 2W and 3W Electric Drives-Design, Development and Prototyping of advanced IM and Synshronous Reluctance Drives and Vehicle integration for e2W and e3W vehicle applications	NFTDC	Prof. N. C. Sahoo
69.	FIST Programme	DST	Dr. P. K. Sahu
70.	Minimization of storage requirements in renewable rich smart microgrid through coordinated control of resources	DST	Dr. Chandrasekhar Perumalla
71.	Light weight, Reconfigurable Cognitive Radio Platform for M2M and IoT applications	DST-IMPRINT II	Dr. Barathram Ramkumar
72.	Prototype of Imaging Radar in UWB	DST-IMPRINT II	Dr. Srinivas Boppu
73.	Smart Grid Security Control Using Nature - Inspired Decentralised Cooperative Metaheuristic Strategies	DST - TARE	Prof. N. C. Sahoo
74.	Design and Development of tools for detection and prevention of cyber-attacks in Smart Grid Energy Management Systems (EMS)	CPRI	Dr. Padmalochan Bera
75.	Development of hybrid smart grid communication network for last mile connectivity: A D2D and PLC approach	DST	Dr. Soumya Praksh Dash
76.	Grid Interconnection Protocols for Largely Dispersed Minigrids/Microgrids for Electrification of Rural India (MultiGrid)	DST	Dr. Chandrasekhar Perumalla
77.	Quadratic boost converter based multi-input power converter interface for renewable applications	DST	Dr. Olive Ray
78.	Design and Development of Dynamic Phasor and Frequency Estimator Complying IEEE C37.118 standard under Teachers Associateship for Research Excellence (TARE)	DST - TARE	Dr. S. R. Samantaray
79.	Add on Radar for Jamming UAVs	Ministry of Defence	Dr. Deblina Ghosh
80.	Development of Formal Verification Tools for Proactive Assessment and Prevention of Security Threats in Enterprise Networks	DRDO	Dr. Padmalochan Bera
81.	National Post-Doctoral Fellowship to Dr. Haimabati Das	DST	Dr. N. B. Puhan

Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
82.	Efficient cache aided data delivery using deep reinforcement learning	DST	Dr. Anoop Thomas
83.	Achieving reliable communications in the Internet of things: an erasure-correction coding approach	DST	Dr. S. S. Borkotoky
84.	Design Of Dynamic MAC and PHY SoC for Low Power and Long Range networks	MeitY	Dr Vijaya Sankara Rao Pasupureddi
85.	High-speed and energy efficient CMOS transceiver design for full-duplex chip-to-chip serial link	SERB-DST	Dr. Nijwm Wary
86.	Design and Implementation of Artificial Intelligence Powered Internet-of-things (IoT) Climate-Aware Health Monitoring and Disease Prediction System for Sustainable Health and Wellness Management	Indian Council of Medical Research (ICMR)	Dr. M. S. Manikandan
87.	Development of Internet of Things Enabled Phasor and Power Quality Monitoring Devices for Smart Power Grids	SERB-DST	Dr. Subhransu Ranjan Samantaray
88.	Bone health classification using machine learning	SERB-DST	Dr. Debalina Ghosh
89.	Design and Development of Deep Learning based App for Early Warning of Blindness	SERB-DST	Dr. N. B. Puhan
90.	Design and Development of a Software Defined Radar for Road Safety Applications	Odisha Motor Vehicle Department, Govt. of Odisha	Dr. P. K. Sahu
School of Infrastructure			
91.	Bioelectricity recovery during treatment of kitchen waste in combined leach bed reactor and low cost microbial fuel cell	DST	Dr. Manaswini Behera
92.	Greywater treatment and reuse by combined sequencing batch reactor and solar photocatalytic reactor	DST	Dr. Remya Neelancherry
93.	Study of the effects of Climate Change on Hydro-meteorological processes: Droughts and Floods at Different Spatial and Temporal Scales in Eastern India	DST	Prof. R. K. Panda
94.	Design and analysis of reactor for catalytic co-pyrolysis of biomass and plastic: A treatment technique for mixed solid waste	DST	Dr. Remya Neelancherry
95.	Characterization studies of Nano-enhanced phase change material (NEPCM) in thermal storage devices for sustainable building design in India	DST	Dr. B. Hanumantha Rao
96.	Measures for Improving the Attractiveness of Pedestrian Facility Accessing Urban Local Bus Stops	MOE IMPRINT I	Dr. Debasis Basu
97.	Treatment for domestic wastewater using microphyte assisted vermifiltration system	MOE share for Swachhta Action Plan (SAP)	Dr. R. R. Dash
98.	Impact Assessment of climate change on Hydro-meteorological processes and water resources of Mahanadi river basin	Ministry of Water Resources	Dr. Arindam Sarkar
99.	Urban Flood Modelling - A Web-based Decision Tool Integrating UAV Based Information	DST	Dr. Meenu Ramadas
100.	Energy Efficiency in Agricultural pumping with smart ground water management through monitoring and targeting aquifers	EESL	Prof. R. K. Panda
101.	Seismic Design of Pipelines	NDMA & BIS	Dr. S. R. Dash
102.	Life Cycle and performance assessment of cold mix roads	NRIDA	Dr. U. C. Sahoo

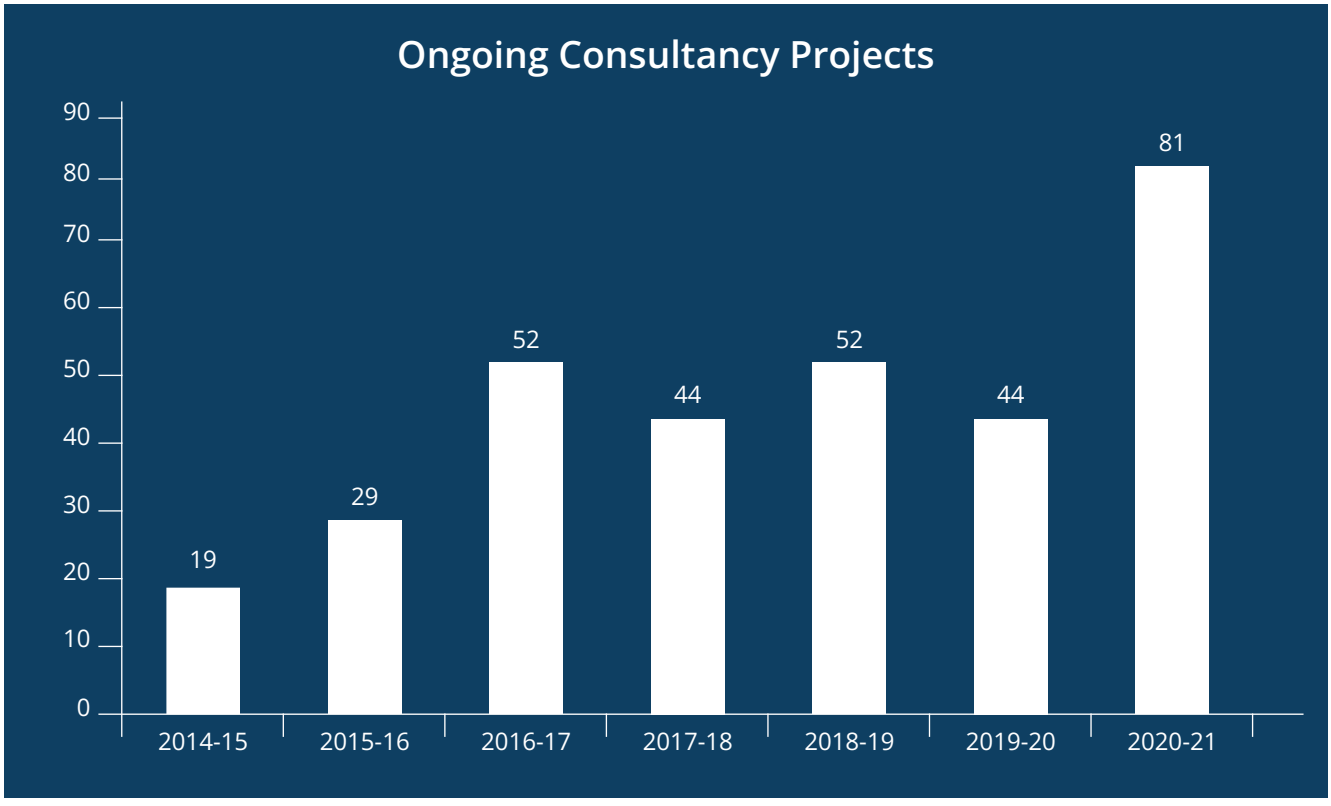
Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
103.	Cost effective ICT-Data analytics system for efficient management of water and fertilizer in precision agriculture	DST-IMPRINT II	Dr. Meenu Ramadas
104.	Saraswati 2.0 - Identifying best available technologies for decentralized wastewater treatment and resource recovery for India	DST	Dr. Manaswini Behera
105.	Stochastic Material Degradation based Large Deformation Finite Element Analysis of FRP Composites in Hygrothermal Environment using Thickness Stretching Kinematic Model-Special Investigation of Tidal Turbine Blades	DST	Dr. Devesh Punera
106.	Developing a process for determining the polymer content in waste plastic modified bituminous mixes	NRIDA	Dr. U. C. Sahoo
School of Minerals, Metallurgical and Materials Engineering			
107.	Optimization Of Silos, Bins And Hoppers Designs Through Modelling, Primarily Intended For Iron Ore Storage	UAY of MOE & NMDC	Dr. Kisor Kumar Sahu
108.	Panel head of materials panel of Naval Research Board	DRDO	Prof. B. K. Dhindaw
109.	Value added Electrochemical Devices from Zircon Obtained from Beach Sands of Odisha	Ministry of Mines	Dr. Soobhankar Pati
110.	Improving damping capacity of cast Nickel Aluminium Bronze (NAB) Alloys	NRB	Dr. Partha Sarathi De
111.	Online corrosion monitoring in naval structures	NRB	Dr. Soobhankar Pati
112.	Development of stand-alone, cost-effective conversion coatings for Magnesium alloys	UAY of MOE	Dr. Kisor Kumar Sahu
113.	Stress corrosion cracking (SCC) evaluation of materials for naval applications: new insights from Double Cantilever Beam (DCB) technique	NRB	Dr. Kisor Kumar Sahu
114.	Low temperature electro refining process for production of high purity aluminium (4N and above)	NALCO	Dr. Soobhankar Pati
115.	Centre for H2 Solutions - Materials Energy Systems (H2 - M & ES)	DST-NFTDC	Dr. Soobhankar Pati
116.	Mechanical behaviour of additively manufactured hierarchical micro-architected metamaterials and composites for structural and functional applications	DST	Dr. Kodandaram Mangipudi
117.	Improved surface hardness of bus body panels: A simple route by shot peening	NALCO	Dr. Srikant Gollapudi
118.	Design and characterization of an Al-Ti based high entropy alloys	DST	Dr. Partha Sarathi De
119.	Designing of novel transition metal oxide based ferroelectric perovskites for visible light photovoltaic application	DST	Dr. Amritendu Roy
120.	Fast Charging High Energy Density Lithium Ion Batteries with Nanoporous Silicon Anodes	SERB	Dr. Soobhankar Pati
121.	Computational alloy design and mechanical property study of complex concentrated alloys	Naval Materials Research Laboratory, Ambernath	Dr. Kodanda Ram Mangipudi
122.	Employing metallurgical silicon to develop new class of silicon composites for structural applications	Ministry of Mines	Dr. Srikant Gollapudi
123.	Development of PIEZOELECTRIC Ceramic-Polymer flexible composite based energy harvester for smart automobiles	CSIR-HRDG	Dr. Amritendu Roy

Sl. No.	Title of the Project	Name of the Funding Agency	Name of Faculty (Principal Investigator)
School of Mechanical Sciences			
124.	National Initiative for Design Innovation	MOE	Dr. S. N. Panigrahi
125.	Study of Wetting and De-Wetting Transition for Fog-Water Harvesting	DST INSPIRE Research Grant	Dr. Sasidhar Kondaraju
126.	Droplet impact and splashing on oblique surface	DST	Dr. Sasidhar Kondaraju
127.	Performance Improvement of Steam Generator through the Enhanced Hydrophobic Surface	CPRI	Dr. Mihir Kumar Das
128.	Evaluation of residual stress in Alloy 617 boiler tube weld joint and 10Cr Steel/ Alloy 617 dissimilar metal weld joint for welded turbine rotor	IGCAR	Dr. M. M. Mahapatra
129.	FIST Program	DST	Dr. A. Satyanarayana
130.	Design and Development of Co-axial synthetic jet for electronics cooling	DST	Dr. Venugopal Arumuru
131.	Development of metal matrix nano-composites using selective laser melting process	DST	Dr. Anirban Bhattacharya
132.	Development of a three dimensional unsteady, compressible flow solver (based on LES methodology) to optimize shape of a launch vehicle for reducing aerodynamic drag and flow induced acoustic noise at transonic Mach numbers	ISRO	Dr. Yogesh Bhumkar
133.	Development of continuous gradient Functionally Graded Materials (FGMs) by using gravity die casting under Teachers Associateship for Research Excellence (TARE)	DST - TARE	Dr. M. M. Mahapatra
134.	Design and Development of Hybrid “PCM-Synthetic Jet” based Heat Sink for Electronic Cooling	DST	Dr. Mihir Kumar Das
135.	Dynamic Analysis and Design of Dynamically Balanced Gait Controller for Lower Limb Exoskeleton	DST	Dr. Pandu Ranga Vundavalli
136.	Development of a sub-micrometer resolution electro hydrodynamic jet printer for printing customized polymeric structures	DST-IMPRINT II	Dr. Sasidhar Kondaraju
137.	Design and development of lightweight and crashworthy hierarchical materials and structures	DST	Dr. B. Pattabhi Ramaiah
138.	Prediction of impact dynamics of projectile and armour plate with accurate thermal modelling	DRDO	Prof. S. K. Mohapatra
139.	Thermal Characterization of gun barrel during dynamic firing	DRDO	Prof. S. K. Mohapatra
140.	Development of heat transfer enhancement methods at boiling and evaporation on horizontal tube bundles for falling films and forced flow of liquids	DST	Dr. Mihir Kumar Das
141.	Assimilation of Ground Radar Data with Weather Research and Forecast Model in Information Theoretic Framework	Ministry of Earth Sciences	Dr. Srinivasa Ramanujam Kannan
142.	Design and development of compact and lightweight jet pumps for aviation application with enhanced efficiency	CTTC	Dr. Venugopal Arumuru
143.	Ultrasonic assisted laser additive manufacturing of nickel based super alloys and its online temperature monitoring to control the directionality in grain growth, anisotropy in mechanical properties and elemental segregation; and enhancement of the component life by laser shock peening.	SERB-DST	Dr. Suvradip Mullick
144.	Development of in-reflection fiber based interferometer for residual stress measurement	DST	Dr. M. M. Mahapatra

Consultancy/Development Projects for 2020-21

No. of ongoing consultancy projects for the year 2020-21 = 81

No. of new consultancy projects for the year 2020-21 = 60



Sl. No.	Title of the Project	Name of the Funding agency	Name of Faculty (Principal Investigator)
Interdisciplinary Project of School of Electrical Sciences/ School of Mechanical Sciences / School of Basic Sciences and School of Minerals, Metallurgical and Materials Engineering			
1.	Technological interventions to reduce human animal conflict	State wildlife	Prof. N. C. Sahoo, Dr. S.N. Panigrahi, Dr. Vijaykrishna Kari, Dr. Mithipati Siva Bhaskar
School of Basic Sciences			
2.	Design and formulation of coating using molecular modelling and simulation	M/s Tata Steel Ltd	Prof. Saroj Kumar Nayak
School of Electrical Sciences			
3.	Anomaly Detection in Videos	Korea Institute of Science and Technology (KIST)	Dr. Debi Prosad Dogra
4.	Re-identification guided video synopsis	Korea Institute of Science and Technology (KIST)	Dr. Debi Prosad Dogra
5.	Implementation of Advanced Machine Learning Algorithms for Cluster Expansion	M/s Indo Korea Science and Technology Center, Bangalore	Dr. Debi Prosad Dogra
6.	Distributed SDN controller with end to end security	Central Research Laboratory, Bharat Electronics Ltd	Dr. Padmalochan Bera
School of Humanities, Social Sciences and Management			
7.	Regional and Sub-regional Analyses of Macroeconomic Policy Strategies for Growth and Equality in Southern Africa	United Nations University World Institute for Development Economics Research	Dr. Dukhabandu Sahoo
8.	Impact Assessment of WHO's framework convention on Tobacco Control (FCTC) in India-A call to action report 2021	M/s A. F.Development Care (AFDC)	Dr. Dukhabandu Sahoo
School of Infrastructure			
9.	Soil core lab testing	M/s Ramky Enviro Engineers Limited	Dr. B. Hanumantha Rao
10.	Environmental Audit of CHWTSDF	M/s Ramky Enviro Engineers Limited	Dr. B. Hanumantha Rao
11.	Development of Hydrophobic Concrete for Seabird Project	M/s Master Builders Solutions India Private Limited	Dr. Dinakar Pasla
12.	Vetting of GTI rockfall protection netting specifications "D-WR"	Gabion Technologies India Private Limited	Dr. B. Hanumantha Rao
13.	Measurement of factor of safety for tailings dams of RMP & ash pond at Vedanta Limited	Vedanta Limited Aluminium & Power	Dr. B. Hanumantha Rao
14.	Vetting of box culvert design of Jeypore airport under RCS-UDAN (Long Term)	Directorate of Aviation Bhubaneswar C/O M/S Nirman Soudha	Dr. Goutam Mondal
15.	Proof checking of the structural design & drawing of PEB Hangar at Biju Patnaik International Airport, Bhubaneswar	M/s Yazdani International Pvt. Ltd/ C/o Capt Zaheed Parvez	Dr. Goutam Mondal
16.	Structural Scrutiny of Railway Buildings	M/s PIR Projects and Consultancy Private Limited	Dr. Goutam Mondal

Sl. No.	Title of the Project	Name of the Funding agency	Name of Faculty (Principal Investigator)
17.	Consultancy for corrective action for cracks developed during the launching of pre-cast rcc box segment (span 2 x 6.0 x 6.0 m)	M/s RITES Limited	Dr. S. R. Dash
18.	Environmental Audit of secured landfill in smelter plant NALCO at Angul	NALCO	Dr. R. R. Dash
19.	Dike & Stability study of red mud storage pond-A	M/S Utkal Alumina International Ltd	Dr. B. Hanumantha Rao
20.	Design of CGBM using Provence 907, a ready mix grout	M/s Avijeet Agencies Pvt.Ltd	Dr. U. C. Sahoo
21.	Vetting of soil investigation report for the work: Soil Investigation For Provision of Deficient Integrated Security Watch Towers Under GE (P) Ezhimala at INA Ezhimala.	Idax Consulting & Research Pvt. Ltd.	Dr. Sumanta Haldar
22.	Rehabilitation and Up-gradation of Road from Km 0.000 to Km 16.290 (Lenggth- 16.290 km) of Manu-Lalcherra section of NH 44A to two lane with Paved shoulder in the state of Triupra on EPC basis (pkg-1)-safety consultant service reg.	M/s S. S. K. Infrastructures	Dr. Partha Pratim Dey
23.	Proof check of Major Bridge No. 8b of PEQCTPL siding at Paradeep	M/s Indian Port Rail & Ropeway Corporation Ltd. (IPRCL) Bhubaneswar	Dr. Devesh Punera
24.	Carrying out Mix-designs of concrete for the Widening & Strengthening of Sankara Bypass Road	M/s Altima Infrastructure Private Limited, C/O NBCC (India) Limited	Dr. Dinakar Pasla
25.	Proof check and scrutiny of designs and drawings of substructure for 3 nos of major bridges in connection with NTPC-LARA project	M/s RITES Limited	Dr. S. R. Dash
26.	Carrying out vetting of projects developed by Utkal Developers Bhubaneswar for Patrapada	M/s Utkal Builders	Dr. Dinakar Pasla
27.	Testing of spray concrete panels with PP fibers	M/s Master Builders Solutions India Private Limited, C/0 M/s BASF India Ltd	Dr. Dinakar Pasla
28.	Stability test of ash dikes	M/s Jindal India Thermal Power Limited	Dr. B. Hanumantha Rao
29.	Proof checking of design and drawing of six Nos of minor bridges (Non-RDSO standard RCC Box) at Brajrajnagar, Jharsuguda	M/s RITES Limited	Dr. S. R. Dash
30.	Surface Run-Off Management studies at Daitari Iron Ore Mine, South Kaliapani Chromite Mine and Sukrangi Chromite Mines, M/s OMC Ltd	The Odisha Mining Corporation Ltd.	Prof. R. K. Panda
31.	Suggesting measures for road failure at a hill section of NH-57	M/s SCIW-YFC Joint Venture	Dr. Umesh Chandra Sahoo
32.	Vetting of design note on slope stability	M/s Sai Gr Impex Pvt.Ltd	Dr. B. Hanumantha Rao
33.	Vetting of Design of Wastewater Treatment plant equipment units for STPs, ETPs, and SRTs	M/s S.J. Environmental Solutions	Dr. R. R. Dash
34.	Proof checking of Design and drawing of substructure for bridge in connection with Angul-Sukinda new BG Rail link Project	M/s Rail Vikas Nigam Limited	Dr. S. R. Dash

Sl. No.	Title of the Project	Name of the Funding agency	Name of Faculty (Principal Investigator)
35.	Product development and technical support for cold mix Asphalt Application in Eastern India	Bitchem Asphalt Technologies Ltd	Dr. U. C. Sahoo
36.	Vetting of traffic density study traffic density study for environmental clearance for TATA-Bhusan township at Angul	Centre for Envotech and management	Dr. R. R. Dash
37.	Design and drawing of building of SSRM and HRO, RMS 'N' Division, Cuttack, Odisha	Postal Civil Division	Dr. Sumanta Halder
38.	Carrying out vetting of projects developed by Utkal developers Bhubaneswar	Utkal Builders Pvt. Ltd	Dr. Dinakar Pasla
39.	Vetting of Traffic Density Study for Environmental Clearance for Housing project at Pahala, Bhubaneswar	Centre for Envotech and Management	Dr. P. P. Dey
40.	Study the cause of defect on the wing walls of Br. 5 over Angul-Balaram Section of MCRL corridor and suggestion on remedial measures for the structure	IRCON International Ltd	Dr. S. R. Dash
41.	Evaluation of PPC, PSC and Composite cements of Dalmia Cements	Dalmia Cements Bharat	Dr. Dinakar Pasla
42.	Carrying out the third party quality assurance consultancy (TPQAC) for the construction and development of Kendriya Vidyalaya School at Jagatsinghpur, Odisha	National Projects Construction Cooperation Ltd	Dr. Dinakar Pasla
43.	Proof checking of design and drawing of substructure and foundation of 5 major bridge at Brajrajnagar, Jharsuguda	RITES Ltd	Dr. S. R. Dash
44.	Carrying out concrete mix designs for new greenfield airport at Hirasaar, Rajkot (Gujarat)	Dillip Buildcon Ltd	Dr. Dinakar Pasla
45.	Proof check and scrutiny of design and drawings of bridge substructure and foundation (Br.3 and Br.79) in connection with NTPC-LARA project	RITES Ltd	Dr. S. R. Dash
46.	Carrying out concrete mix design for AIIMS Bhubaneswar second phase of construction	CPWD	Dr. Dinakar Pasla
47.	Proof checking of design and drawing of substructure for Bridge No. 180 (ROB)	Rail Vikas Nigam Limited	Dr. S. R. Dash
48.	Proof checking of detailed design and drawing for the construction of New Greenfield Airport at Rajkot, Gujarat	Dillip Buildcon Ltd	Dr. Anush K. C.
49.	Preparation of catchment area treatment plan for the Dubuna Sakradihi iron and manganese ore mines of OMC Ltd.	OMC	Prof. R. K. Panda
50.	Soil core lab testing	Ramky	Dr. B. Hanumatha Rao
51.	Structural vetting of proposed bridges for PIR projects and consultancy (P) Ltd	PIR Projects and Consultancy Private Limited	Dr. Goutam Mondal
52.	Structural vetting of residential towers as per the BDA, Odisha	Mani Tirumala	Dr. Devesh Punera
53.	Proof checking of the design and drawing of ROBs for KMC-RKD	RKD Construction (P) Ltd.	Dr. S. R. Dash

Sl. No.	Title of the Project	Name of the Funding agency	Name of Faculty (Principal Investigator)
54.	Proof checking of design and drawing of one of the revised substructure (Pier-P1) of Br. 172 in connection with Angul-Sukinda New B.G Rail link Project	Rail Vikas Nigam Limited	Dr. S. R. Dash
55.	Vetting of 3.0m height retaining wall sheet at VSS airport, Jharsuguda	Airport Authority of India PR Construction	Dr. Dinakar Pasla
56.	Database for Principal Technical Agency & State Technical Agency for states of Jharkhand and Odisha	NRRDA	Dr. U. C. Sahoo
57.	Testing of samples for integrated Infrastructure Complex at Dhamnagar, Bhadrak	Bridge and Roof Co, (India) Ltd.	Dr. Dinakar Pasla
58.	Vetting of construction of civil works for installation of ILS at VSS airport Jharsuguda	Airport Authority of India PR Construction	Dr. Dinakar Pasla
59.	Proof checking of design and drawing of road under bridge (RUB) at MCL, Talcher (span 2x6.0x6.0m RCC PRECAST SEGMENTAL BOX)	RITES Ltd	Dr. S. R. Dash
60.	Study of ground water table and surface water discharge at Tata Steel Kalinganagar	Tata Steel Ltd	Dr. Arindam Sarkar
61.	"Design of Cell filled concrete pavements for rural roads carrying heavy traffic	M/s Kohinoor Plastech, Kolkata	Dr. Anush K. C.
62.	Mix Design for NTPC-BHEL Project at BARH	RDC Concrete India Ltd	Dr. Dinakar Pasla
63.	Verification of Hydraulic & structural design and drawings of RWSS Mega Water Project of Puri District	M/s Voltas Limited	Dr. Puspendu Bhunia
64.	Design verification of Boudh WSP	Larsen & Toubro (L&T) Construction	Dr. Dinakar Pasla
65.	Verification of basic and detailed engineering design of RWSS mega water project of Rairakhol	Voltas Limited	Dr. Arindam Sarkar
66.	Stability study in tailings dams and scrutiny of dry stacking procedure of red mud	Vedanta Limited	Dr. B. Hanumatha Rao
67.	Construction of widening to 2-lane with paved shoulder including geometric improvement Ch.318.650 km to 339.940 km (Length 21.949 km) on Churaibari to Agartala section of NH8 (Old NH44) in the state of Tripura on EPC mode (Length 21.9 km)	M/s Ram Kripal Singh Construction Pvt. Ltd	Dr. P. P. Dey
68.	Technical Support for application of cold mix Bitumen in Rural Roads	SAPCO Bitumen Company Ltd L&T Ltd	Dr. U. C. Sahoo Dr. S. R. Dash
School of Minerals, Metallurgical and Materials Engineering			
69.	Testing of TMT Rebar	M/s Rungta Mines Limited C/o R&D & Q.P (R&B), Govt. of Odisha	Dr. Soobhankar Pati
70.	Development of static model for Tata steel BOF	Tata Steel Ltd	Prof. Brahma Deo
71.	Assessment study for issue of "no increase in pollution load" certificate to Paradip Refinery cum Petrochemical complex for processing crude oil above name plate capacity of 15 MMTPA = 10% max	Indian Oil Corporation Ltd	Dr. Rama Krushna Sabat

Sl. No.	Title of the Project	Name of the Funding agency	Name of Faculty (Principal Investigator)
72.	Testing of TMT Bars as per IS:1786:2008	Office of Chief Engineer, Research Development & Quality Promotion, Odisha	Dr. Soobhankar Pati
73.	Process related improvements at PPL	M/s Paradeep Phosphates Ltd	Prof. Brahma Deo
74.	Process control and optimization at Jindal Stainless Ltd, Jaipur, Odisha	Jindal Stainless Ltd	Prof. Brahma Deo
School of Mechanical Sciences			
75.	Residual Stress Measurement on Rotor Surface at various Locations (Base Metal & Weld) & Modelling of Rotor Weldment-For AUSC Projects	Bharat Heavy Electricals Limited	Dr. M. M. Mahapatra
76.	Mathematical modelling for parameter estimation and vibration analysis	ITR, DRDO	Dr. S. R. Kannan
77.	Design and development of gaseous Oxygen heat exchanger for semi-cryogenic stage	Liquid Propulsion Systems Centre	Dr. Prasenjit Rath
78.	Coriolis flowmeter study	Honeywell Technology Solutions Lab Pvt. Ltd	Dr. Venugopal Arumuru
79.	Design and development of Flow measurement Solution	Honeywell Technology Solutions Lab Pvt. Ltd	Dr. Venugopal Arumuru
80.	Residual stress measurement by Deep-hole drilling technique	NMRL, DRDO	Dr. M. M. Mahapatra

SPARC Project Conducted During 2019-21

Sl. No.	Project Cod & Title	Name of Project In charge	Name of the International Investigators	Name of the University
1	Code: P701: Title: Securing Implantable Medical Devices using Formal Methods	Dr. S. Pinisetty	Dr. Parth S Roop	The University of Auckland, New Zealand
			Dr. Mark Trew	The University of Auckland, New Zealand
2	Code: P420 Title: Computationally Guided Laser Based Tumor Diagnosis and Therapy	Prof. S. K. Mahapatra	Prof. Sunil Kumar	New York University(NYU), USA
			Prof. Zhixiong Gou	Rutgers University- (New Brunswick), USA
			Prof. Kunal Mitra	Florida Institute of Technology, USA
3	Code:P275 Title: Design and Development of Low-Cost, Easy to Install, Sustainable Foundations for Renewable Energy Devices	Dr. S. Patra	Dr. Michael Brown	University of Dundee, UK
			Dr. Jonathan knappett	University of Dundee, UK
4	Code: P468 Title: E3DCRM: Energy-Efficient Embedded Systems for Data-Driven Cardiac Rhythm Monitoring	Dr. M. S. Manikandan	Prof. Keshab K. Parhi	University of Minnesota, USA
			Dr. Alena Talkachova	University of Minnesota, USA

Sl. No.	Project Cod & Title	Name of Project In charge	Name of the International Investigators	Name of the University
5	Code: P712 Title: Rigorous Verification and Validation of Memory Systems in Heterogeneous	Dr. Manoranjan Satpathy	Prof. Laxmi Narayan Bhuyan	Univeristy of California, USA
			Dr. Sumit Kumar Jha	University of Central Florida, USA
			Prof. S Ramesh	General Motor R & D, USA
6	Code: P1080 Title: Stakeholder-driven Decision Support Cyberinfrastructure for Empowering Rural Communities to Plan for Water-Agro-Energy Climate Resiliency.	Dr. Meenu Ramadas	Dr. Meghna Babbar-Sabens	Oregon State University, USA
			Dr. Jenna Tilt	Oregon State University, USA
			Mr. Suresh Marru	Indiana University Bloomington, USA
7	Code: P680 Title: Wearable devices based on multi material and post processed fiber	Dr. Rajan Jha	Dr. Lei Wei	Nanyang Technological University, Singapore
			Dr. Rajan Singh	Nanyang Technological University, Singapore
8	Code: P879 Title: A Novel Biotreatment of Bauxite Residue for Conversion into Sustainable Geomaterial	Dr. Hanumantha B. Rao	Prof. Krishna R Reddy	University of Illinois, Chicago(UIC), USA
			Prof. Craig D Foster	University of Illinois Chicago(UIC), USA

RESEARCH UNDERTAKEN AGAINST COVID-19

Development of a Patient Responsive Active Assist coNtrol (PRAAN) Ventilator at IIT Bhubaneswar

Faculty members and students of IIT Bhubaneswar have developed a Patient Responsive Active Assist coNtrol (PRAAN) ventilator for COVID19 emergencies. It can be operated in the standard volume control mode by setting breaths-per-minute, inhale and exhale time ratios, and tidal volume. The LCD displays various control clinical parameters and features fault alarms. Some of the critical structural members have been 3D printed.

Faculty members, Dr. Kodanda Ram Mangipudi, from School of Minerals, Metallurgical and Materials Engineering, Dr. Srinivas Boppu, and Dr. Srinivas Karanki from the School of Electrical Sciences, carried the development along with their students Mr. Chinmay Panda, Mr. Arvind T.K.R., Mr. Karteek Sirisetti, Mr. Eswar Sai Prasad, Mr. Sudhansu Sekhar Nath, and Mr. Rahul Kumar.

The highlight of this PRAAN ventilator is its active assist control mode. In this mode of operation, the ventilator senses that the patient is trying to inhale and will adapts to the patient's breathing frequency, reducing the load on the lungs. This feature has been realized in the ventilator without a significant increase in cost.

IT Bhubaneswar has developed a portable ventilator to fight against COVID- 19 in an emergency pandemic situation

The School of Mechanical Sciences, IIT Bhubaneswar has developed a portable ventilator to fight against COVID- 19 in an emergency pandemic situation. The device was conceived and manufactured (in house) by Dr. M. M. Mahapatra and the team (Dr. J. G. Thakare, Mr. Arabinda Meher, Mr. Bivudatta Mohanty, Mr. Umesh Melkani). The team thanks Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar for all the encouragement and support.

The total volume of the resuscitator is 1650 ml with a stroke volume of 800 ml. The pumping of the portable ventilator is carried out by using a programmable stepper motor drive. The speed and stroke length of the stepper motor can be both controlled manually and programmable. The ventilator can operate at a maximum breathing frequency of 12-15 breaths per minute. The resuscitator is attached with a 2000 ml reservoir bag to reserve oxygen. The provision of oxygen supply can be made to the resuscitating unit by connecting an oxygen supply. The device operates smoothly without noise, compact and portable. The delivery volume can be varied to a maximum of 500 ml for smooth delivery of oxygen.

IIT Bhubaneswar developed a UVC Disinfection Cabinet

IIT Bhubaneswar developed a simple, but effective UVC Disinfection Chamber. The chamber can be used for disinfecting PPEs' of medical staff, electronic gadgets, garments, packets and other possible fomites.

Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar envisioned the design. Dr. Srinivas Bhaskar Karanki and Dr. DP Dogra faculty members from the School of Electrical Sciences made and tested the instrument along with the help of their two research scholars, Mr.Pratik Kumar Kar and Mr. Shreetam Behera.

Two versions of this prototype can cater to test samples of wide ranging sizes. The time of exposure can be traded with the power. Presently, the equipment is designed as per the behavioural results of SARS COV-1. It is expected to work for SARS-COV-2 since SARS-COV-2 belongs to the same family of SARS-COV-1. The team of developers intends to test the system against SARS-COV-2 with the help of ICMR-RMRC Bhubaneswar in the coming few days. The Institute will apply to ICMR for certification before taking it for production.

Development of a face shield with antimicrobial properties by researchers at IIT Bhubaneswar

The purpose of this project is to design, prototype equipment fabrication, testing, and upscaling technology transfer of the Anti-Viral face shield as personal protective equipment (PPE) for safeguarding the health of health care workers against COVID – 19. Various nanostructured composite films (such as TiO2, ZnO, RGO, etc.) will be incorporated through the coating on the locally available transparent sheet (that is being used as face shield material) and the same would be tested with ICMR - RMRC for the effectiveness of the use of face shield materials in fighting against COVID 19. As of now, a simple design and make of a simplified face shield has been made. A process for coating of the nanoparticles on the transparent sheet has been established and preliminary coatings with nanomaterials will be tested for anti-viral effectiveness soon.

The team working towards the development of the anti-viral face shield is:

1. Dr. Srikant G. (School of Minerals, Metallurgical and Materials Engineering)
2. Dr. Niharika Mohapatra (School of Basic Sciences)
3. Prof. P V Satyam, HoS (School of Minerals, Metallurgical and Materials Engineering)
4. Prof. Sujit Roy, Dean SRIC
5. Dr. V. Panduranga (School of Mechanical Sciences)
6. Dr. Ashis Biswas (School of Basic Sciences)
7. Mr. Bikash Samantaray (School of Minerals, Metallurgical and Materials Engineering)
8. Mr. Rajendra Goud (School of Minerals, Metallurgical and Materials Engineering)
9. Mr. K Pavan Srikanth (School of Minerals, Metallurgical and Materials Engineering)

Development of Pocket Sanitizer

School of Minerals, Metallurgical and Materials Engineering, IIT Bhubaneswar has developed a Pocket Sanitizer with the following features.

1. Easy to fabricate and uses low cost materials.
2. Refillable.
3. Can be used for dispensing both alcohol sanitizer and soap solution.
4. Works as a device for turning switches on/off and pushing buttons in ATM/elevator. The sanitizing liquid contained inside can help in disinfecting the switches and buttons.

IIT Bhubaneswar developed a Disinfectant Station to combat COVID-19

Indian Institute of Technology Bhubaneswar with regards to the ongoing outbreak of Novel Corona Virus (COVID-19) is committed to the health and welfare of the campsites so has gone ahead and currently developed a Disinfectant Station at the main gate of the Institute. The group of faculty and staff members (Dr. Mihir Kumar Pandit, Dr.

V. Pandu Ranga, Dr. Suvradip Mullick, and Mr. Bivudatta Mohanty from the School of Mechanical Sciences and Dr. Ashis Biswas from the School of Basic Sciences) are involved in this work.

The Disinfection station is an open structure covered on three sides and made up of steel channels, plywood and plastic sheets. The developed disinfectant unit is currently being used to sanitize the people entering the campus from chest to waist (emphasizing on hands) and lower part of the leg including feet, by spraying appropriate disinfectant comprising of isopropyl alcohol and oxidizing agent in the form of fine mist generated by two spraying nozzles. The station can also be used to sanitize bags and luggage, wallets, mobile phones etc. The person has to spend at least 20-30 seconds in front of the nozzles for adequate disinfection.

IIT Bhubaneswar prepares alcohol based hand sanitizer as per WHO parameters

The School of Basic Sciences, IIT Bhubaneswar has prepared alcohol based hand sanitizer, which has been prescribed by World Health Organization (WHO) for preventing the spread of coronavirus and its spores from small surfaces and hand for use by the campus community. Dr. A, Biswas and his research group have prepared hand sanitizer.

The 'in-house prepared hand sanitizer' contains an oxidizing agent which is usually absent in most of the commercialized hand sanitizers. IIT Bhubaneswar has also started distributing the same sanitizer to the medical unit, security unit(s) as well as among the staff and faculty members residing within the campus. The alcohol based hand sanitizer prepared at IIT Bhubaneswar contain at least 70% alcohol can efficiently disinfect microorganisms and viruses on hands within 30 seconds or so after application.

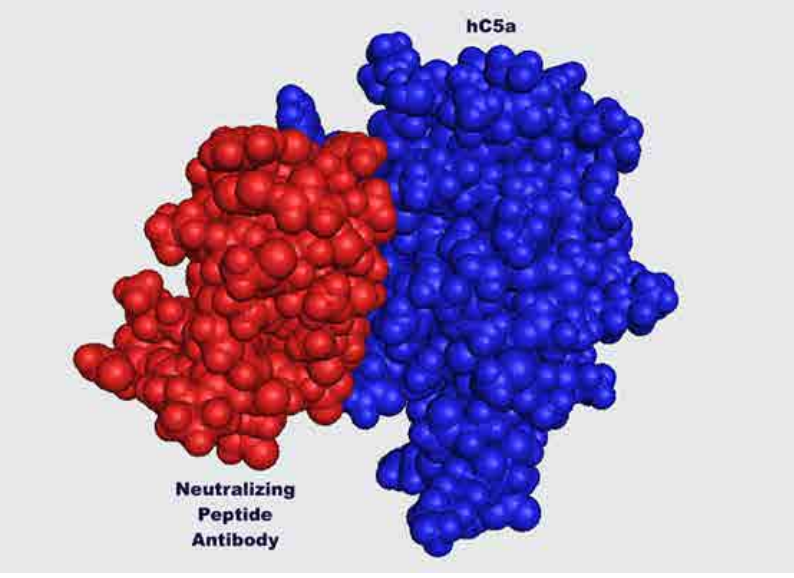
IIT Bhubaneswar developed a Disinfectant Tunnel to combat COVID-19

Indian Institute of Technology Bhubaneswar has developed and installed a Disinfectant Tunnel with its commitment to the health and welfare of the IIT Bhubaneswar family during the current situation of outbreak of Corona Virus Disease 2019 (COVID-19). A group of faculty, staff members and student (Dr. Suvradip Mullick, Dr. Gaurav Bartarya, Dr. Chetan, Dr. Mihir Kumar Pandit, Mr. Bivudatta Mohanty, Mr. Dilip Kumar Sahoo and Mr. Umesh Melkani) from the School of Mechanical Sciences and Dr. Ashis Biswas from the School of Basic Sciences have been actively involved in this work.

The Disinfection tunnel is a semi-closed structure and is currently being used at the main gate of IIT Bhubaneswar so that it may be helpful in sanitization of almost entire portion (except the face and head) of the body of persons. The unit applies spray of appropriate disinfectant comprising of isopropyl alcohol and hydrogen peroxide in the form of fine mist generated from four nozzles placed at different heights, focused towards a specific location and connected to the air blowers. The sensing unit of the developed system is programmed to keep the disinfectant mist turned on for 15-20 sec, once the person reach to the central position. The person has to take a full turn while standing at the designated location to get exposed to the spray mist to the desired level.

IIT Bhubaneswar working on Rational Design and Development of Neutralizing Peptide Antibody for Human Complement Fragment 5a (hC5a)

COVID-19 is a disease caused by the SARS-CoV-2, which triggers an aggressive inflammation response in the host body. Virus entry into the host cell triggers unregulated complement activation, resulting the onset of "cytokine storm", which plays a significant role in acute lung injury. It is worth mentioning that respiratory distress is the prime reason behind the corona virus related mortality. Controlling the proinflammatory response of hC5a may work as an alternative to prevent acute lung injury triggered by exposure to SARS coronavirus.



The research group of Dr. S. Rana (Chemical Biology Laboratory), School of Basic Sciences, IIT Bhubaneswar is on a mission to design and develop peptide based synthetic antibodies for neutralizing the harmful proinflammatory function of hC5a.

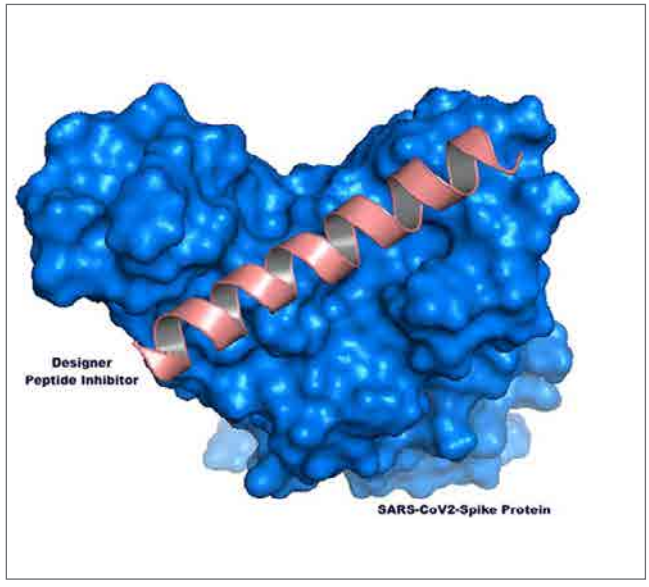
The computational biology aspect of the project will be conducted through HPC facility of IIT Delhi, which has recently approved the project through a special call for funding the COVID-19 related research.

IIT Bhubaneswar working on Rational Design of Broad-Spectrum Antiviral Peptides Targeting SARS-CoV2-Spike Protein

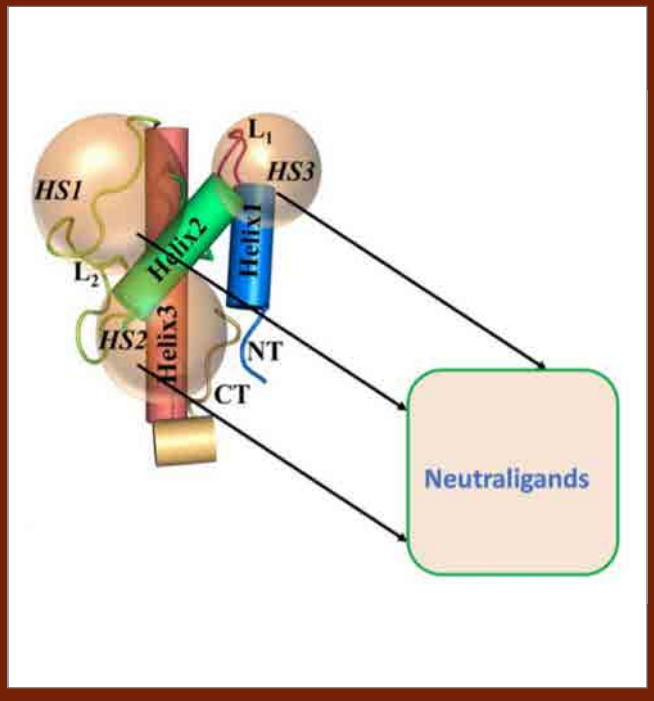
The structure of the SARS-CoV-2 spike protein bound to the human ACE2 receptor has recently been solved. Prima facie, the design of peptide-based inhibitor appears to be more suitable than the small molecule-based inhibitor.

The research group of Dr. S. Rana (Chemical Biology Laboratory), School of Basic Sciences, IIT Bhubaneswar has undertaken an approach to target SARS-CoV-2 directly with broad spectrum designer peptides, so that (i) the lipid envelop of the virus can be effectively lysed, minimizing the viral load or (ii) the protein-protein interaction between the spike protein of the virus and the host cell ACE2 receptors can be controlled, minimizing the host cell infection.

The computational biology aspect of the project will be conducted through HPC facility of IIT Delhi, which has recently approved the project through a special call for funding the COVID-19 related research.



Researcher at IIT Bhubaneswar suggests neutralizing the proinflammatory function of hC5a through drug repurposing can be beneficial for COVID-19 management

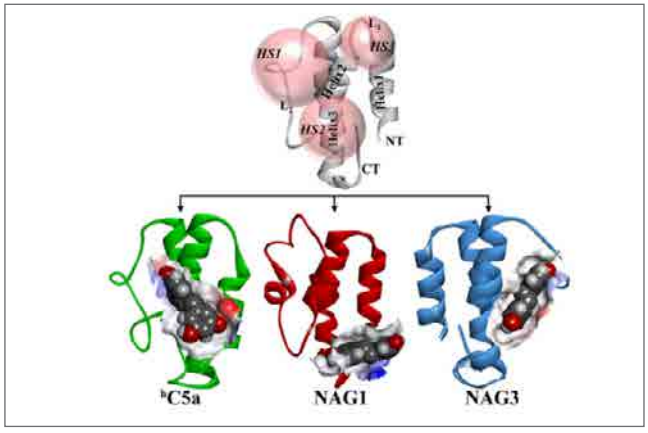


Complement and immune systems are like the two sides of the coin. While activation of complement helps in cleansing the potentially infectious agents or reagents out of the human body, the process itself initiates the production of several proinflammatory mediators such as hC5a, which can trigger both acute and chronic inflammation, attributed as the "silent killer" in humans. Indeed, over stimulated complement system has been instrumental in the progression of several pathophysiological conditions in humans, such as multiorgan failure, sepsis, rheumatoid arthritis, acute lung injury to cardiovascular complications, to name a few. It is noteworthy that in addition to respiratory distress, sepsis and damage to the cardiovascular system are the prime contributors to the mortality rates in patients with COVID-19 across the globe. No wonder that >20 drug candidates targeting the various stages of the complement are currently under development by several pharma majors.

However, the idea of small molecules, directly neutralizing the function of excessive hC5a remains unexplored in the literature. In this regard, a recent study (Bioorganic Medicinal Chemistry, 2019, 27(19):115052) from the research group of Dr. S. Rana (Chemical Biology Laboratory), School of Basic Sciences, IIT Bhubaneswar have documented the first ever rational discovery of first-generation template neutraligands of hC5a through drug repurposing approach. The proof of the concept study suggests that the selected drugs perhaps bind functionally distinct hot spots (HS) on hC5a, which can be subsequently optimized as complement specific therapeutics for strongly modulating the hC5a-C5aR signalling axes and subsequently combating the COVID-19. Interestingly, Alexion's "Eculizumab" (Soliris) is the only FDA approved anti-C5 antibody marketed since 2007, is currently undergoing careful repurposing clinical studies in USA (NCT04288713) for management of COVID-19. Similarly, InflaRx has also started its clinical trials (NCT04333420) with IFX-1, an anti-C5a antibody in Europe to combat COVID-19.

Researcher at IIT Bhubaneswar suggests polyphenols like resveratrol can attenuate the proinflammatory function of hC5a , which may be beneficial for COVID-19 management

Resveratrol, the active pharmaceutical ingredient (API) found in several fruits, nuts and marketed nutraceuticals is one of the promiscuous polyphenolic phytoalexin known to promote good health, famously associated with "French Paradox". The health benefits of resveratrol could be due to its antioxidant activity or its direct interaction with target proteins, resulting in modulation of several cells signaling and inflammatory pathways. Indeed, a published study indicates that resveratrol can effectively inhibit replication of influenza A virus, including the MERS corona virus. Moreover, resveratrol can also upregulate the ACE2 receptor expression, providing protective effect against the severity of SARS-CoV-2 infection.



Interestingly, the research group of Dr. S. Rana (Chemical Biology Laboratory), School of Basic Sciences, IIT Bhubaneswar have recently shown (Journal of Biomolecular Structure and Dynamics, 2020, doi: 10.1080/07391102.2020.1738958) that resveratrol can strongly bind the proinflammatory protein h C5a of the complement system, which may be beneficial for controlling the inflammatory response triggered by the complement system, whenever challenged by infectious pathogens like SARS-CoV-2.

Evaluation of natural polyphenols and nucleoside analogues compounds as novel coronavirus (SARS CoV-2) main protease (Mpro/ 3CLpro) inhibitors – An in silico docking and molecular dynamics simulation study

Dr. Snehasis Chowdhuri and Dr. Ashis Biswas from the School of Basic Sciences have together formulated a project proposal for the identification of potential inhibitors of the novel coronavirus (SARS CoV-2) main protease and submitted that against the special call on high performance computation support. The project has recently been approved by IIT Delhi High Performance Computing (HPC) facility for funding. The duration of this project is 3-6 months.

- An Interdisciplinary approach towards predictive modelling of COVID-19 for Public Policy in Odisha (in collaboration with Nabakrishna Choudhury Centre for Development Studies, NCDS)
- Development of cost-effective Pulse Oximeters and thermal scanners, with design innovation
- Waste treatment and sanitization methods and preparedness for Covid-19 outbreak
- Mass production of metal oxide nanomaterials with antimicrobial characteristics, and nanofibers, which can be used to develop air filters and biomedical applications

Patents Filled in the Year 2020-21

Sl. No.	Title	Name of the Faculty	Application No.	Year	School
1.	+A novel process for the recycling of Lithium-Ion Batteries	Dr. Soovankar Pati, Mr. Vinay Ahir, Mr. Gurudev Singh, Mr. Sarthak Patnaik, Mr. Yogesh Sarma Sedai, and Mr. Ashwani Kumar Pandey	202031049971	2020	School of Minerals, Metallurgical and Materials Engineering
2.	A System and Method for Multipoint Sensing	Dr. Rajan Jha, Dr. Venugopal and Mr. Kalipada Chatterjee	202031053901	2020	School of Basic Sciences and School of Mechanical Sciences
3.	A complete closed form electrical circuit and analytical model for double wound planar spiral microstrip inductors	Dr. Debapratim Ghosh and Mr. Praween Kumar Nishad	202131015202	2021	School of Electrical Sciences

Invited Lecture /Presentation/Conference/Workshop/ Programmes/ Seminar/ Lecture/ Colloquium by Faculty

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
School of Basic Sciences				
1.	Advanced Concepts of Chemistry for Chemical Engineers	Dr. Kari Vijayakrishna	Anil Neerukonda Institute of Technology and Sciences, Visakhapatnam, Andhra Pradesh on 10th February 2021.	Invited talk
2.	Slow Ions: A Powerful Tool To Manipulate Nanostructured Materials For Frontier Applications	Dr. Shyamal Chatterjee	International Webinar On The Emerging Trend of Material Science 2020, Maharaja Bhoj Govt. P.G. College, Dhar, Indore, 5th - 7th July 2020,	Invited talk
3.	Computational Analysis And Optimal Control of Non-Exhaustive Service Vacation Queueing Models	Dr. A. D. Banik and Mr. Souvik Ghosh	Optimization Techniques: Recent Trends & Applications in Engineering, 5th - 10th October 2020	Organized by MCKV Institute of Engineering Howrah. West Bengal
4.	Prediction of COVID-19 Outbreak Using SIR and Logistic Growth Model and Estimation of Their Parameters via Bayesian Inference	Mr. Soumyajit Dev and Dr. A. D. Banik	Four Day Faculty Development Programme (FDP) on “Applications of Mathematics in Engineering (Series IV)”, 25th - 28th August 2020.vb	Organized by KPR Institute of Engineering & Technology, Arasur, Coimbatore
5.	Estimating The Span of COVID19	Dr. Kousik Samanta	Webinars on COVID-19: Risk Management & Simulation Efforts, 2nd- 3rd July 2020	
6.	Multimetallic Systems and Their Anticancer Aspect	Dr. Srikanta Patra	TEQIP-III Sponsored Expert Talk In Chemistry at Punjab Engineering College	Expert Lecture
7.	Heterodimetallic Systems And Their Catalytic Aspects	Dr. Srikanta Patra	One-day International Webinar On Catalytic Materials at IIT-ISM Dhanbad	Invited Lecture
8.	Effect of Noise In Quantum Transport of A Charged Particle Moving On a Tight Binding Lattice	Dr. Malay Kumar Bandyopadhyay	Frontiers In Condensed Matter Physics	Invited Lecture
9.	The Bohr Phenomenon For Certain Analytic and Univalent Functions	Dr. Vasudeva Rao Allu, Mr. Molla BasirAhamed and Mr. Himadri Halder	VI International Conference of Mathematics And Computer Science	Plenary Talk
10.	On Logarithmic Coefficients of Some Close-To-Convex Functions	Dr. Vasudeva Rao Allu	International Webinar on Recent Trends in Geometric Function Theory and Applications -2020, KIIT Deemed to be University Bhubaneswar, 2020, 18th - 21st September 2020	Invited Talk
11.	Bohr Radius For Certain Classes of Analytic And Harmonic Mappings	Dr. Vasudeva Rao Allu	Faculty Development Program (FDP) on “Mathematical Approaches in Science and Engineering 2021, 8th - 12th February 2021	Invited Talk

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
School of Humanities, Social Sciences & Management				
12.	Introduction To Leadership Communication	Dr. Punyashree Panda	AICTE ATAL (FDP) on "Communication Strategies for Effective Leadership", 22nd - 26th September 2020	Invited Resource Person
13.	The Importance of Storytelling	Dr. Punyashree Panda	AICTE ATAL (FDP) on "Communication Strategies for Effective Leadership", 22nd - 26th September 2020	Invited Resource Person
14.	Using Leader Language	Dr. Punyashree Panda	AICTE ATAL (FDP) on "Communication Strategies for Effective Leadership", 22nd - 26th September 2020	Invited Resource Person
15.	Design Thinking	Dr. Punyashree Panda	AICTE ATAL (FDP) on "Communication Strategies for Effective Leadership", 22nd -26th September 2020	Invited Resource Person
School of Electrical Sciences				
16.	Phased Array Radar Systems	Dr. D. Ghosh	CEP on Ballistic Instrumentation, DRDO, PXE, Chandipur, 15th - 19th February 2021	
17.	Remote Sensing Using Optical Sensors & LIDAR Systems	Dr. P. K. Sahu	CEP on Ballistic Instrumentation, at PXE, 15th - 19th February 2021.	Invited Talk
18.	Optical Systems Design and Scopes	Dr. P. K. Sahu	RASET - Recent Advancements in Semiconductor Technologies, SRMIST, 9th - 14th October 2020	Invited Talk
19.	Issues And Challenges In Microgrid Protection,	Dr. S. R. Samantaray	Innovation And Intelligence	
20.	Intelligent Protection Schemes for Microgrid	Dr. S. R. Samantaray	Role of AI in Future Microgrid Control, Silicon Institute of Technology, June 2020	
21.	Issues and Challenges in Micro-Grid Protection	Dr. S. R. Samantaray	1st International Conference on Power Electronics and Energy (ICPEE-2021) with the theme "Energy Control for Sustainable Development", 2nd - 3rd January 2021	
22.	Intelligent Protection Schemes for Microgrid	Dr. S. R. Samantaray	CISPSSE 2020, Government College of Engineering Keonjhar, 30th -31st July 2020	
23.	Protection Functions For Micro-Grids Integrated with Renewable Energy Systems	Dr. S. R. Samantaray	ATAL Online Faculty Development Programme (FDP), GIET Bhubaneswar, 4th -11th November 2020	
24.	Runtime Monitoring, Model Verification & Automated Program Repair	Dr. Srinivas Pinisetty	Samsung Software Engineering Team	Invited Talk
25.	Wave-Ing Around: RF System Design Fundamentals, Challenges, And Applications	Dr. Debapratim Ghosh	NIE Mysore, IEEE Day	invited talk

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
26.	Six Port Reflectometer: an Alternative Network Analyzer	Dr. Debapratim Ghosh	STTP on Evolution of RF Electromagnetics from Microwave to mmWave Technologies at VJTI Mumbai	
27.	Broadband and Multi-section Testset Design for S-Parameter RF Measurements	Dr. Debapratim Ghosh	IIT Kharagpur	
28.	Design and Calibration of Charge Amplifier	Dr. Nijwm Wary	CEP on Ballistics Instrumentation, DRDO, 2021	
29.	FPGA Architecture and Implementation of Neural Networks	Dr. Srinivas Boppu	STTP: Mixed Signal Design Approaches for Artificial Intelligence Processors	
30.	Architecture Exploration of AI and ML Processors	Dr. Srinivas Boppu	STTP: Mixed Signal Design Approaches for Artificial Intelligence Processors	
31.	Machine Intelligence And Its Application In Cyber Security	Dr. Padmalochan Bera	Recent Trends and Applications in Machine Learning, 2021, IIEST Shibpur	Invited webinar
32.	Formal Analysis of Cyber Security Threats in Smart Grid	Dr. Padmalochan Bera	Security Challenges, Objectives and Issues in IOT enabled Smart Grid, 2020, NIT Kurukshetra	Invited webinar
33.	Security Challenges in Cloud Computing Platforms	Dr. Padmalochan Bera	Cloud and Fog Computing Platforms for Internet of Things Application, 2020, NIT Warangal	Invited webinar
34.	Self-Attention for Cyberbullying Detection	Dr. Padmalochan Bera	IEEE Cyber Science 2020, UK	Oral paper presentation (virtual mode)
35.	Smart Grid Data Security using Practical CP-ABE with Obfuscated Policy and Outsourcing Decryption.	Dr. Padmalochan Bera	IEEE Cyber Science 2020, UK	Oral paper presentation (virtual mode)
36.	DC-DC Power Conversion: From Theory To Practice	Olive Ray	TEQIP- Sponsored Training Program	
37.	Storage Integration Challenges from Power Electronics Perspective	Olive Ray	ATAL Sponsored Online Faculty Development Program (FDP) on “Energy Storage” at MNIT Jaipur, Rajasthan	
38.	An Introduction to IC Design for Wireless Communications	Dr. Vijaya Sankara Rao Pasupureddi	Webinar for all PG students	
39.	Introduction to Electronics and Communication Engineering	Dr. Vijaya Sankara Rao Pasupureddi	Orientation Lecture	

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
40.	High-gain Transformer Less Power Electronic Converter Topologies For Renewable Integration	Dr. Srinivas Bhaskar Karanki	Applications of Power Electronic converters for Sustainable Living September 18-22, 2020	NIT Surat
41.	Energy Storage integration to grid for Ancillary Services	Dr. Srinivas Bhaskar Karanki	AICTE-ISTE Sponsored One Week Induction/Refresher Program (Phase-I), Hybrid Energy Storage Systems – DPE, 24th – 30th March 2021	
42.	Power Electronics Converter Topologies for Renewable Energy Integration	Dr. Srinivas Bhaskar Karanki	Advances in Power Electronics to Renewable Energy Systems and E-Mobility Applications (Phase-II)	
43.	Design and Development of Modified Multilevel Inverter Topologies for Single-Phase Applications	Dr. Srinivas Bhaskar Karanki	Advances in Power Electronics for Hybrid Electric Vehicle-2020	NIT Andhra Pradesh
44.	High-gain Transformer Less Power Electronic Converter Topologies For Renewable Energy Sources	Dr. Srinivas Bhaskar Karanki	2020 IEEE India Council International Sub Sections Conference, India (INDISCON), 3rd -4th October 2020	INDISCON 2020
School of Earth, Ocean and Climate Sciences				
45.	Climate Change and Extreme Weather Events	Dr. Sandeep Pattnaik	Climate Risk Assessment and its Management through Agrometeorological Approaches,Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K), 21st -30th October 2020	Invited Talk
46.	Impact Of Coupled Interactions On Tropical Cyclone Prediction	Dr. Sandeep Pattnaik	International Conference on “Future Directions of Subseasonal To Seasonal Prediction Over South Asia	Invited Talk
47.	Effect Of Cloud Microphysical Parameterizationsin Simulating Monsoon Low Pressure Systems Over The Indian Region Through Composite Analysis	Mr. V. Hazra and Dr. S. Pattnaik	TROPMET2020	Oral Presentation
48.	Role of Sea Surface Temperature on the Rapid Intensification of Super Cyclone Amphan	Mr. V. Vishwakarma and Dr. S. Pattnaik	TROPMET2020	Oral Presentation
49.	Planetary Boundary Layer Characteristics Over Odisha And its Neighbourhood Regions For Contrasting Monsoon Years	Mr. S. S. Samantaray and Dr. S. Pattnaik	TROPMET2020	Oral Presentation
50.	Examining The Cloud Microphysical Properties From Surface Observations	Mr. Sisodiya A. and Dr. S. Pattnaik	TROPMET2020	Oral Presentation

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
51.	Assessing Short And Long Term Climate Cycle Using Foraminifera Proxy	Dr. R. K. Singh	Departmental Seminar, Department of Marine Geosciences Charney School of Marine Sciences University of Haifa	
52.	Assessing short and long term climate cycle using foraminiferal proxy	Dr. R. K. Singh	International Conference on Paleoclimate changes (ICPC – 2020)	
53.	Remote Sensing: Trends and Perspectives	Dr. D. Swain	Virtual School on Application of Machine learning and IoT in Remote Sensing (CHAPNET-2020), 4th - 5th December 2020.	Invited Lecture
54.	Sentinel In The Sky	Dr. D. Swain	IEEE-GRSS Lecture Series, 2020, 12th September 2020	Invited Lecture
55.	Latent And Sensible Heat Flux Variation In North Indian Ocean During ENSO And Indian Ocean Dipole Years	Dr. D. Swain and Mr. S. K. Ghose	URSI GASS 2020 29th August – 5th September 2020	
56.	Air-Sea Interactions Over The North Indian Ocean In A Changing Climate Scenario	Dr. D. Swain and Mr. S. K. Ghose	6th International Marine Conservation Congress, 2020, 22nd - 28th August 2020	
57.	The Role of Antarctica Sea Ice on Modulating The Primary Productivity In The Southern Ocean	D. Swain, N. Behera and S. Sil	Antarctic Science – Global Connections (SCAR COMNAP 2020), 31st July - 11th August 2020	
School of Infrastructure				
58.	Amendment Of Bauxite Residue With Biopolymers: Characterization And Perspective Utilization	Dr. Hanumantha Rao Bendadi	National Seminar on Treatment and Utilization of Industrial/Mining Waste for Sustainable Environment (TUIMW-2020)	
59.	Alkali-Activated Fly Ash/Slag Concrete: Mechanical And Microstructure Characteristics	Dr. Hanumantha Rao Bendadi	Sustainable Materials & Resilient Buildings - Philosophy, Design, Implementation, and Performance, 2020	
60.	Stabilization of Extremely Alkaline Red Mud Waste for Conversion into Green Sustainable Materials	Dr. Hanumantha Rao Bendadi	Recent Trends In Environmental Geotechnics For Sustainable Development, 2021	
61.	Design and Analysis of Geogrid Reinforced Soil Wall (RSW)	Dr. Hanumantha Rao Bendadi	IGC 2020	
62.	Landslide Mitigation Measures for Soil Slopes, Ground Improvement Techniques	Dr. Hanumantha Rao Bendadi	Landslide Mitigation & Detailed Project Report (DPR) Preparation, 2020	
63.	Landslide Mitigation Measures for Soil Slopes, Ground Improvement Techniques	Dr. Hanumantha Rao Bendadi	Landslide Mitigation & Detailed Project Report (DPR) Preparation, 2020	

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
64.	Stabilization of Extremely Alkaline Red Mud Waste for Conversion into Green Sustainable Materials	Dr. Hanumantha Rao Bendadi	Advances In Structural And Geotechnical Engineering (Asge-2020), 2020	
65.	Geosynthetic / Geotextile Applications in Rural Roads	Dr. Hanumantha Rao Bendadi	New Technology Applications in Rural Roads, 2021	
66.	Performance of Barrier system components	Dr. Hanumantha Rao Bendadi	Sustainable Engineered Waste Barrier Systems, 2021	
67.	Expansive Soils Characterization for Chemical Elements and their Influence on Swelling Properties	Dr. Hanumantha Rao Bendadi	Challenges and Opportunities in Civil Engineering Infrastructure (COCEI-2021), 2021	
68.	Compaction Characteristics of Industrial Wastes and By-Products: Role In Ground Improvement	Dr. Hanumantha Rao Bendadi	SKY & EARTH, 2020	
69.	Railway Track Profile Monitoring Using Smartphones	Dr. Jothi Saravanan Thiyagarajan	International Conference on Emerging Research Trends in Structural Engineering, 2020	
70.	Guided Wave Propagation For Investigating Wave Dispersion In Two Parallel Wires	Dr. Jothi Saravanan Thiyagarajan	The 7th Asian Conference on Mechanics of Functional Materials and Structures (ACMFMS 2020+1), 2021	
71.	Elastic Wave Propagation For Investigating Dispersion Behavior In Helical Wire	Dr. Jothi Saravanan Thiyagarajan	The 7th Asian Conference on Mechanics of Functional Materials and Structures (ACMFMS 2020+1), 2021	
72.	Advances in Waste to Bio-Energy Technologies	Dr. Manaswini Behera	TEQIP-III Sponsored Faculty Development Programme (FDP) on Water, Energy and Environment (WEE- 2020), Veer Surendra Sai Institute of Technology, Burla, Odisha, 5th -9th September 2020	
73.	Sustainable Wastewater Treatment And Energy Recovery	Dr. Manaswini Behera	Recent Developments in Environmental Engineering (RDEE-2020), Veer Surendra Sai Institute of Technology, Burla, Odisha, 15th -19th September 2020	
74.	Bioenergy Generation During Wastewater Treatment: A Sustainable Approach	Dr. Manaswini Behera	Sustainable Environmental Engineering Practices (SEEP-2020), National Institute of Technology Rourkela, 21st - 25th September 2020	
75.	Bioelectrochemical Systems For Industrial Wastewater Treatment	Dr. Manaswini Behera	AICTE Sponsored Short Term Training Programme - Webinar Series, Manipal Institute of Technology, Manipal, Karnataka, 19th -24th October 2020	

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
76.	Concept of Variable Stiffness In Mechanics: Overview of Functionally Graded And Variable Angle Tow Composites	Dr. Devesh Punera	FDP on Advances In Theoretical and Computational Mechanics	
77.	Challenges in Design of Offshore Wind Turbine Structures in Seismically Active Areas	Dr. Sumanta Haldar	Disaster Resilience for Built Infrastructure	Webinar
78.	Geotechnical Aspects in Bridge Design	Dr. Sumanta Haldar	Analysis and Design of Minor Bridges and Culverts	Online Training Program
79.	Earthquake Resistant Design Of Structures: An Overview Of Theory And Practice	Dr. S. R. Dash	Recent Trends of Research in Civil Engineering Structures (RTRCES-2020) NIT Rourkela, 22nd -26th September 2020	
80.	Earthquake Resistant Design Of Structures: An Overview Of Theory And Practice	Dr. S. R. Dash	Recent Advancements in Structural and Geotechnical Engineering, IIT Indore, 8th – 11th March 2021	
81.	Earthquake Resistant Design of Bridges	Dr. S. R. Dash	AICTE-ISTE Sponsored One Week Online Refresher Pogramme On “Earthquake Resistant Design”, 17th – 22nd May 2021	
82.	Earthquake Resistant Design Of Structures: An Overview Of Theory And Practice	Dr. S. R. Dash	National Seminar on “The Arithmetic of Earthquake Engineering” (Taee-2020), 31st July 2020	
83.	Earthquake Quantification: Magnitude Vs Intensity	Dr. S. R. Dash	AICTE-ISTE Sponsored One Week Online Refresher Pogramme On “Earthquake Resistant Design”, 05th - 10th April 2021	
84.	Earthquake Resistant Design of Structures: Recent Developments, Theory And Practice	Dr. S. R Dash	UltraTech Cement Online Technical Webinar, 25th June 2020	
School of Mechanical Sciences				
85.	Micro-Mechanics of Polymer Nano- Composites	Dr. P. R. Budarapu	Webinar series on Advances in mechanical Engineering, 11th June 2020.	MIC college of Technology
86.	An Introductory Talk on Modeling and Simulation in Machining Process	Dr. Gaurav Bartarya	AICTE sponsored Online Faculty Development Programme (FDP) on “Application of Artificial Intelligence and Machine Learning in Digital Manufacturing, GIET Gunupur, 3rd November 2020	
87.	Modeling and Simulation In Conventional Machining	Dr. Gaurav Bartarya	TEQIP III STC on Advanced Manufacturing Processes, IIT Guwahati, 25th December 2020	

Sl. No.	Title of Lecture/ Presentation	Author(s)	Conference Name, Duration, Place	Remarks
88.	Recent Trends in Sustainable Machining	Dr. Chetan	Expert Lecture Series Conducted By IITs & NITs Faculty 2021	G. H. Raisoni College of Engineering and Management, Pune, India
89.	Application of Abrasive Finishing Operations	Dr. Chetan	Contemporary Approaches in Manufacturing and Their Applications, 2021	Sri Sai College of Engineering and Technology Pathankot, India
90.	Application of Sustainable Techniques In Machining	Dr. Chetan	e-Workshop on Advances in Manufacturing: Materials, Processes & Systems (AMMPS-2020), 2020	NIT Hamirpur, Himachal Pradesh, India
91.	Application of Sustainable Machining Techniques For Machining of Aerospace Alloy	Dr. Chetan	TEQIP-III RTU sponsored FDP on Recent Trends in Advanced Machining and Additive Manufacturing, 2020	Rajasthan Technical University, Kota, India
92.	Fracture Failure Of Engineering Materials	Dr. Chetan	Part of Webinar Series Conducted by Mechanical Engineering Department, 2020	Sri Sai College of Engineering and Technology, Pathankot, India
93.	Ultra-Short Laser Pulse Interaction, Water Assisted Laser Processing	Dr. Suvradip Mullick	Short Term Online CEP Course On "Laser Micro-Manufacturing, Surface & Material Processing", Organized By The Department of Mechanical Engineering, Indian Institute of Technology Indore, 17th July 2020	
94.	Laser Cutting & Its Advances; Underwater Laser Cutting	Dr. Suvradip Mullick	National Webinar, Organized by The School of Engineering & Technology, GIET University, Odisha, 06th June 2020	
School of Minerals, Metallurgical and Materials Engineering				
95.	Design Of Novel And Efficient Half-Heusler Thermoelectric Materials For Power Generation	Dr. Sivaiah Bathula	Energy Materials, Devices and Characterization, 9th January 2021	Organized by Nanotechnology Research center(NRC), SRMIST, Kattankulathur Chennai
96.	Fundamentals of Crystallography	Dr. Amritendu Roy	Refresher Course In Engineering Physics at NITTTR Chandigarh, 23rd October 2020	
97.	Symmetry, X-Ray Crystallography and Rietveld Refinement of Powder X-Ray Diffraction	Dr. Amritendu Roy	AMPCA – 2020, VSSUT, Burla, 10th September 2020	
98.	Fundamentals of Piezoelectric and Ferroelectric Materials	Dr. Amritendu Roy	AFM 2020, Bhubaneswar, 26th August 2020	

Seminar/ Conference / Workshop Attended by Faculty

Sl. No.	Name	Title	Dates		Place	Remarks
			From	To		
School of Basic Sciences						
1.	Dr. Soumendra Rana	Glycobiology	23-06-2020	23-06-2020	Virtual Mode	Hosted by ASBMB
2.	Dr. Sasmita Barik	International Conference On Recent Trends In Mathematics and Its Applications to Graphs, Networks and Petri Nets (ICRTMA-GPN-2020)	20-07-2020	24-07-2020	JNU, New Delhi	Invited Speaker
3.	Dr. Soumendra Rana	ICBS-2020-VIRTUAL	11-11-2020	13-11-2020	Virtual Mode	
4.	Dr. Nirmalendu Acharyya	2020 International Conference on Ultrafast Phenomenon	16-11-2020	19-11-2020	Shanghai	Attend Through Virtual Mode
5.	Dr. Niharika Mohapatra	From Tiny Atoms to Solid to Cosmos: The Quantum Aspects	01-12-2020	05-12-2020		
6.	Dr. Vasudeva Rao Allu	Ramanujan Mathematical Society (RMS) Pre-Conference Symposium on Complex Analysis	27-12-2020	27-12-2020	Central University, Rajastan	Attend Through Virtual conference mode
7.	Dr. Vasudeva Rao Allu	35th Annual Conference of Ramanujan Mathematical Society	28-12-2020	30-12-2020		Attend Through Virtual conference mode
8.	Dr. Niharika Mohapatra	Quantum Matter Heterostructure II	18-02-2021	20-02-2021		
9.	Dr. Soumendra Rana	SRISTI-SIIE BioNEST Global Bio-India Road Show 2021	26-02-2021	26-02-2021	Virtual	Attend Through Virtual Mode
10.	Dr. Soumendra Rana	3rd Foundation Day Celebration of ICT-IOC, Bhubaneswar	18-03-2021	18-03-2021	Virtual	Attend Through Virtual Mode
11.	Dr. Soumendra Rana	Indian Peptide Society Virtual Symposium, IISC, Bangalore	24-03-2021	26-03-2021	virtual	Attend Through Virtual Mode
School of Humanities, Social Sciences & Management						
12.	Dr. Punyashree Panda	SASNET 2020: Rethinking the Politics of Memory in South Asia Conference (Virtual)	09-12-2020	10-12-2020	Lund University Sweden	Attend Through Virtual Mode
School of Electrical Sciences						
13.	Dr. Vijaya Sankara Rao Pasupureddi	2020 IEEE International Symposium on Circuits & Systems	17-05-2020	20-05-2020	Seville, Spain	online
14.	Dr. Anoop Thomas	2020 IEEE International Symposium on Information Theory, (ISIT 2020)	21-06-2020	26-06-2020	LA, USA	Attend Through Virtual Mode
15.	Dr. Vijaya Sankara Rao Pasupureddi	IEEE Computer Society Annual Symposium on VLSI	06-07-2020	08-07-2020	Limassol, CYPRUS,	online

Sl. No.	Name	Title	Dates		Place	Remarks
			From	To		
16.	Dr. Anoop Thomas	SPCOM 2020	19-07-2020	24-07-2020	Bengaluru India	Attend Through Virtual Mode
17.	Dr. Dipankar De	EPE ECCE 2020	07-09-2020	11-09-2020	France	Attend Through Virtual Mode And Present a Paper
18.	Dr. Subhajyoti Mukherjee	IEEE Energy Conversion Congress and Exposition (ECCE)	17-09-2020	21-09-2020	Michigan USA	
19.	Dr. N. C. Sahoo	PERESC-2020	04-12-2020	05-12-2020	Bhubaneswar	Attend Through Virtual Mode
20.	Dr. Olive Ray	PERESC 2020	04-12-2020	05-12-2020	Bhubaneswar	Attend Through Virtual Mode
21.	Dr. Olive Ray	PEDES 2020	16-12-2020	19-12-2020	Jaipur	Attend Through Virtual Mode
22.	Dr. N. C. Sahoo	IEEE PEDES-2020	16-12-2020	19-12-2020	Jaipur	Attend Through Virtual Mode
23.	Dr. Srinivas Bhaskar Karanki	Power Electronics Drives and Energy System 2020	16-12-2020	19-12-2020	MNIT, Jaipur	Presented Paper
24.	Dr. Olive Ray	NPSC 2020	17-12-2020	19-12-2020	Gandhinagar	Attend Through Virtual Mode
25.	Dr. Dipankar De	ICPEE (2021)	02-01-2021	03-01-2021	Bhubaneswar	Attend Through Virtual Mode And Present a Paper
26.	Dr. Olive Ray	ICPEE 2021	02-01-2021	03-01-2021	Bhubaneswar	Attend Through Virtual Mode
27.	Dr. Srinivas Bhaskar Karanki	International Conference on Power Electronics and Energy.	02-01-2021	03-01-2021	KIIT Bhubaneswar	Presented Paper
28.	Dr. Siddhartha S. Borkotoky	IEEE Consumer Communications & Networking Conference	09-01-2021	12-05-2021	LasVegas, USA	Virtual Conference
29.	Dr. Srinivas Pinisetty	ACM Symposium on Applied Computing	22-03-2021	26-03-2021	Virtual	
30.	Dr. Srinivas Bhaskar Karanki	Smart Cities India 2021 Expo	24-03-2021	26-03-2021	Delhi	The Project Has been Accepted For Display
School of Earth, Ocean and Climate Sciences						
31.	Dr. Debadatta Swain	Antarctic Science – Global Connections (SCAR COMNAP 2020)	31-07-2020	11-08-2020	Online	
32.	Dr. Debadatta Swain	6th International Marine Conservation Congress	22-08-2020	28-08-2020	Online	
33.	Dr. Debadatta Swain	General Assembly and Scientific Symposium of the International Union of Radio (URSI GASS 2020)	29-08-2020	05-09-2020	Online	

Sl. No.	Name	Title	Dates		Place	Remarks
			From	To		
34.	Dr. Sandeep Pattnaik	Climate Risk Assessment And Its Management Through Agro Meteorological Approaches	21-10-2020	30-10-2020	Webinar	Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K)
35.	Dr. Sandeep Pattnaik	Weather and Climate Services over Mountainous Regions	14-12-2020	17-12-2020	Webinar	TROPMET-2020, NESAC, Shillong
36.	Dr. Sandeep Pattnaik	International Conference on "Future Directions of Subseasonal to Seasonal Prediction over South Asia	29-03-2021	31-03-2021	Webinar	IITM Pune
School of Infrastructure						
37.	Dr. S. R. Dash	1st Indo-Japan Webinar Series on Geotechnics for Disaster Mitigation	08-06-2020	13-06-2020	Online	Jointly Organised by NITK Suratkal, IGS, IIT Tirupati and Kyushu University Japan
38.	Dr. S. R. Dash	First International Webinar Series on National Disaster Resilience for Built Infrastructure (NDRBI)	24-08-2020	28-08-2020	Online	Organised by the University of Technology Sydney (UTS) and Indian Institute of Technology Madras (IITM).
39.	Dr. S. R. Dash	Webinar on “The Story of Morandi Bridge Collapse, Italy”	15-10-2020	15-10-2020	Online	Organised by IAStructE, India
40.	Dr. Shantanu Patra	Indian Geotechnical Conference	17-12-2020	19-12-2020	Vizag	Online Mode
41.	Dr. S. R. Dash	Webinar on Atal Tunnel Rohtang	11-01-2021	11-01-2021	Online	Organised by Border Roads Organisation
42.	Dr. Mohammad Masiur Rahaman	MOE-SPARC: Online Workshop On Mechanics Of Metamaterials	18-01-2021	25-05-2021	Online	
43.	Dr. S. R. Dash	Webinar on "Design, Manufacture and Testing of Disk Bearings and Seismic Isolation Devices"	29-01-2021	29-01-2021	Online	Organised by IAStructE, India
44.	Dr. S. R. Dash	Webinar on “Harnessing Education, Research and Skill Development for an Atmanirbhar Bharat”	03-03-2021	03-03-2021	Online	Organised by Ministry of Education
45.	Dr. Arindam Sarkar	HYDRO 2020 International	26-03-2021	28-03-2021	NIT Rourkela	

Seminars / Conferences / Workshops Organized

Sl. No.	Title	Organized	Dates		Place	Remarks
			From	To		
School of Basic Sciences						
1.	Frontiers in Molecular and Materials Chemistry	Symposium	04-04-2020	06-04-2020	IIT Bhubaneswar	The Symposium is Postponed Due To Recent COVID-19 Pandemic
2.	On-Line Group Discussion on Geometric Function Theory (GFT)-India	Seminar	27-02-2021	01-06-2021	IIT Bhubaneswar	
School of Humanities, Social Sciences & Management						
3.	AICTE ATAL FDP on Personal Effectiveness	Workshop	02-11-2020	06-11-2020	IIT Bhubaneswar	With Participation From Around 200 Participants
School of Electrical Science						
4.	24th International Symposium On VlSI Design And Test	Conference	23-07-2020	25-07-2020	Bhubaneswar	Virtual Platform Chair
5.	IEEE VDAT Organizing Committee Member	Conference	23-07-2020	25-07-2020	IIT Bhubaneswar	TPC Member, Keynote Organizing Member and Best Paper Selection Committee Member
6.	VLSI Design and Test 2020	Conference	23-07-2020	25-07-2020	Online Mode	Registration Chair
7.	Power Electronics and Renewable Energy Systems Control	Symposium	03-12-2020	05-12-2020	IIT Bhubaneswar	
8.	Symposium on Power Electronics and Renewable Energy Systems Control 2020		04-12-2020	05-12-2020	Bhubaneswar	Publicity Chair, Session Chair and other Roles
9.	1st International Conference on Power Electronics and Energy	Conference	02-01-2021	03-05-2021	Online Mode	Joint Publication Chair
10.	High Efficiency High Power Density E-Capless On Board Battery Charger For Electric Vehicles	Seminar	08-01-2021	08-01-2021	Online Mode	As Part of IEEE PELS Bhubaneswar Chapter
11.	Wide Bandgap (WBG) Power Electronics For Heavy-Duty Vehicles	Seminar	30-01-2021	30-01-2021	Online Mode	As Part of IEEE PELS Bhubaneswar Chapter
12.	VLSI Architectures for Energy-Efficient Embedded Healthcare Systems	Workshop	26-02-2021	28-02-2021	IIT Bhubaneswar	
13.	Indo-USA Online Short-term Course on "VLSI Architectures for Energy-Efficient Embedded Healthcare Systems	Workshop	26-02-2021	28-02-2021	IIT Bhubaneswar	
14.	HVDC Technology: Today and Future	Seminar	05-03-2021	05-03-2021	Online Mode	As part of IEEE PELS Bhubaneswar Chapter

Sl. No.	Title	Organized	Dates		Place	Remarks
			From	To		
15.	Signal Processing and Machine Learning Techniques for Data-Driven IoT and Smartphone Health Monitoring	Workshop	26-03-2021	30-05-2021	IIT Bhubaneswar	
16.	Indo-USA Online Short-term Course on "Signal Processing and Machine Learning Techniques for Data-Driven IoT and Smartphone Health Monitoring	Workshop	26-03-2021	30-03-2021	IIT Bhubaneswar	
School of Earth, Ocean and Climate Sciences						
17.	Space Observation On Detoxing of Earth During COVID-19 Induced Lockdown	Seminar	30-04-2020	30-04-2020	Webinar	Through IIRS/ISRO
18.	Machine Learning for Remote Sensing Data Classification	Workshop	01-06-2020	01-06-2020	Online	Through IIRS/ISRO
19.	Earth Observation based Mapping, Monitoring and Modelling of Landslide: Recent Trends And Support To Early Warning System	Seminar	08-11-2020	19-11-2020	Webinars	Through IIRS/ISRO
20.	Space Technology and its Applications	Workshop	11-01-2021	11-01-2021	Online	Through IIRS/ISRO
School of Infrastructure						
21.	Young Scientists' Conference (Engineering Division)	Conference	23-12-2020	25-12-2020	Online	Part of India International Science Festival 2020
22.	New Technology Application in Rural Roads	Workshop	25-02-2021	27-02-2021	IIT Bhubaneswar	
23.	Analysis and Design of Small Bridges and Culverts	Workshop	08-03-2021	10-03-2021	IIT Bhubaneswar (Online)	
School of Mechanical Sciences						
24.	Deep Machine Learning Based Solutions For Partial Differential Equations (MS317)	Symposium	11-01-2021	15-01-2021	Online	4th World Congress in Computational Mechanics
School of Minerals, Metallurgical and Materials Engineering						
25.	Corrosion and Surface Engineering for Aerospace and Other Applications	Conference	19-03-20201	20-03-2021	IIT Bhubaneswar (Virtual Mode)	Sponsored By The Materials And Manufacturing Panel Of The Aeronautics Research Development Board (ARDB)

Institute Seminars

Sl. No.	Title of the talk	Speaker	Date
1.	Online Spaces And Harassment of Women	Prof. Bijayalaxmi Nanda, Acting Principal Of College Miranda House, University Of Delhi	03/07/2020
2.	Finding Fulfilment In Education and Life	Prof. Devdas Menon, Institute Chair Professor, Department Of Civil Engineering, IIT Madras	05/09/2020
3.	Fostering Grassroots Innovations: Interdisciplinary Inclusive Innovations In Engineering	Prof. Anil K. Gupta, Padma Shri, Founder: The Honey Bee Network, National Innovation Foundation	18/09/2020
4.	Scaling Blended Solutions: Creating Knowledge Networks For Open Innovation Ecosystem	Prof. Anil K. Gupta, Padma Shri, Founder: The Honey Bee Network, National Innovation Foundation	25/09/2020
5.	From Atoms To Thin Films	Prof. K. L. Chopra, Padma Shri, Former Director IIT Kharagpur	07/11/2020
6.	History of Odisha	Prof. Jatindra Kumar Nayak	20/11/2020
7.	Motivational Talk For The Newly Inducted 1st Year Students	Commander V. K. Jaitly, IIT KGP Alumnus, INS (Retired), Author Of Book-We Can! We Can!	30/12/2020
8.	Introduction To Electric Vehicle, Global Trend And India's Imperative	Prof. Ashok Jhunjhunwala, Padma Shri, Head- IITM Incubation Cell	18/01/2021
9.	Complementarity Between Solar And Nuclear Energy	Dr. Srikumar Banerjee, Padma Shri, Former Director Of Bhabha Atomic Research Centre	25/02/2021
10.	Next Generation Battery Materials And Systems	Dr. Jagjit Nanda, Group Leader And Distinguished Staff Scientist, ORNL	05-03-2021
11.	Phase Field Methods For Crack Modeling In Heterogeneous Media Across The Scales".	Dr. José Reinoso, Department of Continuum Mechanics and Structural Mechanics, Engineering School at Universidad de Sevilla, Spain	04-12-2020
12.	Hybrid Multi-Scale Manufacturing Processes and Systems: A Virtual Tour of Northwestern Manufacturing	Prof. Kornel Ehmann, Professor of Mechanical Engineering at Northwestern University, Evanston, USA	01-12-2020
13.	An Introduction to Mechanics: Applications in Engineering	Prof. Dr.-Ing. Timon Rabczuk, Chair-Computational Mechanics Bauhaus Universität Weimar, Germany	24-11-2020
14.	The role of Computational Mechanics for Industry 4.0: a sinergic scenario with the other enabling technologies	Prof. Marco Paggi, IMT School for Advanced Studies Lucca, Italy, and also the director of Research Unit MUSAM - Multi-Scale Analysis of Materials	20-11-2020

Faculty Awards/ Honours/ Distinction/Fellowships/Industry Internships/ Scholarships/ Memberships

Sl. No.	Faculty Name	Details of the Awards/ Honours / Fellowship	Remarks
School of Basic Sciences			
1.	Dr. Sasmita Barik	Associate Editor for SIAM Undergraduate Research Online (SIURO).	For 3 years, from January 1, 2021
2.	Dr. Rajan Jha,	SERB Science and Technology Award for Research (SERB-STAR) fellowship.	The Fellowship Consists of Rs. 15,000/- Per Month, Research Grant Of Rs. 10 Lakh Per Annum And Rs.1 Lakh Per Annum As Overhead Charges For Period of Three Years.

Sl. No.	Faculty Name	Details of the Awards/ Honours / Fellowship	Remarks
3.	Dr. Nirmalendu Acharya	Teaching Excellence Awards for 2020	On the occasion of the 13th Foundation Day of the Institute
4.	Prof. V.R. Pedireddi	Director's Commendation for Outstanding Research 2020	On the occasion of the 13th Foundation Day of the Institute
5.	Dr. Rajan Jha	Director's Commendation for Outstanding Research 2020	On the occasion of the 13th Foundation Day of the Institute
6.	Dr. Shantanu Pal	Director's Commendation for Outstanding Services 2020	On the occasion of the 13th Foundation Day of the Institute
School of Humanities, Social Sciences and Management			
7.	Dr. Rajakumar Guduru	Teaching Excellence Awards for 2020	On the occasion of the 13th Foundation Day of the Institute
School of Electrical Sciences			
8.	Dr. Sankarsan Mohapatro	Odisha Young Scientist Award	This award is given by Odisha Bigyan Academy, Science and Technology Department, Govt. of Odisha
9.	Dr. Barathram Ramkumar and Dr. M. S. Manikandan	IET Premium Awards: 2019 Healthcare Technology Letters Premium Award	1st Prize For The Best Paper Published Within The Last Two Years In Each Of The IET's Journals
10.	Dr. Anoop Thomas	Teaching Excellence Awards for 2020	On the occasion of the 13th Foundation Day of the Institute
11.	Dr. Srinivas Pinisetty	Teaching Excellence Awards for 2020 for overall best performance	On the occasion of the 13th Foundation Day of the Institute
12.	Dr. Subhransu Ranjan Samantaray	Director's Commendation for Outstanding Research 2020	On the occasion of the 13th Foundation Day of the Institute
13.	Dr. Barathram Ramkumar	Director's Commendation for Outstanding Services 2020	On the occasion of the 13th Foundation Day of the Institute
14.	Dr. Srinivas Bhaskar Karanki	Director's Commendation for Outstanding Services 2020	On the occasion of the 13th Foundation Day of the Institute
15.	Dr. Dipankar De	IEEE Senior Membership	
16.	Dr. Manoranjan Satpathy	IEEE membership	
17.	Dr. Pasupureddi Vijaya Sankara Rao	Editorial Board Membership Journal of Low Power Electronics and Applications	
18.	Dr. Subhransu Ranjan Samantaray	Fellow, IET (Institution of Engineering and Technology 2020), UK	
19.	Dr. Subhransu Ranjan Samantaray	IEEE PES Chapter Outstanding Engineer Award-2020	
20.	Prof. N. C. Sahoo	IEEE Membership	
21.	Dr. Srinivas Bhaskar Karanki	IEEE Senior Membership	
22.	Dr. Srinivas Bhaskar Karanki	India Liaison for IEEE PELS	

Sl. No.	Faculty Name	Details of the Awards/ Honours / Fellowship	Remarks
School of Infrastructure			
23.	Dr. Manaswini Behera	Odisha Young Scientist Award	This award is given by Odisha Bigyan Academy, Science and Technology Department, Govt. of Odisha
24.	Dr. U.C. Sahoo and Dr. P. Rath	Receive Best Paper Award (Thermal Behavior of a PCM Incorporated Concrete Pavement)	In the session 'Sustainability in Structural Engineering' at the ICRDSI 2020 held at KIIT Bhubaneswar
School of Mechanical Sciences			
25.	Dr. M.M. Mahapatra	Editorial Board Membership of Transactions of the Indian Institute of Metals Journal	
26.	Dr. P.R. Budarapu	Editorial Board Membership of the International Journal of Computational Methods (IJCM) Journal	From 01.03.2021 onwards
27.	Dr. Venugopal Arumuru	Director's Commendation for Outstanding Research 2020	On occasion of 13th Foundation Day of the Institute

Awards/ Honours for Staff Members

Sl. No.	Staff Name	Details of the Awards/ Honours /Fellowship	Remarks
1.	Mr. Chandra Vadde, Programmer	Director's Commendation for Meritorious Services 2020	On the occasion of the 13th Foundation Day of the Institute
2.	Mr. Prasanna Kumar Das, OSD - Internal Audit and Finance & Accounts Section		
3.	Dr. Gagandeep Kaur Makkar, Student Counsellor		
4.	Mrs. Suhana Parween, Junior Accounts Officer		
5.	Mr. Pradeep Kumar Pattanaik, Private Secretary		
6.	Mr. Tapan Kumar Mohapatra, Assistant Security officer		

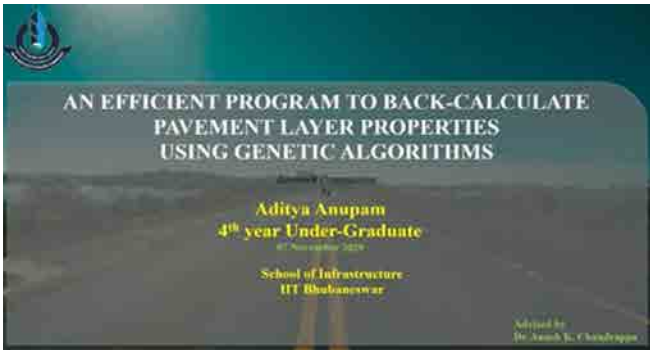
AWARDS AND ACHIEVEMENTS OF STUDENTS'

1. Mr. Nikhil Kumar Sharma, Ph.D. research scholar from the School of Electrical Sciences been selected for the Typhoon HIL Dissertation Awards-2021 in Doctoral Category.
2. Ms. Shilpi Ruchi Kerketta, Ph.D. Research Scholar from the School of Electrical Sciences achieved the best student paper award at the conference IEEE APSYM 2020 held on virtual platform organized by CUSAT.
3. Mr. Sunil Manohar Maharana, Ph.D. Research Scholar from School of Mechanical Sciencehas won the Best poster award for his poster on "Prediction and Prevention of Interlaminar Fracture and Cracks in Nanofiller Reinforced Jute-Kevlar" as part of the exhibition on National Science Day and 11th Research Scholars' Day.

4. Mr. Harshwardhan Meena, Mr. Parth sharma, Mr. Romit Kesharwani, Mr. Koushik Gupta, Mr. Devasmith Dutta, (3rd year UG students from School of Infrastructure) guided by Dr. Remya Neelancherry bagged 2nd position for the case study of "Rejuvenating river Ganga in IIT ROORKEE CIVIL CONCLAVE (2020).

5. Mr. Ravi Teja, Mr. Gaurav Pandey, Mr. G.Ruthvik, Mr. Priyanshraj Shorya, Mr. K. Rama Satwik (3rd year UG students from School of Infrastructure), guided by Dr. Arindam Sarkar secured 2nd position for the case study Tinker the water wheel IIT ROORKEE CIVIL CONCLAVE (2020).

6. Mr. Aditya Anupam (4th year UG student from School of Infrastructure) guided by Dr. Anush K. Chandrappa received 2nd position in UG research Transportation Engineering category.



Distinguished Visitors (Online/In-person)

Sr. No.	Date	Name of the Event	Distinguished Visitor	Designation
1.	21st June, 2020	6th International Day of Yoga	Mr. Arul Dev (Online)	An Author, Radiant Universal Leader Coach and Integral Educator and a guest faculty at IIT Madras
2.	04th Nov, 2020	AICTE Atal Faculty Development Programme on "Personal Effectiveness at IIT Bhubaneswar	Dr. Vinay Sahasrabudhe, (Online)	Hon'ble Chairman, Parliamentary Standing Committee on MOE, Govt. of India,
3.	04th Nov, 2020	AICTE Atal Faculty Development Programme on "Personal Effectiveness at IIT Bhubaneswar	Prof. Anil Sahasrabudhe, (Online)	Hon'ble Chairman, AICTE and Director, ATAL Academy
4.	04th Dec, 2020	09th Convocation	Dr. Ramesh Pokhariyal 'Nishank' (Online)	Hon'ble Union Minister of Education, Ministry of Education, Govt. of India
5.	04th Dec, 2020	09th Convocation	Shri. Sanjay Dhotre (Online)	Hon'ble Minister of State for Education, Ministry of Education, Govt. of India

Sr. No.	Date	Name of the Event	Distinguished Visitor	Designation
6.	30th Dec, 2020	Motivational Talk for the newly inducted 1st year students	Commander V K Jaitly (Online)	Chairman, C-cube Consultants, C_cube conducts Programs in Business Excellence
7.	12th Feb, 2021	13th Foundation Day of IIT Bhubaneswar	Dr. G. Satheesh Reddy (Online)	Chairman, Deference Research Development Organization (DRDO), Scientific Advisor to Defence Minister, Secretary, Department of Defence Research and Development and Director General, Aeronautical Development Agency (ADA)
8.	28th Feb, 2021	The National Science Day and Research Scholars Day	Prof. Ashok Kumar Mahapatra (In-person)	Former Director, AIIMS Bhubaneswar and Current Vice Chancellor, SOA University, Bhubaneswar
9.	26th Feb, 2021	World Philosophy Day	Smt. Susmita Bagchi (In-person)	Chairperson Mo School, Govt. of Odisha
10.	26th March, 2021	E-summit 2021 (Inaugural)	Shri Kris Gopalakrishnan (Online)	Chairman Axilor Ventures and Co-founder Infosys
11.	29th March, 2021	E-summit 2021 (Valedictory)	Dr. Kiran Bedi, (Online)	Former Lieutenant Governor of Puducherry

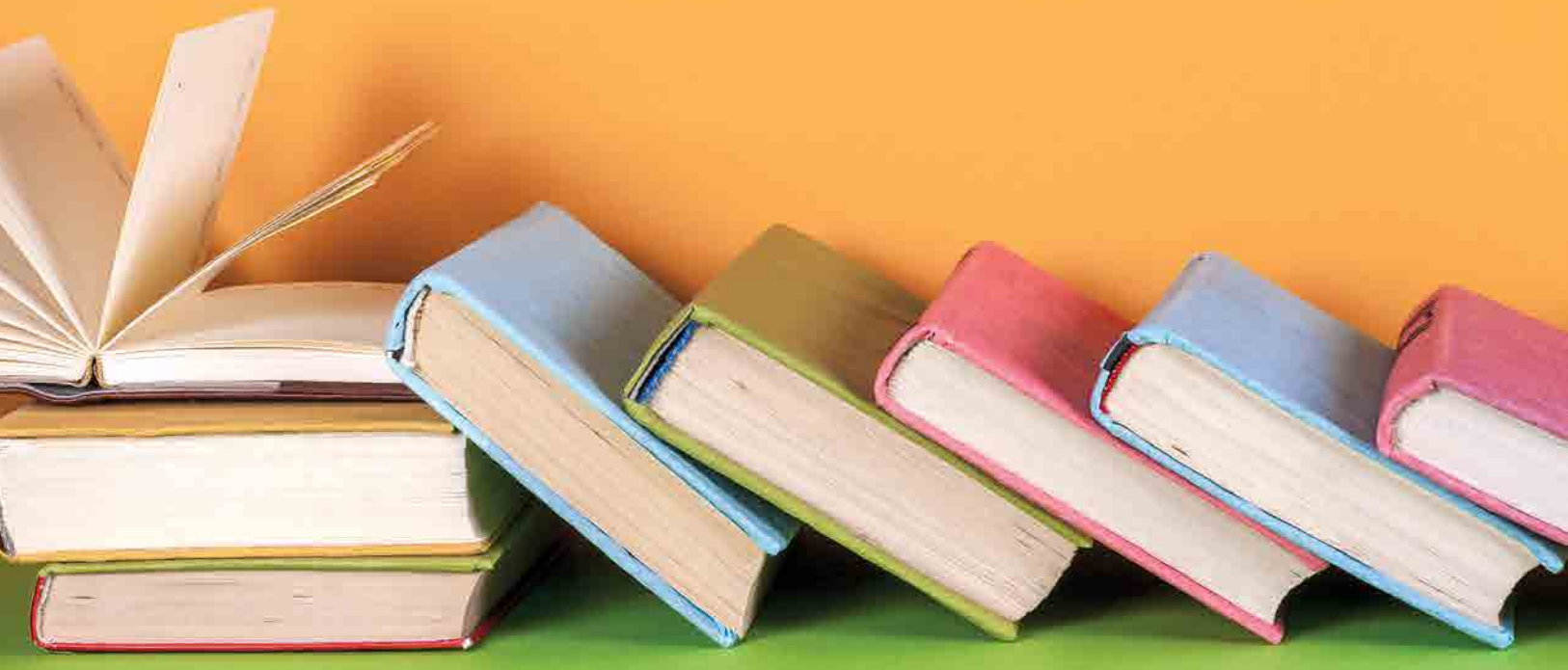
Central Library

Central Library, a hub of learning resources, is one of the central facilities working with a mission to provide quality information resources in all forms to the academic and research community of IIT Bhubaneswar. The Central Library of IIT Bhubaneswar started functioning in a small room of 300 sq. ft. floor area with a mere collection of 2300 Text Books at IIT Kharagpur Campus in July 2009 and then moved to Toshali Bhawan, Satya Nagar in 1st April 2011 in a room with a floor area of 2200 sq. ft. In 2016, the Library has extended its services to the Institute permanent campus at Argul, Khordha. The Central Library completely shifted to its permanent campus at Argul, Khordha in the year 2018. With a commitment to excel, the library plays a vital role starting from acquiring to disseminating all types of information resources by timely and innovative services to support the academic and research need of the user community. The range and quality of services offered by the Central Library are comparable to any modern libraries in India of International standards.

In a nut shell, currently, it is having over 22000+ volumes of books, 53+ full-text as well as bibliographical databases, and other resources like popular magazines/print journals, theses & dissertations, and reports in Engineering, Science & Technology, Management, Humanities and Social Sciences. Apart from the procurement of print books, the Library achieved phenomenal progress in the subscription of e-resources which includes more than 9000 +e-journals, 29000+e-conferences, 4000+e-standard to its digital collection making "24 x 7 Library" in a real sense on the institute-wide network and off-campus access to e-resources through EzProxy.

Library Collection at a Glance

The Central Library is having a rich collection of print as well as electronic resources that supports the academic and research needs of IIT Bhubaneswar fraternity. The collection includes books, journals, databases, software tools, theses, magazines and newspapers. The library provides supports to more than 2700 users, which includes students, scholars, faculty members, and staff.



The total collection of the library as on March 2021 stands as follows:

Collection (Print & Electronic)	Quantity	Collection (Print & Electronic)	Quantity
Books	22000+	Full-Text Databases	41
E-Books (World E-Book Library)	75 Lakhs+	Bibliographic Databases	04
E-Books (Institute Subscription)	865	E-Book Databases	03
E-Journals	9000+	Standalone Databases	01
E-Conferences	29000+	Statistical Databases	01
E-Standards	4000+	Crystallographic Databases	01
Print Journals and Magazines	38	Plagiarism Detection Tools	02
Daily Newspapers	10	Reference Management Tools	01
Institute PhD Thesis	135	Writing Assistance Tools	01
ProQuest Dissertation/Theses	6.8 Lakhs+	Remote Access Tools	01

Library Services & Facilities

The services rendered by the central library are as follows:

- Library Membership and Borrowing Facilities
- Circulation Service (Issue, Return, Renewal, Reservation, E-mail Alerts)
- WebOPAC (Web version of Online Public Access Catalog)
- Reference Service
- Current Awareness Service (Newly Arrived Books)
- Document Delivery Service
- Research Support Service
- Remote Access Service
- Alert Service (Latest Research Publication of IIT Bhubaneswar through library website)
- Plagiarism check facility
- Writing Assistance using Grammarly tool
- Orientation Programmes
- Reading facility
- Hindi Collection (Rajbhasa Collection)
- Non-Book Materials
- Reserved Collection in the reading area
- Special Collection for Scheduled Castes & Scheduled Tribes
- Display of Scholarship and fellowship information
- Author workshops for the Research Scholars and Faculty
- Display of forthcoming conferences, other events, employment opportunities, and prospectus of foreign universities
- Short term internship for different University Master's students (MLIS)

Print and Electronic Resources

The Central Library is having a rich collection of print resources such as books, theses, magazines and newspapers. The bibliographical information of these resources are accessible through the WebOPAC. The institute is also having a rich collection of electronic resources and is getting access to 53+ electronic databases through library subscription and e-SodhSindhu consortium. Electronic databases include full-text databases (e-journals), bibliographic databases, citation databases (Scopus and Web of Science), Statistical databases, data sets, software tools, e-books, etc. These resources are being subscribed and renewed annually in collaboration with eSS (e-ShodhSindhu: A nationwide initiative by the Ministry of Education for Higher Education e-Resources).

The e-resources subscribed by the Central Library are as follows:

Full-Text Database

- AAAS (Science)
- ACM Digital Library
- American Chemical Society (ACS)
- American Institute of Physics (AIP)
- American Mathematical Society (AMS)
- American Meteorological Society (AMS)
- American Physical Society (APS)
- American Society of Civil Engineers (ASCE)
- American Society of Mechanical Engineers (ASME)
- American Welding Society (AWS)
- Annual Reviews
- ASTM Standards & Digital Library
- Cambridge Journals (5 Titles)
- Cell Press Journals (14 Titles)
- ECS Digital library Online
- Economic & Political Weekly
- Emerald CFTI Collection
- Geo Science World
- ICE Thomas Telford
- IEEE IEL Online
- IOP Science Extra
- ISID
- Jgate Plus (JCCC)
- JSTOR
- McGraw-Hill Access Engineering
- Nature (12 Titles)
- Optical Society of America (OSA)
- Oxford University Press
- Project Muse
- Proquest Dissertation & Theses (PQDT)
- Royal Society of Chemistry (RSC)
- Science Direct 7 Subject Collection
- SIAM Online

Full-Text Database

- South Asia Archive
- Springer Journals
- SAGE Engineering & Materials Science Collection
- Taylor & Francis Online
- Wiley Online (63 Titles)

Bibliographical Database

- SciFinder Scholar
- MathSciNet
- Scopus
- Web of Science

E-Book Database

- McGraw-Hill Access Engineering Library
- World eBook Library

Standalone Database

- Cambridge Structural Database System (Researcher License)

Statistical Database

- EPWRF India Time Series

Crystallographic Database

- Pearson's Crystal Database

Research Support Software Tools

- Turnitin
- Urkund
- EndNote
- Grammarly
- EZproxy

Computing Infrastructure and Services

The Library has its own LAN and WiFi network, which is connected to the Campus LAN. Currently, it has more than 10 PCs dedicated for the user to access electronic resources (e-journals, e-databases, etc), and Blade Server with four blades that hosts Koha ILS, DSpace digital repository, ezproxy remote access web application and RFID middleware application. The computing or IT infrastructure of the Central Library is given below

Sl. No.	Name of the Library IT Infrastructure	Software/Platform
1.	Library Automation	Koha ILS Software
2.	Institutional Digital Repository (IDR)	DSpace Digital Library Software
3.	Library Website	Inhouse developed CMS
4.	RFID based Circulation & Theft Detection	RFID Middleware & MS SQL
5.	Relational Database Management System	MySQL, MariaDB, PostgreSQL
6.	Remote Access	EzProxy
7.	Research Information Management	IRINS

Library Website

The Central Library has a comprehensive Home Page as a part of the Institute's website. The Library Home page serves as an integrated interface for all resources and services available from the Central Library. The library website is regularly updated by the library team. It is available at https://library.iitbbs.ac.in/ and offers the following web-based services:

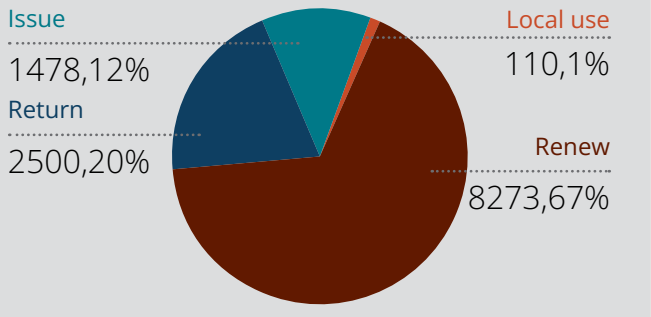
- Newly Arrived Books displayed at Home Page (Physically Displayed at the Library)
- Latest Faculty Research Publications displayed at Home Page indexed by Scopus
- Electronic Resources subscribed (https://library.iitbbs.ac.in/online-e-resources.php)
- Access to A-Z List of Journals subscribed by IIT Bhubaneswar
- Access to the database of Theses submitted by the Scholars of IIT Bhubaneswar
- WebOPAC Search interface at Home page
- Web Access to the list of Print Journals and Magazines
- Remote Access to all e-Resources through EzProxy (https://ezproxy.iitbbs.ac.in/login)
- Access to Institutional Digital Repository (http://idr.iitbbs.ac.in/jspui/)

Library Automation

Central Library has been automated all its housekeeping operations using an open-source integrated library management system software "Koha". The software is being maintained regularly and upgraded yearly to the latest stable version by the library team without any third-party support. It supports a web version of the online public access catalog (WebOPAC) through which a user can search books, check issued books, renew and reserve books. Further, it automatically sends transaction alerts to users and also sent overdue notices as well as reminders. The WebOPAC is available at: http://koha.iitbbs.ac.in. The transaction statistics of the library are given below (Source: Koha).

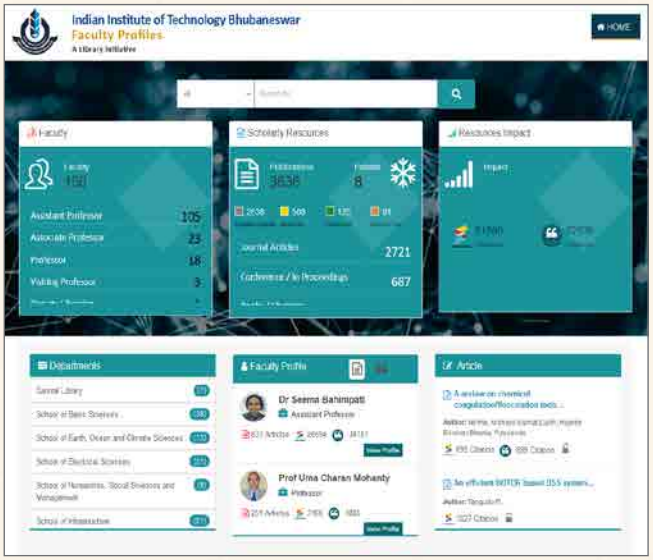
Library Transaction Statistics (From 1st April 2019 to 31st March 2020)

Transaction Type	Total Counts
Checkouts (Issue)	1478
Checkins (Return)	2500
Renew	8273
Local use	110
Total	**12361**



Institutional Digital Repository (IDR)

Central Library has also developed an Institutional Digital Repository (IDR) using an open-source digital library software "DSpace" in accordance with the National Digital Library (NDL), IIT Kharagpur mandate. Currently, it archived faculty research publications (metadata only) and annual reports of IIT Bhubaneswar. The repository is being maintained regularly and upgraded to the latest stable version by the library team without any third-party support. The IDR is available at: http://idr.iitbbs.ac.in/jspui



IRINS: A Web-based Research Information Management (RIM) System

IRINS (Indian Research Information Network System), a web-based Research Information Management (RIM) system developed by the Information and Library Network (INFLIBNET) Centre, has been set up for the IIT Bhubaneswar by the Central Library initiative. It facilitates IIT Bhubaneswar research fraternity to collect, curate and showcase the scholarly communication activities and provide an opportunity to create a scholarly network.

IRINS has been integrated with academic identity such as ORCID ID, ScopusID, Research ID, Microsoft Academic ID, Google Scholar ID for ingesting the scholarly publication from various sources. The IRINS instance of IIT Bhubaneswar is currently showing 150 faculty members, 3636 publications, 8 patents, and 62536 citations. It is available at: https://iitbbs.irins.org/

Institutional Ranking Activities

Central Library has been co-ordinating all the ranking related activities of IIT Bhubaneswar. The role of the Library is to collect the data from different schools/ departments/centres/sections as per the requirement of different national/international ranking systems/agencies and compile the same for the purpose and submit those data online with due approval of the competent authority.

The Institute participated in the following national and international rankings:

- India Today Ranking- In both Best Engineering College Ranking and Best Universities Ranking
- NIRF- In both Overall Ranking and Engineering ranking

- ARIIA(Atal Ranking of Institutions on Innovation Achievements)
- The Week - Hansa Research Engineering Ranking- in both Best Engineering College Survey and Best Universities Survey
- Times Annual Engineering College Ranking Survey and Times Annual Engineering Research Capability survey
- All India Survey on Higher Education (AISHE)
- FICCI Higher Education Excellence Awards
- Association of Indian University-AIU
- QS World University/BRICS/Asia /IndiaUniversity Ranking
- Times Higher Education (THE) World University Rankings/ Asia University Rankings/ Emerging Economies University Rankings/ Young University Rankings/
- Times Higher Education (THE) World University Impact Ranking
- AIU Global Survey on Higher Education Institutions

OUT-REACH PROGRAMMES OF THE CENTRAL LIBRARY

Webinar on Turnitin Feedback Studio and Gradescope on 18th May 2020

Central Library organized a Webinar on "Turnitin Feedback Studio and Gradescope" on 18th May 2020 through Online mode (Zoom platform). The speaker of the event was Mr. Binay K. Guin, Territory Manager-Subscription for Higher Education & Government Research. The topic covered during the webinar: Turnitin Feedback Studio (TFS) and Gradescope. Mr. Guin started his speech with a brief introduction on Turnitin Feedback Studio and explained how users can use it to provide personalized feedback, apply rubrics & quick marks, share voice comments, etc. on student's reports. Moreover, the Gradescope platform and its benefits have also been discussed during the webinar. A very good number of participants including faculty members, students, and research scholars attended the webinar.

Webinar on Discover Your Research Potential with IEEE Xplore on 10th June 2020

Central Library in collaboration with the IEEE organized a Webinar on "Discover Your Research Potential with IEEE Xplore" on 10th June 2020 through Online mode (WebEx platform). The speaker of the event was Ranbir S Sedhey, IEEE Client Services Manager India, Middle East (Asia) & Bangladesh. The topic covered during the webinar: EEE initiative during COVID-19, IEEE Data port, Code Ocean, IEEE Pre-print server, IEEE Author Centre, and 4IR, A brief overview of the IEEE with new features & updates, Free IEEE Professional Development Courses for Practicing Engineers & Scientists. A very good number of participants including faculty members, students, research scholars and staff attended the webinar.

Book Exhibition on the occasion of Hindi Pakhwada, Gandhi Jayanti and National Unity Day

Central Library organized book exhibitions on various auspicious occasions like Hindi Pakhwada, Gandhi Jayanti, National Unity Day (Birth anniversary of Sardar Vallabhbhai Patel), etc. Students and faculty members visited the exhibition on the respective occasions. On the occasion of Hindi Pakhwada, the library displayed all the Rajabhasa books to its users for two weeks. Similarly, on the occasion of Gandhi Jayanti and National Unity Day, the library displayed books on respective leaders for two weeks.

Computer and Information Technology Services Cell (CITSC)

The Computer and Information Technology Cell (CITSC) of IIT Bhubaneswar has state of art servers, connected on a high-speed Gigabit Optical Fiber /UTP based network in a distributed environment. CITSC has implemented a solution for conducting online classes. Using this solution classes has been conducted Online successfully at IIT Bhubaneswar during the COVID-19 pandemic. CITSC has implemented solution in-house to hold conventional examination Online with invigilation in virtual examination halls and using this solution End-semester examinations have been conducted Online successfully at IIT Bhubaneswar. During COVID-19 pandemic, CITSC played a major role in successfully conducting the 9th convocation of the Institute in hybrid mode where degree certificates were awarded to students in-person and also in online mode. Our team provides support for conducting conferences and meetings in online mode. All the Audio-Visual facilities of classrooms are implemented and maintained by the in-house team of CITSC. All the laboratories, faculty offices and staff offices are provided with desktop/ laptop, printer, and telephone as well as with wired and wireless internet/intranet connectivity. All the faculty members and students have access to the Institute developed ERP system. The ERP system is being used for students grading, feedback & administrative applications including inventory management, Academics, accounts, and admissions as well as for placement related applications. The campus network is protected with state-of-the-art antiviruses and next-generation UTM. All the members of IIT Bhubaneswar campus including students, faculty, staffs and officers are provided with e-mail ID a user-friendly e-mail system to access mails, both from inside and outside of the campus.

The Institute is connected with high-speed Gigabit Connectivity under NKN. Besides this, the institute is also having 200 Mbps PGCIL ILL. The Institute is having its own telephone exchange which can cater up to 10,000 users. The Institute is also having several hot-spot Wi-Fi points which is being used by the IIT Bhubaneswar users for wireless connectivity as well as an E-class room that allows users to access different academic video content. CITSC also provides video conferencing facilities to the Institute users utilizing desktop video conferencing as well based on hardware video conferencing. All the ICT needs of the institute is being planned and executed by the in-house team of IIT Bhubaneswar. CITSC team provides round the year network and hardware supports to all the members of the Institute. Our team encourages use of free and open source software among the campus inmates. Our team also provides supports to several advanced and special purpose software such as Ansys, Matlab, Mathematica, etc.

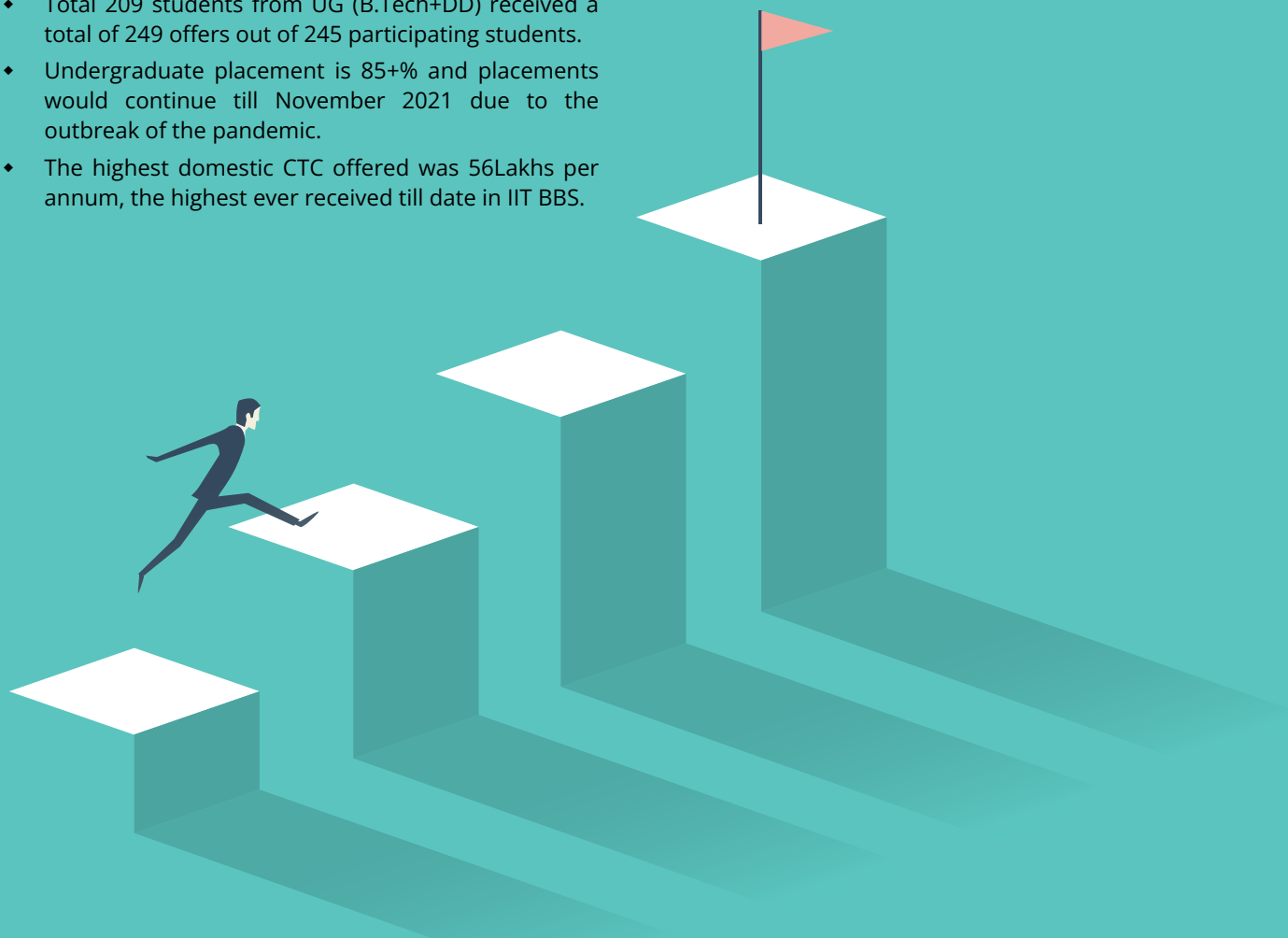
Career Development Cell (CDC)

The Career Development Cell (CDC) offers a wide range of portfolios which include empowering students to explore, define, and realize their career goals. The CDC also engages in one-on-one counseling sessions, consultations throughout the career planning process, and assistance with goal-setting and goal achievement through a variety of career exploration activities. The ultimate aim is to provide lifetime tools and skills for professional development, job search success, and career satisfaction, supporting the students in shaping and managing their careers by building key ingredients required for a student to be a complete professional.

Campus placements of 2020-21 threw open new challenges in the outbreak of Covid-19 pandemic in terms of safeguarding placement & internship offers made by various recruiters across the globe..

Key highlights of campus placements 2021

- Total 209 students from UG (B.Tech+DD) received a total of 249 offers out of 245 participating students.
- Undergraduate placement is 85+% and placements would continue till November 2021 due to the outbreak of the pandemic.
- The highest domestic CTC offered was 56Lakhs per annum, the highest ever received till date in IIT BBS.
- More than 10% of students received offers with a CTC greater than 30LPA, while around 25% of students received offers with a CTC greater than 20LPA.
- M.Tech placements would continue to be held till November 2021 due to the outbreak of the pandemic.
- The average and median CTC is 16.15 and 14 Lakh per annum respectively, a formidable increase of 25% over the last year, despite the pandemic.
- PSUs such as GAIL, Oil India Limited, TRAI, WAPCOS, etc. participated in the campus placements.
- MNC companies like Microsoft, Amazon, Jaguar LandRover, Goldman Sachs, GE India, Qualcomm, Wipro, L&T, Infosys, TCS R&D, Adobe have participated in this year of placements.
- Pre-final year B.Tech students have received internship offers in reputed industries. Majority of CSE branch engaged in Internships has the possibility of a full-time offer.



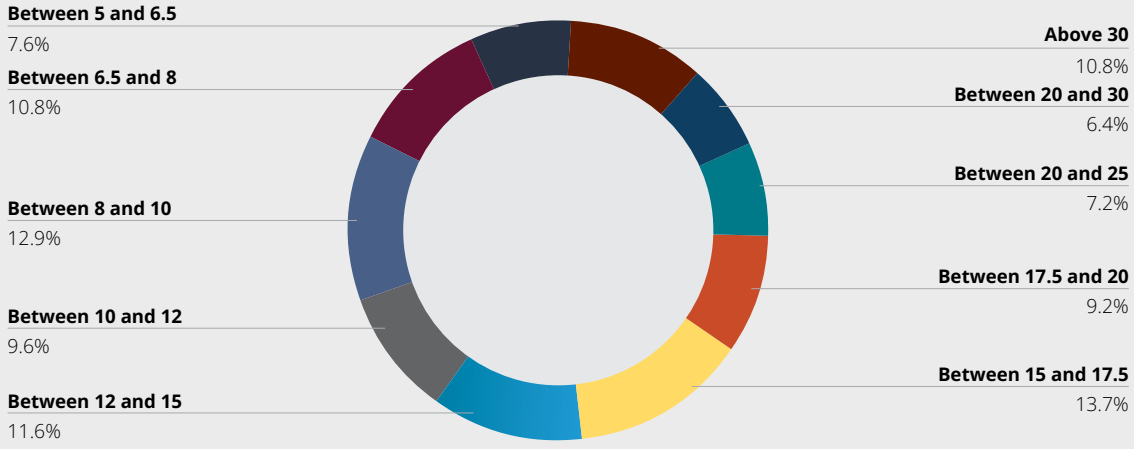
Companies:


Goldman Sachs
D E Shaw & Co
Microsoft
amazon
MathWorks
Adobe
Deloitte.
SAMSUNG
mastercard
Flipkart
ORACLE
AMERICAN EXPRESS
NVIDIA
media.net
LARSEN & TOUBRO
It's all about Imagineering
TATA
TATA CONSULTANCY SERVICES
JSL
oppo
MAQ Software
TATA STEEL
UnitedHealth Group
Qualcomm
TRAI
amagi
वाप्कोस
WAPCOS
CDAC
rupeek
गेल
GAIL
DREAM11
fractal
INTELLIGENCE FOR IMAGINATION
OBSERVE·AI
Razorpay
JAGUAR
toppr
Vedantu
LIVE ONLINE TUTORING
DBS
MONEYTAP

Course/stream wise distribution of placement: 2020-21

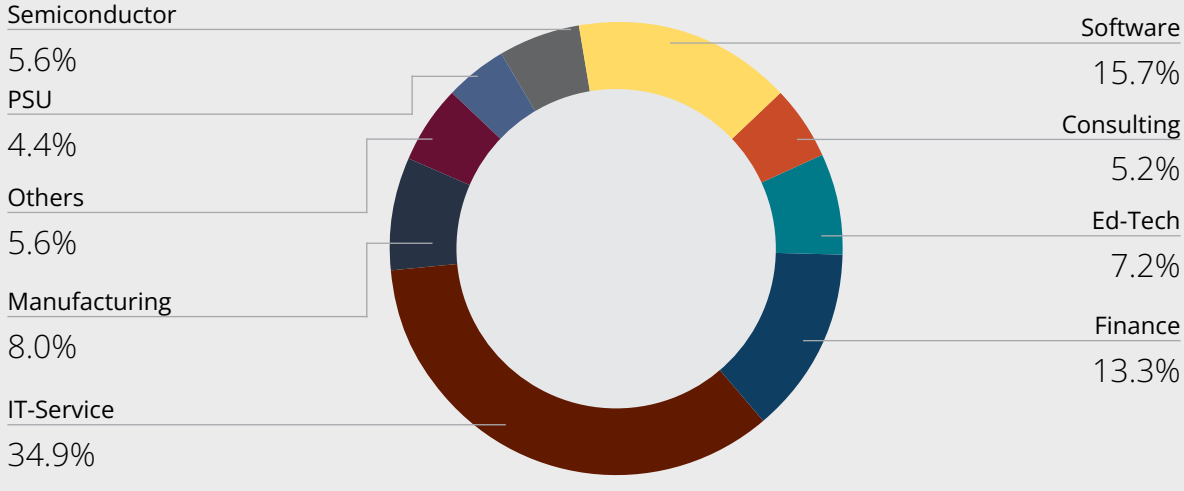
	CSE	ECE	EE	Mech	Civil	MME	IDD Civil	IDD Mech	Total
Graduated	52	43	48	46	43	22	16	20	290
Participated	48	34	48	40	32	15	12	16	245
Placed	47	33	43	29	24	12	8	13	209
Percentage Placed	97.92%	97.06%	89.58%	72.50%	75.00%	80.00%	66.67%	81.25%	85.31%
Offers	54	46	54	33	25	13	10	14	249
Number of offers per student	1.13	1.35	1.13	0.83	0.78	0.87	0.83	0.88	1.02
Highest CTC	45	45	56	18	56	12.5	25	30	56
Lowest CTC	6	5	8.5	5.2	5	5	6	6	5
Average CTC	22.6	18.6	21.6	9.9	11.4	8.5	15.5	13.5	16.15
Median CTC	20.5	16.3	17.3	9	8	7.95	15	11	14

Compensation wise distribution of offers (in INR Lakhs per annum)

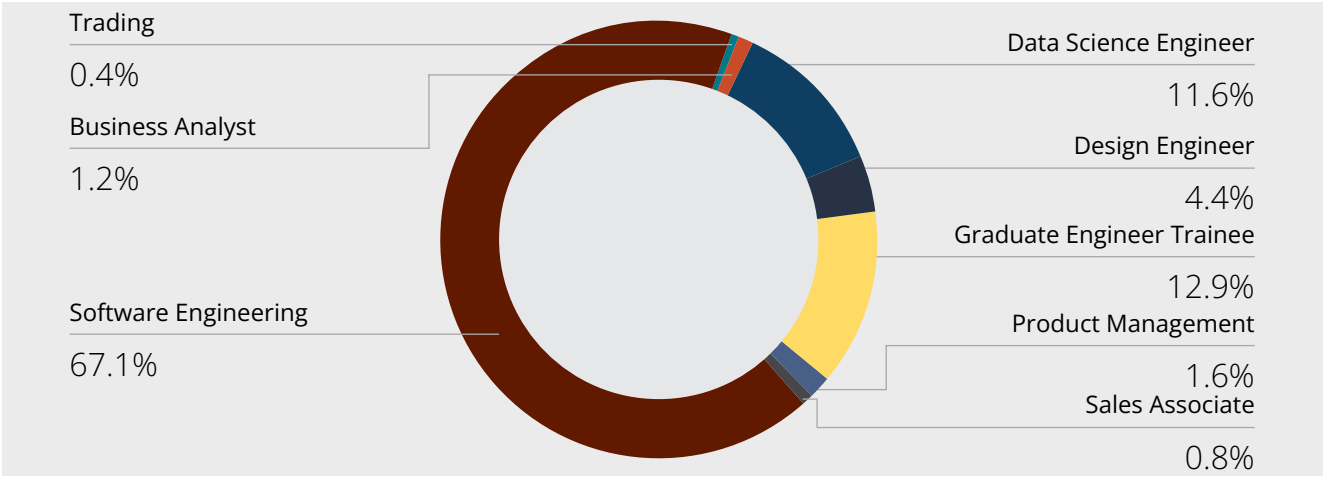


*** *Placement process has not been over yet and will continue till November 2021.*

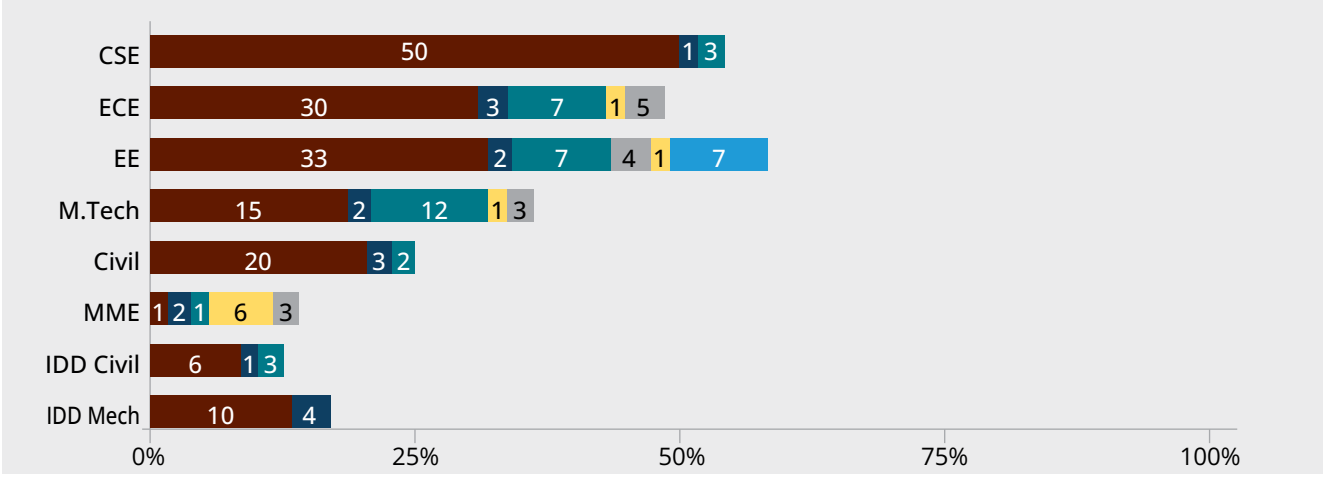
Sector wise placement analysis



Distribution of offers profile wise



Branch wise profile offered distribution



List of all the companies visiting IIT Bhubaneswar Campus for Full time hiring in Academic Year 2020-21

Accenture	Ceremorphic	Google	Netcrcaker	Sigmoid
Accolite	ClearTrail	Gradeup	nference	SS&C
Addverb	Cognizant	Hashmap	Nvidia	SunTec
Adloid	Commvault	HCL	Observe.ai	TATA BSL
Adobe	DBS	ImpactGuru	OIL	TATA STEEL
airprobe.tech	DE Shaw	JISA Infotech	OPPO	TCS Digital
Amagi	Delhivery	JLR	Perceptive Analytics	TechVantage
Amazon	Dream 11	Kore.ai	Publicis Sapient	Tiger Analytics
AMNS	Extramarks	L&T	Qualcomm	Toppr
Analog Devices	Fractal	LTI	RAAM Group	TRAI
Axis My India	FuturesFirst	Mathworks	Razorpay	Vedanta
Blue Yonder	GAIL	Media.net	REC	Vedantu
Brane	GE	Mentor Graphics	Revature	Virohan
Brigosha	GEP Solutions	Merilytics	Rupeek	WAPCOS
Cadence	Go Lorry	Microsoft	Sandvine	Wipro
CDAC	Goldman Sachs	MoneyTap	Sapiens	ZS Associate
No of students placed	Highest CTC	Lowest CTC	Average CTC	Median CTC
209	**56LPA**	**5LPA**	**16.15 LPA**	**14LPA**

Start-Up Centre

The Start-up Centre at IIT Bhubaneswar was inaugurated by Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar on 20th June 2016. This facility is available to all budding entrepreneurs of the region. The Institute has earmarked more than 50,000 sq. ft. area for the Start-up centre. So far, fourteen Startups have received incubation at the Start-up Centre and at present 3 Start-ups are incubated in the Start-up centre.

Facilities for the Startups

- Furnished/Semi-furnished/Unfurnished space as per the requirement of the entity
- Library facility, Laboratory and workshop facilities
- Networking
- Mentoring support by faculty members
- Availability of IIT students for internship
- Interactive workshops with Angel Investors and venture capitalists
- Workshop on different issues of Entrepreneurship
- Entrepreneur skill development
- Guidance and support for filing patents
- Fooding and lodging facility available in nearby Atmaram Hotel

IIT Bhubaneswar Research and Entrepreneurship Park

There are numerous colleges and universities offering courses on engineering, science, and agriculture in and around Bhubaneswar. The available rich pool of talent needs to be guided for innovation, research, and entrepreneurship activities. Professor R. V. Raja Kumar, Director, IIT Bhubaneswar reiterated to promote entrepreneurship and innovation not only in this state but also in the surrounding states.

IIT Bhubaneswar received a license and incorporation certificate from the Registrar of Companies (RoC) to run IIT Bhubaneswar Research and Entrepreneurship Park, a section-8 (not for profit) company. This company operates from the Samantapuri campus of IIT Bhubaneswar, at the heart of the capital city Bhubaneswar and promotes entrepreneurship, research, and startup activities. The section-8 company has also been successfully registered under section 12AA of the Income Tax Act, 1961 so that it can receive grants under various government schemes promoting entrepreneurship, research, and startup activities. Eventually, the park will operate from the permanent campus of the Institute. To shape student's innovation and promote their entrepreneurship interests, IIT Bhubaneswar Research and Entrepreneurship Park will act as a nodal centre.

IIT Bhubaneswar Research and Entrepreneurship Park operate under the chairmanship of Prof. R. V. Rajakumar, Director, IIT Bhubaneswar. He is assisted by Dr. M. Sabarimalai Manikandan, PIC Startup Centre IIT Bhubaneswar, as one of the directors of the company.

The Research and Entrepreneurship Park has already received funds for establishing the Centre of Excellence on Virtual and Augmented Reality (VARCoE) as given below:

I.	Mrs. Susmita Bagchi	₹2.50 crores
II.	Govt. of Odisha	₹2.50 crores
III.	STPI	₹2.50 crores

Institute has around 36000 Sq. Ft. of the area dedicated for the incubation activities in the Institute premises at Samantapuri, Bhubaneswar. In addition, the School of Mechanical Sciences and School of Electrical Sciences have provided a space of around 400 sq.ft. Each for VAROCE laboratories in the Argul campus. Apart from these facilities, workshop facilities and different laboratories in the various Schools are used for carrying out research work associated with VARCoE. All the workspaces are well equipped with internet connectivity. At present, there are around 10 faculty members from various Schools who are actively involved in carrying out VARCoE projects.

One of the major activities at VARCoE will be to provide support to the incubates and start-ups in the area of virtual and augmented reality. This centre will act as a feeder for the Start-up centre of STPI, Bhubaneswar. The STP registered units across the country working on AR/VR will get preferential access in AR/VR Lab at a concessional rate. All admission in to Centre of Excellence for Virtual and Augmented Reality for Immersive Visualization (VARCoE) will be through a defined process of IIT under the guidance/consent of the Project Advisory Committee (PAC). However, the STP registered units across the country working on AR/VR will get preferential access as recommended by STPI.

Technology Incubation Centre

Activities 20-21

The four projects running under technology incubation centre are nearing to their end with all of them in the stage of development of the prototype. The projects are based on internet of things concept. Three project running under TIC are aimed at development of home security solutions (PI: Dr. Bharathram Ramkumar), electrical power grid stability (PI: Dr. Srinivas B. Karanki) and health monitoring devices (PI: Dr.M.S.Manikandan). All the three IOT based projects are in their final development stage with most of the objectives achieved and prototype are being developed. Another project aims at development of efficient bio-digester system for Biogas production by consuming the biowaste being produced in IIT hostels' kitchens (PI: Dr. Prasenjit Rath). The construction of the Bio digester has been done in Mahanadi Hall of Residence which uses a Moving bed Bio Reactor system. The project is also nearing it completion as most of the work is complete with few minor elements to be procured. Some more projects from faculty and students are under consideration for providing the financial assistance under TIC in near future.

E-Cell

E- SUMMIT 2021

The seventh edition of E-Summit'21 held during 26th-29th March with the theme "Reign of Resilience" was a resounding success, as the summit witnessed an exponential growth in footfall, participation in competitions, events and workshops alongside prominent guest talks, conclaves and many new initiatives, making it one of the biggest Entrepreneurial Conclaves of Odisha. Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar inaugurated the event. Shri. Kris Gopalakrishnan, Chairman Axilor Ventures and Co-founder Infosys graced the inaugural ceremony as the Chief Guest through on-line mode and shared his thoughts on the crisis to be seen as an opportunity to create a better world.

E-Summit'21 witnessed several conclaves and events well attended by the participants in virtual mode. The Crypto-currency conclave panel consisted of Sidharth Sogani - CEO, CREBACO Global Inc, Shivam Thakral - CEO & Co-Founder BuyUcoin Consultants, Anil Lulla - COO at Delphi Digital, Raj Chowdhury - Managing Director, HashCash. The conclave delivered insights on the current trend and scenario of Crypto-currency and Block chain startups in the near future. The Innovation expo event was organized with about 20 teams taking part and showcasing the projects useful for social welfare. Innovative projects like a smart phone for the blind and an emergency rescuing drone bagged the top prizes for the event. About 200 students took part in various workshops conducted. Research and Development Conclave was conducted with a panel consisting of Prof. Vivek Polshettiwar, TIFR, Dr. Aruna Shankarkumar, NIIH, Umashankar Singh, IIT Gandhinagar who put their views on ethical research. The panel also discussed the technical side of R&D like DNA cutting, immunology, and nanotechnology. The Investors Conclave witnessed the Q&A session with the panelists – Mr. Vinayak Nath, Serial Entrepreneur & TEDx Speaker, Mr. Sanjay Jesrani, Founder & CEO, Go North Ventures, and Mr. Shashank Randev, Founder VC who gave insights about the current investments scenario in great detail. Investup was a new event debuting with this year's edition of E-Summit. A total of 15 participants took part and presented themselves. Two start-ups were successful in connecting to the investors, and all of them received some valuable constructive criticisms. The IPL auction also saw a participation of 140 people via virtual mode.

The event also had many resilience series interactions with famed personalities like Ms. Anisha Motwani, founder of many startups and author of the book Storm the Norm,

Mr. Akash Singh, Co-Founder and CTO of Observe. AI. Mr. Acharya Prashanth, an alumnus of IIT Delhi, IIM Ahmedabad, acclaimed Vedanta teacher and an author of over 60 books. The resilience talk series concluded with an invited talk of Dr. Kiran Bedi, the first female IPS officer of India and former Lt. Governor of Puducherry. She was the Chief Guest of E-Summit'21 valedictory ceremony who left the audience awestruck with her vast experience and deep thoughts on "You reap what you sow".

Memento presentation to Chief Guest

Rajbhasa Ekak

In pursuance of the Official Language Policy of the Government of India, Rajbhasha Ekak of the Institute promotes the progressive use of Hindi in IIT Bhubaneswar. Presently the Ekak has one sanctioned post of Junior Translation Officer, which is lying vacant. The Institute is wholly tried to follow the rules and regulations of the Govt. of India related to Official Languages Hindi by deputing other staff and officers of the Institute. Some of the highlights of Rajbhasha activities are as follows:

Ongoing Activities

The Rajbhasha Ekak provides the translation of the Institute Annual Report, Annual Accounts, Audit Report and various other documents, which comes under Section 3(3) of Official Language Act, 1963. In addition, different other letters and correspondences, replies etc., are either translated or prepared in Hindi. The Rajbhasha Ekak also tries to ensure the effective implementation of the 'Official Language' policy of the Govt. of India at the Institute. The Ekak ensures the bilingual display and use of different nameplates, notice boards, rubber stamps, routine type forms and also help in preparing bilingual Degrees certificate awarded by the Institute during Convocation. The Ekak involved the students and motivated them to use the official language and organise an official language program during different institute functions with the help of the Hindi literary society "Abhivyakti" under student gymkhana.

Hindi Training and Workshop

From time to time, Rajbhasha Ekak imparts Hindi training to all Institute employees who have no working knowledge in Hindi. To solve the problem faced by the employees in using the official language, the Rajbhasha Ekak organised workshops/ training for the employees of the Institute. In the reporting year, the following workshops were organised:-

On 9th Sept 2020, a Hindi Workshop on "Quarterly progress report and usage of official Hindi" was organised for the employees. Dr. Raj K. Singh, PIC Rajbhasha Ekak, trained the employees in the workshop.

Hindi Pakhwada Ceremony

On the occasion of Hindi Diwas, under the able guidance and leadership of Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar, Rajbhasha Ekak and Hindi literary Society of students Gymkhana "Abhivyakti", Indian Institute of Technology Bhubaneswar organised a 14 day (1st Sept-14th Sept 2020), "Hindi Pakhwada" in the Campus. Due to the ongoing pandemic situation, all programmes were organised through online mode. The motto of the programmes organised was to celebrate the importance of the Hindi language along with creating awareness about its use in daily life.

Speaking on the occasion of the closing ceremony of the program, Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar, said, "Hindi is one language which can be spoken across the country, and students should be taught the importance of our National language. We are happy to host the Hindi Pakhwada on the Campus, and the students, faculty and staff have actively participated in various competitions through the online mode owing to the ongoing pandemic situation. At IIT Bhubaneswar, we give due importance to implement the Rajbhasha Policies of the Govt. of India. I would also like to emphasise the simplicity, mellowness and power of Hindi as a language and urge you all to make Hindi a part of your daily office routine."

The popular programs for the students were Hindi creative writing "Kavita Lekhan" and "Lekh Lekhan." The other program for the students was "Awaaz Dil Ki" to get their view on different themes. For the employees of the Institute, Hindi extempore (Drishtikon), Hindi essay writing (Nibandh Lekhan) and Hindi workshop on "Quarterly progress report and usage of official Hindi" were organised during the Pakhwada. Various colleges and institutes have participated in the programme. The Central Library and Rajbhasha Ekak of IIT Bhubaneswar jointly organised the "Hindi Book Exhibition" from 1st Sept 2020 to 14th Sept 2020 in the Central Library located on the 4th Floor of the Administrative Building of IIT Bhubaneswar. The motto was to encourage visitors to read Hindi books.

Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar, graced the closing ceremony and congratulated all the winners of the various competitions. The winners of the competition were awarded cash prizes and a certificate of participation. Also present at the occasion were Prof. V.R. Pedireddi, Dean, Student Affairs, Col (Dr.) Subodh Kumar, faculty and staff members. Dr. Raj Kumar Singh, PIC, Rajbhasa Ekak, IIT Bhubaneswar also read out the message of Hon'ble Shri Amit Shah, Home Minister, Govt. of India and Shri. Ramesh Pokhriyal Nishank, Education Minister, Govt. of India. The vote of thanks was proposed by Lt. Cdr. Raj Kumar, Chief Security Officer, IIT Bhubaneswar where he expressed his gesture to the Director of the Institute for his constant guidance, support and motivation.

Bilingual Website

As per the Official Language Policy, Govt. of India, Rajbhasha Ekak, maintains a bilingual update of the Institute's website. Rajbhasha Ekak links are active on our institute website, which contains various useful information related to the effective use of Official Language Policy.

COMMITTEES

Official Language Implementation Committee

The Institute has an Official Language Implementation Committee to look after the implementation of Official Language policies of Govt. of India and to review the progressive use of Hindi in the Institute. Five quarterly meetings of the committee were held last year under the chairmanship of the Director of the Institute. In the meetings, discussions were made to accelerate the progressive use of Hindi in the Institute. The fourth meeting of the last financial year scheduled for 24th Mar 2020 was postponed due to COVID-19 lockdown was conducted on 3rd Jun 2020.

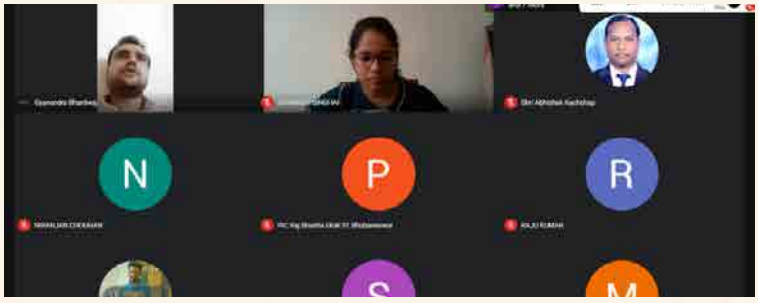
Town Official Language Implementation Committee (TOLIC)

The 65th meeting of TOLIC Bhubaneswar (C) was organised by Principal Accountant General Bhubaneswar office online. Prof. R. V. Rajakumar, Director IIT Bhubaneswar, was present online in the meeting besides Dr. Raj K. Singh, PIC Rajbhasha Ekak and Lt. Cdr. Raj Kumar, CSO and Hindi Officer (I/C) Rajbhasha Ekak. For the 65th TOLIC meeting, Rajbhasha Ekak provided the online platform and technical support. The meeting was conducted on 15th Sept 2020, and the support provided by the IIT Bhubaneswar is appreciated by all the members of the TOLIC Bhubaneswar (C).

The 66th meeting of TOLIC Bhubaneswar (C) was organised by Principal Accountant General Bhubaneswar office online on 28/01/2021. Dr. Raj K. Singh, PIC Rajbhasha Ekak and Lt. Cdr. Raj Kumar, CSO and Hindi Officer (I/C) Rajbhasha Ekak attended the meeting and gave their suggestions.

Awaaz Dil Ki

Ms. Saranshi Singhai, as moderator



Sri Gyanendra Bhardwaj presenting his thought

Prof. R.V.Rajakumar, Director addressing the participants

Events

IIT Bhubaneswar Lends a Helping Hand to Stranded Migrant Workers

23rd May, 2020

IIT Bhubaneswar upon the initiative of Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar has served 1008 packets of cooked and packed food that had been received from the Labour Commission along with drinking water bottles were provided by the Unnat Bharat Abhiyan (UBA) of the Ministry of Education (MOE). This apart, 2022 migrant workers stranded in the campus have been looked after with the association of NBCC the Project Management Consultant, and the contractors during the lockdown period of the Covid-19 pandemic. Also, the faculty and students reached out to the family of a deceased labourer with a token of financial assistance.

The first batch of the food distribution was led by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar himself at the National Highway no. 16 near Khordha overbridge on 20th May, 2020 amidst the spell of Cyclone Amphan which was followed by the team of volunteers consisting of students, faculty and staff members of the Institute near the Jatani Gate located on the National Highway while maintaining full isolation. This was again repeated on 21st May, 2020 by a team of volunteers who served the migrant workers at the same location. Prof. R. K Panda, Coordinator and Dr. Seema Bahinipati, Co-Cordinator, Unnat Bharat Abhiyaan actively participated in this initiative. The team of volunteers included Dr. Rajkumar Singh, Dr. Srikant Gollapudi, Dr. S. Manikandan, Dr. Barathram Ramkumar, and Dr. Tarakanta Nayak.

Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar says, “Even 1900 construction workers who were held up in the IIT Campus, could not leave for their homes before the lockdown was announced. All the stranded migrant workers inside the campus were looked after well in association with NBCC and the contractors, protected from Covid-19 and the construction work was commenced by the end of April to facilitate work for them. They have been trying to leave for their homes by foot throughout April and we persuaded them not to leave that way without permissions and vehicles and it has been a very bit challenge. Still they have been too keen to go, more so when some batches started leaving for their homes after relaxations were given by the government. Permissions were obtained and 1800 of them left by buses with full formalities done during the last two weeks, despite that they may be facing no work for months and starvations there. It will take months for construction works also to resume in full form. I personally sent lists of them to the Chief Secretaries of their home states informing about their availability there for employment to help in possible immediate re-employment.”.

The campsites also served the close to 1014 construction workers staying inside the campus with dry food, soaps and masks including 92 children distributed with cookies. The required money was raised by voluntary donations from 56 people of IIT Bhubaneswar community which also included generous donations from Kalinga Renewable Energy Manufacturers Pvt. Ltd., Bhubaneswar coordinated by Prof. Saroj Kumar. The same was distributed on 07th and 10th May, 2020 near IIT Dispensary Site near Staff Quarter by Dr. Partha Pratim Dey, Dr. Tarakanta Nayak, and Staff members at IIT Bhubaneswar.

An amount of ₹46,000 was mobilized from 92 donors which included students, staff and faculty of IIT Bhubaneswar. This was deposited in the account of the wife of a deceased worker belonging to Malda, West Bengal. The same was coordinated by Shri. Soumen Pal, Ph.D. student of IIT Bhubaneswar who mobilized funds from the community at IIT Bhubaneswar. Giving back to the community, particularly in difficult times, has been at the core of our educational ethos at IIT Bhubaneswar.

End Semester Exams to be conducted online for outgoing students to facilitate their timely graduation

03rd June, 2020

IIT Bhubaneswar Senate has decided to conduct the End Semester examinations for the outgoing students by on-line mode to facilitate their timely graduation. The decision in favour of holding the examination was taken by the Senate to uphold the rules of the institute and to graduate the students without compromising on the standards of evaluation.

Two alternative examinations are scheduled, one from 24th June 2020 and another during the end of July/first week of August to facilitate the students to take any one of the examinations in case it takes time for a student who does not have facilities to acquire the facilities to take the on-line examination at home or from a nearby facility. In case if the pandemic situation due to Covid-19 improves, a student may also have the option to come to the IIT campus and take the second examination.

We are confident that the students of IIT Bhubaneswar will take this challenge to graduate themselves with full honours and evaluation standards.

Plantation Drive Organized on the eve of World Environment Day

05th June, 2020

IIT Bhubaneswar on the eve of World Environment Day organized a plantation drive inside the campus aimed at campaigning for green culture and promoting a greener ecosystem along with providing a pollution-free atmosphere to the residents inside the campus adhering to the social distancing parameters because of Covid-19. The drive was inaugurated by Prof R.V. Raja Kumar, Director, IIT Bhubaneswar.

The plantation of the trees was successfully carried out as per the planned schedule. Many plant saplings of different types and large sizes were planted during the plantation drive. The plantation saw active participation from the Institute members, faculties, staff, their respective families and students. Also participated in the drive were Prof. V. R. Pedireddi, Dean-Student Affairs, Dr. Srinivas Bhaskar Karanki, Pic (Horticulture) and Col (Dr.) Subodh Kumar, Registrar along with other faculty and staff members.

Significant Rising of GATE Scores for M.Tech Admissions

16th June, 2020

IIT Bhubaneswar has released the first round of selection list for M Tech admissions for the July 2020 academic session in 14 M.Tech specializations from five schools of the Institute and uploaded at the website, last week. In view of the Covid-19 pandemic, this time the shortlisting and selection of the candidates have been based on the GATE score with some weightage given to the performance of the candidates in the B. Tech and 12th examinations.

The institute reported a very significant rise in the opening and closing GATE scores of the selected candidates in all categories of reservation and in all the programmes this year compared to the last year. The average rise this year in the opening and closing ranks over the last year are 8.6 and 12.17 percent respectively. The opening and closing GATE scores for the Computer Science and Engineering specialization this year are 888 and 779, respectively for the general category and 737 and 616, respectively for SC category.

Prof .R V Raja Kumar, Director while speaking on the occasion said that ***"Obviously a student would like to choose the best possible institute for own education. As you know the closing and the opening scores of the selected list of candidates is an acid test of how an Institution is functioning since it directly reflects the confidence level of the stakeholders. We have been observing this rising trend for the last three years in all the programmes including BTech, MTech and MSc at IIT Bhubaneswar, despite that the seats in the IIT System are significantly increasing over time. A rise of 12.17% is very significant, it is very satisfying to all of us at IIT Bhubaneswar, it would encourage us to work harder and I am confident that the institute will continue this rising trend in the coming years".***

Dr. P. R. Sahu, Dean Academic Affairs mentioned that like the previous year, the Institute is participating in the centralized admission procedure through Common Offer Acceptance Portal (COAP) for offering admission to the candidates. The first round of offers was released in the last week and there will be a total of 10 rounds of offer, the last of which happened on 07th -09th August, 2020. This year the undergraduate admissions will take some more time due to the Covid-19 pandemic.

6th International Day of Yoga

21st June, 2020

The 6th International Day of Yoga was observed on 21st June 2020 (Sunday) at IIT Bhubaneswar with great enthusiasm and vigour. It was a three day program that commenced from 19th June, 2020 at the permanent Campus. Mr. Arul Dev, An Author, Radiant Universal Leader Coach and Integral Educator and a guest faculty at IIT Madras was the Chief Guest of the event and joined the yoga session through an online medium. Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar with students, faculty, officers, staff and their family members actively participated in the event. The theme for this year's International Yoga Day is 'Yoga at Home and Yoga with Family'.

The participants, and Yoga teachers assembled for the practice session at the Community Centre by adhering to social distancing protocols and compulsory wearing of masks. The entire event was live streamed through Microsoft teams, many students participated from their hostels. Also, many students participated from their home from different states through online medium. Mr. Arul Dev, Chief Guest gave an interesting spiritual talk on "Inner Yoga - to be calm, creative and joyful" in day to day lives.

The programme was coordinated by Dr. Srikant Golapudi and Dr. Bankim Chandra Mandal, EAA Coordinator. Also present at the event were Dr. Sankarsan Mohapatro, President Student Gymkhana, IIT Bhubaneswar and Col (Dr.) Subodh Kumar, Registrar, IIT Bhubaneswar. The Yoga session started with the systematic practice of different "ASANAS" of standing, sitting and laying positions (both lying on back and reverse) smoothly changing in succession under the instructions of Yoga teacher and supervision of trained volunteers. The entire "Yogabhyas" lasted for an hour and ended with oath by all the participants that they will continue to practice Yoga for keeping their body and mind in healthy, stress-free and cheerful condition. The session ended with the vote of thanks.

Innaguration of HPT-32 Deepak Aircraft and T-55 Battle Tank by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar

23rd June, 2020

It is a matter of immense pride that the defence specimens display of T-55 Battle Tank and HPT-32 Deepak Aircraft were inaugurated by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar on the auspicious day of Rathyatra on 23rd June, 2020 (Tuesday) in the presence of students, faculty and staff members.

The T-55 Battle Tank and HPT-32 Deepak Aircraft were received from Central Armoured Fighting Vehicle Depot (CAFYD), Kirkee, Pune and Air Force Station, Tambaram, Chennai, Tamil Nadu respectively on the request of the Director.

The motto is to create a sense of patriotic fervour, the spirit of protecting the sovereignty of the country, motivating participation in the R & D of defence technologies, showcasing the technological challenges behind the defence equipment both past and future and taking up careers in defence services.

The defence specimens are being showcased at the Main Entrance Circle of IIT Bhubaneswar for the benefit of the students and visitors to the Institute.

End-semester Examinations as usual by Online during the Pandemic

24th to 30th June, 2020

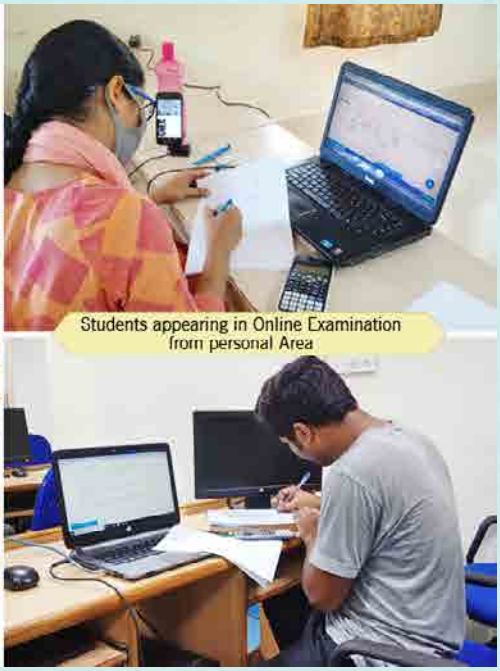
IIT Bhubaneswar conducted the End-semester examinations in the normal comprehensive way as per its standards, very successfully, in on-line mode from 24th to 30th June 2020 for its final year subjects. The number of final year students including a fraction of others who registered for the final year courses participated in the examination are as follows:

Degree	No of participants	% of students took the exam
B.Tech	206	100
Dual Degree	36	100
M.Sc	75	100
M.Tech	167	100
Ph.D	42	100
Total	**526**	

The Online Examination Center at IIT Bhubaneswar

The commercially available systems for online examinations are normally designed to hold computer based tests and not for conventional examinations in a comprehensive form and have certain limitations. IIT Bhubaneswar created an innovative system in-house to hold conventional examinations online with invigilation in virtual examination halls and adopted the same for its final year students. The conceptual and architectural design of the system was provided by Prof RV Raja Kumar, Director and the system was developed by the Computer and IT Services Cell (CITSC) of the institute with Dr. Barathram, Chairman and Mr. Chandra Vadde, the programmer carrying on the main development. The system uses a commercial system provided by Wheebox as its subsystem with a lot of customization and enhancements made as per the guidance of the institute. The team claims that the inspiration for creating this innovation and its application has come from the call of our Hon'ble Prime Minister "to convert the pandemic crisis into an opportunity towards creating self-reliant India".


An Invigilator handling a Virtual Examination Hall


Students appearing in Online Examination from personal Area

While speaking on the occasion, Prof Raja Kumar, Director said, ***"One of the challenges faced in the system design is to provide fairness of access to students who have a lot of variation in available gadgets and internet connectivity. Since the answering can also be done with pen and paper, the requirement of internet is reduced to question paper access, answer paper uploading and invigilation. The institute provided multiple options to facilitate the students to take the test with fairness, though they have different levels of technology accesses (single to two gadgets). Though the institute scheduled two examinations to facilitate the students acquire facilities in case they do not have, all (100%) of them have availed the first opportunity and could take the exams successfully. In this system a conventional examination hall is made virtual, distributed across the personal environment of each student at own home and the control also partially depends on the cooperation from each student. Our students cooperated well, they are highly technology savvy, participated in the examinations with seriousness and helped the institute in conducting their examinations in good standards."***

The institute did put up an empowered Help Desk chaired by Dr SB Karanki, Assistant Professor which could interact, attend to and fix up the problems such as those related to gadgets and internet bandwidth of the students during the exams very well making it successful for 100% of the students.

Dr. PR Sahu, Dean (academic) said, "The examinations could be held without any compromise on the regulations despite the pandemic situation. The one change made is that the duration of the online End-sem exam is reduced to 2hrs from the usual 3hrs and accordingly the weightage to 40% in place of 50%, as recommended by our Senate".

"Holding of the examinations in the new system was a challenge and putting it into practice and holding the examinations of the institute with the same effectiveness as conventional examinations have given us a rewarding experience", said Dr. Rajan Jha, the Prof-in-charge, and Examinations.

Overall, the exam went very well in all aspects.

74th Independence Day

15th Aug, 2020

IIT Bhubaneswar celebrated the 74th Independence Day at its Campus by adhering to social distancing and other norms as per Govt. protocol amidst the Covid-19 pandemic. Prof R.V. Raja Kumar, Director, hoisted the National Flag, offered floral tribute to the Father of the Nation, Bharat Mata and delivered his Independence Day address followed by the national anthem, sung by everyone in a rhythmic chorum.

Keeping in view of the restrictions owing to the ongoing pandemic, no celebrations and March past were taking into consideration the safety of the campsites. The Security staff of the institute gave the Guard of Honour.

Also, present during the event were Prof. Sujit Roy, Dean of Research and Development (R & D), Prof. V.R. Pedireddi, Dean, Student Affairs, Dr. Santanu Pal, Warden, Col (Dr.) Subodh Kumar, Registrar, Dr. Bankim Mondal, EAA Co-coordinator, faculty members, staff and a large number of students. The vote of thanks was proposed by Dr. Srikant Gollapudi, EAA Coordinator.

IIT Bhubaneswar Commences its New Academic Year on Time

17th Aug, 2020

Indian Institute of Technology Bhubaneswar commenced the classes for the new academic year on 17th August, 2020 for its on-roll students and 27th August, 2020 for the new Postgraduate students (M.Tech, M.Sc and Ph.D. students) amidst the Covid-19 pandemic. All the classes are now being conducted by live streaming of classes to their homes without the physical presence of students on the campus. That is, the present semester has started almost on time, with only a delay of three weeks compared to the normal or non-pandemic situation. The students will be brought to the campus through an SOP as the situation improves and permits.

Speaking on the occasion, Prof R V Raja Kumar Director said, ***"We could start the new academic year on time and we are now left with the only challenge of commencing the classes for fresh and 2020-21 batch of BTech students. Now that JEE Mains and JEE (Advanced) examinations are scheduled for (01 - 06) and 27th of September 2020, respectively, we will be able to admit the students, and commence their classes after a couple of months and save the academic year of the B.Tech fresher's". It is certainly feasible to cope up with the pandemic and reduce the risks by being conscious and by taking the precautions to give a right opportunities for our youth".***

Speaking on the effectiveness of the online mode of education, Prof Kumar said, "The pandemic forced us to start the new academic year through on-line mode. It has some drawbacks and some advantages too. Our endeavour should be to minimize the disadvantages and capitalize on the advantages. At IIT Bhubaneswar I have personally addressed the faculty and advised them to do effective on-line teaching, maintain the 'connect' and interaction by adopting the best practices, own innovative practices and some experimentation, in the online mode. Right problem solving assignments with feedback to students which can be done online is important for participatory learning. The hands-on for laboratory part will be done once the students return to the campus. But some concurrent on-line laboratory training too will be provided now itself alongside the theory classes, so that their learning is not affected due to the delayed laboratory practice. Learning is an important component of education and therefore the role of a student, the main stake holder is very important for the success of the endeavour. A student should be aware of it that one has to be entrepreneurial in arranging a device and connectivity and also put the extra effort in making one's learning from the on-line education, effect. The society can hope for this at the present juncture from the students of higher education".

Dr. Pravas Ranjan Sahu, Dean (Academic) said, "IIT Bhubaneswar completed its education of the last academic year without any compromises and timely by live streaming of classes, conducting remaining laboratory classes and thesis work by online means, conducting conventional examinations by creating and adopting a unique and very innovative on-line method for all of its students, despite the Covid-19 pandemic".

Hindi Pakhwada

14th Sept, 2019

On the occasion of Hindi Diwas, Rajbhasha Ekak and ***"Abhivyakti",*** the Hindi literary Society of Students Gymkhana, IIT Bhubaneswar organized a ***14 days (1st Sept-14th Sept, 2019)***, ***"Hindi Pakhwada"*** in the Campus. The motto of the programmes organized was to celebrate, the importance of the Hindi language along with creating awareness about its usage in daily life. ***Dr. Raj Kumar Singh, PIC, Rajbhasa Ekak, IIT Bhubaneswar*** welcomed everyone to the program. Owing to the ongoing pandemic situation, all programmes were organized through the online mode

The popular programs organized for the institute students were Hindi creative writing ***"Kavita Lekhan, Lekh Lekhan, and Awaaz Dil Ki"*** based on different themes. For the employees of the institute Hindi extempore (Drishtikon), Hindi essay writing ***(Nibandh Lekhan)*** and Hindi workshop on ***"Quarterly progress report and usage of official Hindi"*** were organized. Various colleges and Institutes throughout India participated in the programme. The Central Library and Hindi Cell of IIT Bhubaneswar jointly organized the ***"Hindi Book Exhibition"*** from 1st Sept, 2020 to 14th Sept, 2020 in the Central Library of IIT Bhubaneswar. The motto was to encourage visitors to learn about the availability of the collection of new books and also read Hindi books.

Mini-Marathon and Walkathon conduct Inside the Campus to Mark the Anniversary of Fit India Movement

26th Sept, 2020

IIT Bhubaneswar conducted a Mini-Marathon and a Walkathon as part of the Fit India Freedom Run program on 26th September, 2020 (Saturday). The Freedom Run is a new initiative under the aegis of the Fit India Movement and is conceived with a vision to keep ourselves fit while maintaining social distancing. The event was inaugurated and flagged of by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar

Though the students are away, the event saw enthusiastic participation of about 100 members from the faculty, officers, staff and student community of the institute and was organized with strict observation of social distancing norms. The event was also attended by Col (Dr.) Subodh Kumar, Registrar and was coordinated by Dr. Srikant Gollapudi and Dr. Bankim Chandra Mandal, EAA Coordinators.

Swachh Bharat programme observed on the eve of Gandhi Jayanti

02nd Oct, 2020

Swachh Bharat Abhiyan was observed at IIT Bhubaneswar on 02nd October, 2020 to commemorate the birth anniversary of the Father of the Nation, Mahatma Gandhi. The program started at 9:30 a.m. with Prof. R V Raja Kumar, Director, IIT Bhubaneswar offering floral tribute to “Bapuji” in the presence of faculty, and staff members. The "Swacchta" pledge was administered by the Registrar, after which the Director addressed the gathering.

Various online competitions were organized for the entire IIT Bhubaneswar fraternity through the virtual mode including a film festival focusing on Mahatma Gandhi. All the students, faculty and staff members at IIT Bhubaneswar participated in the Cleanliness Drive by adhering to all the safety and social distancing parameters in view of the ongoing pandemic to clean in the vicinity of the Main gate, work place and Campus as a part of the “Swachhta hi Sewa”, “Cleanliness is Service” campaign. Also present on the occasion were Prof. V.R. Pedireddi, Dean-Student Affairs, Col (Dr.) Subodh Kumar, Registrar, Dr. Sankarsan Mohapatro, President, Student Gymkhana, IIT Bhubaneswar along with other Faculty, Students and Staff Members of IIT Bhubaneswar in good numbers.

Vigilance Awareness Week

27th Oct to 2nd Nov, 2020

IIT Bhubaneswar observed Vigilance Awareness Week 2020, a week long programme started on 27th October to 02nd Nov, 2020 as mandated by the Central Vigilance Commission (CVC). On 27th Oct, 2020, a pledge taking ceremony addressal was organized at the Main Admin Building by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar. The theme of this year, "Satark Bharat, Samriddh Bharat (Vigilant India, Prosperous India)" Present during the occasion were Col (Dr.) Subodh Kumar, Registrar of the Institute along with the other dignitaries.

Rashtriya Ekta Diwas Observed

31st Oct, 2020

IIT Bhubaneswar observed "Rashtriya Ekta Diwas" to mark the birth anniversary of Sardar Vallabhbhai Patel on 31st Oct, 2020 at its campus. The event was initiated with a floral ceremonial tribute by Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar. The Faculty, Officers and Staff members took the Rashtriya Ekta Diwas pledge on the solemn occasion, in which they pledged to dedicate themselves to preserve the unity, integrity and security of the nation and also strive hard to spread this message among fellow countrymen in the spirit of unification of the country, which was made possible by the vision and actions of late Sardar Vallabhbhai Patel, the founding leaders of the Republic of India.

The Institute observed this day in a simple function by adhering to all the social distancing parameters in view of the ongoing pandemic. Various competitions ranging from Quiz, Art Competition, Article Writing and Slogan writing were organized online by the Socio-Cultural Council, Student Gymkhana, IIT Bhubaneswar on this occasion. Also present on the occasion were Prof. V.R. Pedireddi, Dean Student Affairs, Col (Dr.) Subodh Kumar, Registrar and Dr. Sankarsan Mohapatro, President, Student Gymkhana along with faculty, officers and staff of the Institute.

AICTE Atal Faculty Development Programme on "Personal Effectiveness"

04th Nov, 2020

The AICTE ATAL Faculty Development Programme on "Personal Effectiveness" was scheduled from 02nd-06th November 2020, the same was inaugurated at the School of Humanities, Social Sciences and Management (SHSSM) of IIT Bhubaneswar on 02nd November 2020.

The AICTE ATAL Academy offers continuous learning opportunities to Faculty members of AICTE approved institutions from all over the country. The initiative is ensuring skill improvisation for AICTE affiliated teachers in these challenging times of the COVID 19 Pandemic. It is noteworthy that this is the first ever AICTE ATAL FDP being organized by SHSSM, IIT Bhubaneswar.

The virtual Inauguration of the ATAL online FDP was conducted on 02nd Nov 2020 in the august presence of Dr. Vinay Sahasrabudhe, Hon'ble Chairman, Parliamentary Standing Committee on MOE, Govt. of India, Prof. Anil Sahasrabudhe, Hon'ble Chairman, AICTE and Director, ATAL Academy under the active guidance of Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar along with Dr. Rabindra Kumar Soni and many other dignitaries.

Through our continuous learning programmes, IIT Bhubaneswar always leads the path in teaching and learning with a sustained effort to enhance the skills sets of teachers from all over the country, mentioned Prof. R.V. Raja Kumar, Director IIT Bhubaneswar on the occasion.

Under the active guidance of the Director, IIT Bhubaneswar and ample support from Prof. Pravas Ranjan Sahu, Dean, Continuing Education and Prof. Rabindra Kumar Panda, Head, School of HSSM, the programme is being coordinated by Dr. Punyashree Panda from the SHSSM, IIT Bhubaneswar. Approximately 200 faculty participants from AICTE recognized Institutions from all over India are participating in the week-long event.

Achievements of students in IIT Civil Conclave (2020) conducted at IIT Roorkee

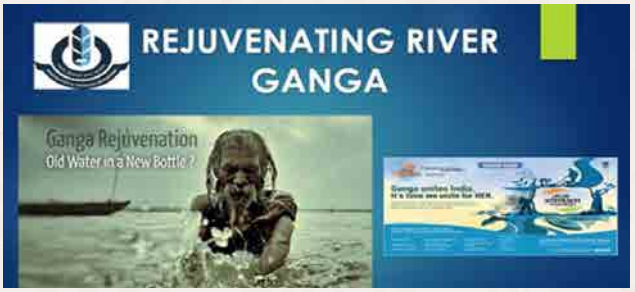
7th to 8th November, 2020

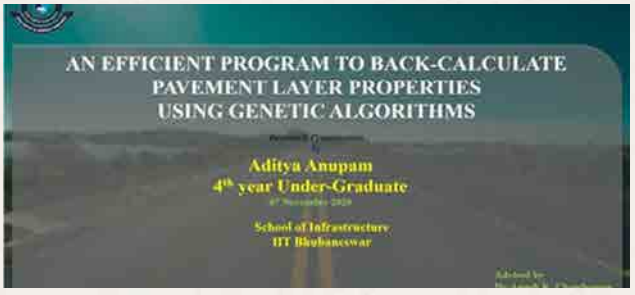
IIT Civil Conclave 2020, the very first and exclusive inter IIT meetup for Civil Engineering enthusiasts, was held on 7th and 8th November 2020, through online mode. The conclave witnessed participation from 14 IITs for various case studies and research work. IIT Bhubaneswar has secured runner-up position in the civil conclave 2020 with a total of 225 points, after the host, IIT Roorkee with a total of 250 points.

Among the 8 IITs who participated for the case study "Rejuvenating river Ganga", IIT Bhubaneswar team Mr. Harshwardhan Meena, Mr. Parth sharma, Mr.Romit Kesharwani, Mr. Koushik Gupta, Ms. Devasmith Dutta (3rd year UG students from SIF) guided by Dr. Remya Neelancherry bagged 2nd position.

Among 4 IITs who participated in the case study Tinker the water wheel, IIT Bhubaneswar team Mr. Ravi Teja, Mr. Gaurav Pandey, Mr. G.Ruthvik, Mr.Priyanshraj Shorya, Mr. K. Rama Satwik (3rd year UG students from SIF), guided by Dr. Arindam Sarkar secured 2nd position.

Mr. Aditya Anupam (4th year UG student from SIF) guided by Dr. Anush K. Chandrappa received 2nd position in UG research (Transportation Engineering) category.





National Education Day

11th Nov, 2020

National Education Day was celebrated on the eve of the birth anniversary of Shri. Maulana Abul Kalam Azad, great freedom fighter, eminent educationist, the first Union Minister of Education at IIT Bhubaneswar. The event was initiated with a floral ceremonial tribute by Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar. On the eve of National Education Day, he called upon the IIT Bhubaneswar family to pay homage to the great personality, derive inspiration and rededicate ourselves for the cause of education and provide leadership in Education for the Nation.

The Institute observed this day in a simple function by adhering to all the social distancing parameters in view of the ongoing pandemic. Also present on the occasion were Prof. V.R. Pedireddi, Dean Student Affairs, Dr. P. R. Sahu, Dean Academics, Prof. Brahma Deo and Shri. Debaraj Rath, Registrar (I/c), IIT Bhubaneswar along with faculty, officers and staff of the Institute.

Orientation Programme for First Year B.Tech and Dual Degree Fresher's

17th Nov, 2020

IIT Bhubaneswar successfully conducted the online registration programme for the newly admitted B Tech and Dual Degree programme for students on 10th-12th Nov, 2020. The orientation programme for these students is a two-day program conducted from the 17th to 18th Nov, 2020. The programme commenced with the online address by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar. All 475 seats of the Institute have been allotted in the six rounds of admission.

Speaking on the occasion, Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar says, ***"Here at IIT Bhubaneswar, we strongly believe that the admission into the B.Tech programme is actually the beginning of a challenging and rewarding professional journey which paves way to the real empowerment of a student in the chosen domain towards an ambitious future. In view of the ongoing pandemic, we have decided to start first year UG classes after holding orientation programme for the newcomers on the virtual mode. This year, the Institute has 475 seats for six B.Tech and nine Dual Degree programmes (B.Tech - M.Tech) up from 419 seats last year. Seats have been increased by 18 percent across IITs. "***

"Due to the current pandemic, we have some strict guidelines to follow including those put forward very meaningfully by the government, and the institute is not able to bring its fresh students to the campus for classes at the present moment. In its endeavour to have the education run timely for its students, the institute has admitted the students virtually and will be conducting the autumn semester classes of 2020-21, by live streaming of classes as per the timetable from the 19th Nov, 2020. As soon as the situation permits, the students will be brought to the campus and education will continue in the normal mode. The institute has decided that the education for the first year B.Tech too will be imparted in full with no shortening of lectures and no cramping of time to maintain learning by students at a proper pace avoiding associated stresses. However, the fresh students will be completing their first year education by mid-July and continue their education online. IIT Bhubaneswar is committed to providing its students with holistic education for producing tomorrow's leaders by nurturing their personality, encouraging creativity, innovative mind-set and capability in Science & Technology, Humanities, Management and other domains of human excellence. I wish the students, a meaningful, memorable and rewarding journey at IIT Bhubaneswar", he further added.

The orientation programme had addressed by Prof. V.R. Pedireddi, Dean Student Affairs, Dr. P.R. Sahu, Dean Academic Affairs, All the Heads of the School, Dr. Shantanu Pal, Warden, Dr. Sankarsan Mohapatro, President Student Gymkhana, Dr. Srinivas Bhaskar Karanki, Pic Counselling and faculty advisors, IIT Bhubaneswar. Also present on the occasion were Prof. Sujit Roy, Dean R & D, Prof. R. K. Panda, Dean Alumni Affairs and International Relations along with faculty, officers and staff at IIT Bhubaneswar. IIT Bhubaneswar conducts a Rejuvenation and Orientation (R&O) programme for the fresh B.Tech students. The programme was conceptualized personally by the Director which is a very innovative and unique programme aimed at helping the students to change over from the unhealthy effects of the examination centric coaching for the JEE (Adv) test to true education which empowers a student.

The orientation and rejuvenation programme organized by the Institute facilitates the process of rejuvenation of body and mind before focusing on the study and other extra-curricular activities. The institute already adopts, a cycling culture, yoga, lectures on life skills to students, as a part of the programme. The other session includes lectures on the introduction of engineering courses, English Diagnostic tests and workshops on failures and successes.

Constitution Day

26th Nov, 2020

Indian Institute of Technology (IIT) Bhubaneswar celebrated the "Constitution Day" also known as "Samvidhan Divas" to commemorate the adoption of the Constitution of India as per the directives of the Ministry of Education, Govt. of India. The reading of the preamble by Shri. Ram Nath Kovind, Hon'ble President of India (both in Hindi and English) along with the live telecast of the All India Presiding Officers at Kevadia, Gujarat via video conferencing mode took place at the scheduled time in front of the gathering consisting of faculty, officers and staff of the Institute.

The Institute observed this day in a simple function by adhering to all the social distancing parameters in view of the ongoing pandemic. Also present on the occasion were Prof. V.R. Pedireddi, Dean, Student Affairs, Shri. Debaraj Rath, Registrar (I/c), IIT Bhubaneswar along with faculty, officers and staff of the Institute.

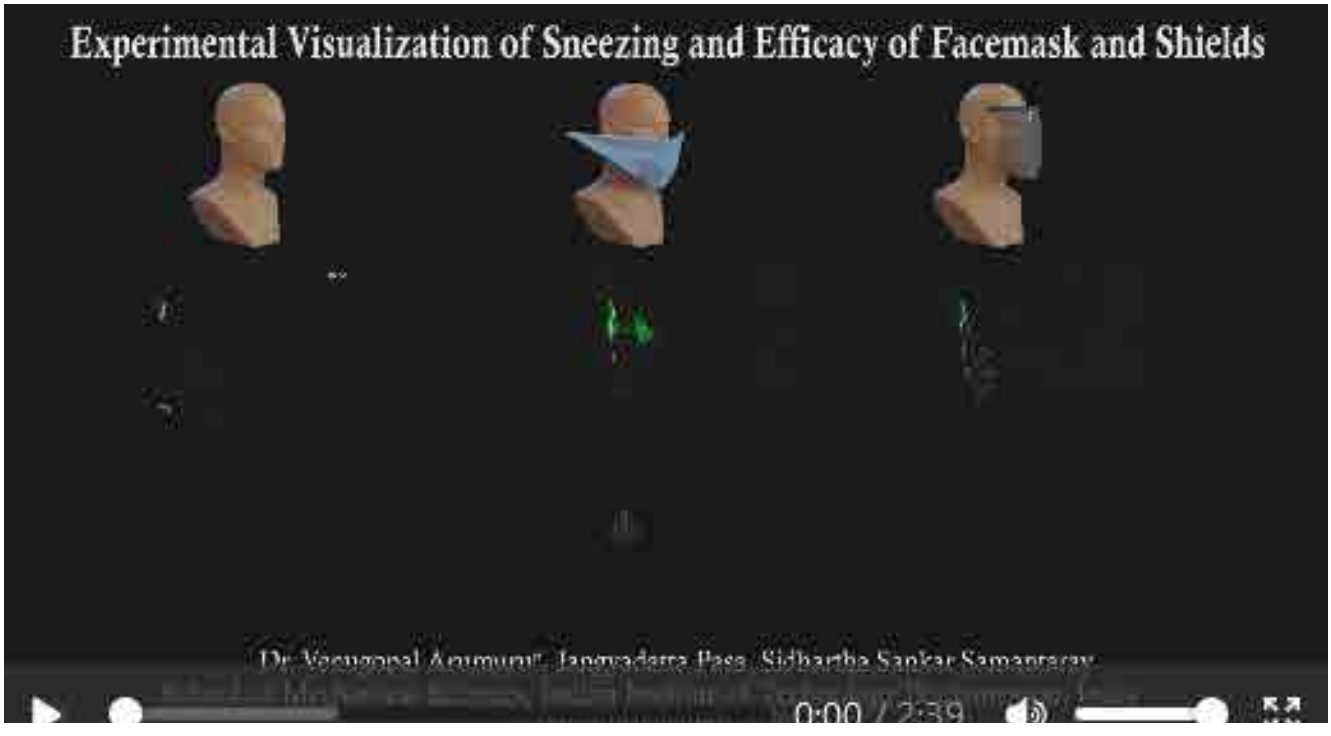
An IIT Bhubaneswar study confirms the social distancing norms, effectiveness of face-mask

30th Nov, 2020

The ongoing outbreak of Novel Corona Virus (COVID19-Sars) is a matter of serious concern globally in India with over 1.3 billion population, controlling this virus's spreading has been a major challenge. Hon'ble Prime Minister Narendra Modi had emphasized on multiple occasions the need to continue "Social Vaccine" such as "mask" and Social Distancing" to combat the spread of COVID-19

In this context, a study was conducted at IIT Bhubaneswar on the efficacy of various nonstandard and standard face masks under the act of sneezing. The study has been conducted by Dr. Venugopal Arumuru, Assistant Professor, School of Mechanical Science (SMS), and his team at IIT Bhubaneswar. The study highlights that protective measures like face masks and face shields effectively reduce the leakage and reach of the sneeze within 1ft–3ft. However, they do not completely stop the leakage of smaller droplets. Hence social distancing is equally important. The study recommends using the elbow or hand to prevent droplets leakage even after wearing a mask during coughing and sneezing. The study confirmed that without protectives measures like a face mask, the smaller droplets expelled during a sneeze can travel up to 25ft in 22s in a stagnant environment. The study confirms and also recommends a social distancing of 6ft from all orientations to prevent transmission of COVID-19. In the present COVID-19 scenario, the present study will improve the understanding of smaller droplets/ particles' dynamics in turbulent flows, which causes transmission of the virus. These visualization results will bring awareness to wear a mask and maintain social distancing for the general public.

Prof. R. V. Rajakumar, Director, IIT Bhubaneswar, congratulated the team for conducting such focused studies on present societal relevance. In his remarks, Prof. Raja Kumar noted, "the faculty and students groups of the Institute have worked tirelessly during the COVID-19 pandemic by coming up with technology development and research studies of high societal relevance. The current study is a step in this direction. As well known, the spread of COVID-19 infection is mainly through droplets ejected during coughing, sneezing, and talking. The present study shows how smaller droplets can leak through various protectives measures. The importance of social distancing is clearly evident from this study. These results will not only spread awareness but will motivate researchers to bring innovation to face mask design. I would like to reiterate that our researchers at IIT Bhubaneswar will continue to focus on COVID-19 related research and development to help mankind in the ongoing fight against the pandemic."



Prof. Sujit Roy, Dean (R&D) IIT Bhubaneswar says, *"The finding by the IIT Bhubaneswar team is expected to create new awareness on COVID-19, which will further help in preventing its transmission via community spread."*

Dr. Mihir Kumar Pandit, Head of School of Mechanical Sciences, IIT Bhubaneswar says, *"The present study has come out very nicely in visually highlighting the escape of droplets from various non-standard masks, which is widely used. Hence, the results will bring awareness to the common public."*

Dr. Venugopal Arumuru, says, *"Our flow visualization study shows how smaller particles escape from the various face mask and how far they travel during sneezing. The importance of social distancing is visually evident from this study, which will educate the general public on the importance of the face mask and social distancing to prevent transmission of COVID19. Our proposed simple experimental setup can be used to test new face mask designs. The sneeze is simulated at the exit of the nose of a standard mannequin, using air and tracer particles."*

The peer-reviewed article has been selected as a "Featured Article" in Physics of Fluids Journal by the American Physical Society.

9th Annual Convocation Live by Hybrid Mode

02nd Dec, 2020 (Press Meet)

IIT Bhubaneswar is all set to celebrate its 9th Annual Convocation on 04th Dec, 2020, live by a hybrid mode where students participate with a physical presence or online in view of the pandemic time. Dr. Ramesh Pokhriyal 'Nishank', Hon'ble Union Minister of Education, Govt. of India will grace the occasion via online as the Chief Guest and address the Convocation. Shri. Sanjay Dhotre, Hon'ble Minister of State for Education will be the Guest of Honour and Dr. Rajendra Prasad Singh, Chairman, Board of Governors (BoG), IIT Bhubaneswar will preside over. Prof R. V. Raja Kumar, Director, IIT Bhubaneswar will present the report and award the degrees to the students. The institute has evolved a very innovative method of holding the convocation in real or live form with the participation of the degree recipients and degree awarding taking place, either through the physical or online presence of a student.

During the Hybrid Convocation, the Institute will confer degrees to 446 students including 35 Ph. D., 141 M. Tech., 70 M.Sc. and 200 B. Tech. It is a proud moment for the graduating students, their parents, the faculty members, staff members and the administration of the institute.

The President of India Gold Medal will be awarded to Shri. Aditya Pal of the Computer Science and Engineering for the best academic performance among the entire outgoing B. Tech. batch of students.

The Director's Gold Medal will be awarded to Shri. Sanket Dey Chowdhury of the School of Infrastructure for the best academic performance among the entire outgoing M. Tech. batch of students.

The Director's Gold Medal will also be awarded to Shri. Souvick Chakraborty of the Physics, School of Basic Sciences for the best academic performance among the entire outgoing M. Sc. batch of students.

For the best academic performance in the respective Schools, the Institute Silver Medals will be awarded to Shri. Aditya Pal, Shri. Arvind T.K.R, Shri. Abhishek Mishra, Shri. Aman Singhal, Shri. Manapuram Jyothi Venkata Sai Aditya and Shri. Shubhajit Mondal among the outgoing B. Tech. batch of students.

For the best academic performance in the respective Schools, the Institute Silver Medals will be awarded to Shri. Sanket Dey Chowdhury, Shri. Dusane Ajinkya Rajendra, Shri. Priyabrata Das, Shri. Anoop Kumar Yadav, Shri. Gaurab Bhattacharya, Ms. Khadke Leena Sanjay and Shri. Debjit Rana among the outgoing M. Tech. batch of students.

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Currently the Institute has 2490 Students (B. Tech. -1174, B. Tech. & M. Tech. (Dual Degree) 418, M. Tech. -388, M.Sc.-178, Ph. D. –332) and 143 full-time faculty members and a number of adjunct faculty. In addition, the Institute has 25 officers and other supporting staff. The institute currently has 7 academic schools. It offers B. Tech., M. Tech., Dual Degree (B. Tech. + M. Tech.) and M.Sc. programs respectively.

Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar addressed the press conference and shared the above information. He also said, "the convocation is a celebration of the graduation of students who earned their degrees with important learning during their peak youth hood and the institute is keen on their live participation. Therefore, the institute has come up with an innovative method of holding the convocation where a student can participate with physical presence or by online in view of the pandemic situation, and adopted it. A large percentage of students are expected to join the convocation. We are very happy that Hon'ble Minister of Education and the Minister of State have consented to grace the occasion and to address the graduating students".

On the occasion of the event, Hon'ble Siksha Mantri ji will inaugurate the Student Activity Center (SAC), Play Courts and the building of the School of Humanities, Social Sciences and Management, of the institute in the presence of the Minister of State, Chairman, Board of Governors, Director, the faculty, staff and students of the Institute. The SAC and the play courts are a major part of the grand 42 acre sports complex the institute is creating under phase-2 infrastructure with support of the Ministry of Education.

On 04th Dec, 2020

Indian Institute of Technology (IIT) Bhubaneswar celebrated its 09th Convocation today on actual mode amidst the state of pandemic scenario across the globe. Dr. Ramesh Pokhariyal 'Nishank', Hon'ble Union Minister of Education, Ministry of Education, Govt. of India graced the occasion via video conferencing as Chief Guest and delivered the convocation address. Shri. Sanjay Dhotre, Hon'ble Minister of State for Education, Ministry of Education, Govt. of India attended the event online as Guest of Honour and addressed. Dr. Rajendra Prasad Singh, Chairman, Board of Governors (BoG), IIT Bhubaneswar presided over the function online. Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar presented the Director's Report and presented degrees to the graduating students and charged them with the same.

The convocation of IIT Bhubaneswar is a live convocation done during the pandemic times in mixed mode, markedly different from others and the first of its kind across the globe. It is participatory, where the graduating students participated and receive their degrees and medals live, by online or with physical presence. The institute developed the mechanism in-house and adopted it very successfully. Certainly the convocation is a role model not only to the nation, but also to the world.

While addressing the students, Dr. Ramesh Pokhariyal 'Nishank', Hon'ble Union Minister of Education congratulated all the graduating students of the Institute and their parents. He called upon the students to strive hard to cherish their dreams despite enormous challenges to be faced in the times to come. He also reminded them of not to forget the contribution of the alma mater i.e. IIT Bhubaneswar for its innovative teaching, learning and mentoring them to the path of success. He complemented the institute for the outstanding wellness, teaching excellence and research aura the institute has created. He specially complemented the Director and his team for facilitating the cream of global class education through several innovations during the pandemic and serving as a role model about which the nation can be proud of.

On this occasion, the Hon'ble Minister inaugurated Student Activity Centre (SAC), the Play Courts, and the School of Humanities, Social Sciences and Management (SHSSM) of IIT Bhubaneswar and added them to the national infrastructure. He also expressed that the Education Policy (NEP-2020) of Govt. of India will go a long way in instilling the future of the new students which will pave the way for holistic and multidisciplinary education. Lastly before concluding, he wished success to all the faculty and students of the institute in all their future endeavours.

Speaking on the occasion, Shri. Sanjay Dhotre, Minister of State for Education, congratulated the students and commended the work done by faculty, students, researchers in innovating different techniques, innovations, studies undertaken by them during the course of the ongoing pandemic. He emphasized on the overall development of students undertaken by IIT Bhubaneswar during the course of their academic journey.

He expressed confidence that the students will contribute by their way of innovations and research by fulfilling the dream of our Hon'ble Prime Minister's visionary program: "Atmanirbhar Bharat Abhiyan" by being self-reliant leading to creation of employment opportunities inside the nation.

Dr. Rajendra Prasad Singh, Chairman, (BoG), IIT Bhubaneswar expressed his satisfaction on the momentous occasion and congratulated all the meritorious students for their tremendous and meritorious achievement. He expressed confidence that the students of the Institute will be the torch bearers for nation building and paving the path for a modern and decisive India. He insisted that achievement and excellence should go hand in hand in integrity and discipline and our students will prove it right in the journey ahead. He complimented the Director of the Institute for creating an excellent mix of teaching, learning platforms combined with world class infrastructure for attracting the best brains of the country. He also expressed his heartfelt thanks to Hon'ble Union Minister of Education and Hon'ble Minister of State for Education for their valuable time and presence and also to all the dignitaries present on the historic occasion.

Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar welcomed Dr. Ramesh Pokhriyal 'Nishank' Hon'ble Union Minister of Education, Ministry of Education, Shri. Sanjay Dhotre, Hon'ble Minister of State for Education, Ministry of Education, other luminaries and thanked them for their valuable presence & support and also extended his warm welcome to all other dignitaries and people present on the occasion in person and also via virtual mode.

While speaking on the historic occasion, Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar congratulated the Medal winners for their outstanding success and wished them best of luck for their future ahead. He also expressed his heartfelt satisfaction on such a huge forum with large nos. of participatio n from students, online as well as physical presence. The Director expressed satisfaction in its grand successes in all of its innovative endeavours including running the academics including running classes timely, conducting pen and paper comprehensive exams and live convocation, by online very successfully at high standards, by online during the pandemic. He profusely thanked all the faculty and staff of the institute for making this possible. It is matter of immense pleasure and happiness to present the degrees to 35 Ph.D., 141 M.Tech. 70 M.Sc. and 200 B.Tech. Students in actual reality. He also presented a detailed report which underlined the various efforts and achievements of IIT Bhubaneswar on multiple fronts including imparting high-quality technical education but also towards addressing a very large range of societal needs through the application of Science & Technology.

He further mentioned that it is a matter of double celebration with the 9th Convocation Ceremony and Inauguration of state of the art Educational Landscapes at IIT Bhubaneswar which will add to the quality education of the students thereby creating a global class infrastructure at the Institute. He also expressed that the Institute feels proud by constantly raising the standards on all fronts including internationalization of academic programmes, international collaborations on research of high industrial & societal relevance, massive plantations and completing the academic calendar on time without much deviation despite the pandemic. He wished good luck to all the passing out students for their journey ahead. He called upon the students to be innovative and creative in their professional pursuits ahead.

The 9th Convocation programme witnessed the award ceremony followed by handing over degree and charges to the degree recipients. The President of India Gold Medal was awarded to Shri. Aditya Pal of the Computer Science and Engineering for best academic performance among the entire outgoing B. Tech. batch of students. The Director's Gold Medal was awarded to Shri. Sanket Dey Chowdhury of the School of Infrastructure for best academic performance among the entire outgoing M. Tech. batch of students. The Director's Gold Medal was awarded to Shri. Souvick Chakraborty of Physics domain from the School of Basic Sciences for best academic performance among the entire outgoing M. Sc. batch of students.

For the best academic performance in the respective Schools, the Institute Silver Medals were awarded to Shri. Aditya Pal, Shri. Arvind T.K.R, Shri. Abhishek Mishra, Shri. Aman Singhal, Shri. Manapuram Jyothi Venkata Sai Aditya and Shri. Shubhajit Mondal among the outgoing B. Tech. batch of students. For the best academic performance in the respective Schools, the Institute Silver Medals were awarded to Shri. Sanket Dey Chowdhury, Shri. Dusane Ajinkya Rajendra, Shri. Priyabrata Das, Shri. Anoop Kumar Yadav, Shri. Gaurab Bhattacharya, Ms. Khadke Leena Sanjay and Shri. Debjit Rana among the outgoing M. Tech. batch of students. For the best academic performance in the respective Schools, the Institute Silver Medals were awarded to Shri. Souvick Chakraborty, Ms. Adhaina Susan James, Shri. Debabrota Mondal, Ms. Sudeshna Goswami and Shri. Arkaprava Ray among the outgoing M. Sc. batch of students.

The Convocation ended with Vote of Thanks and National Anthem was sung by all the participants of the event.

FIT INDIA CYCLOTHON' as part of Fit India Mission

26th Dec, 2020

IIT Bhubaneswar organized a "FIT India Cyclothon", as part of the Fit India Movement. The Cyclothon is a new initiative under the aegis of the Fit India Movement and is conceived with a vision to keep ourselves fit while maintaining social distancing. The event was inaugurated and flagged of by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

The Institute saw the enthusiastic participation of all the 80 members comprising of faculty, officers, staff and student community of the institute, the number which was restricted due to Covid-19. The event was organized with strict observation of social distancing norms and COVID-19 protocols in view of the ongoing pandemic. The event was also attended by Prof. V.R. Pedireddi, Dean of Student Affairs, Shri. Debaraj Rath, Registrar (I/c) and was coordinated by Dr. Sankarsan Mohapatro, President, Dr. Olive Ray, Faculty Advisor Games and Sports, Student Gymkhana and Dr. Srikant Gollapudi, EAA Coordinator.

Welcomes New Year 2021 amidst the pandemic

01st Jan, 2021

IIT Bhubaneswar welcomed the New Year 2021 amidst pandemics by adhering to all social distancing protocols. The New Year celebrations commenced in the Foyer Area, Ground Floor of Administrative building in the morning hours. The event commenced with the New Year address by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar, cake cutting and followed by light refreshments.

72nd Republic Day with patriotic Fervour amidst the pandemic

26th Jan, 2021

IIT Bhubaneswar celebrated the 72nd Republic Day in the Institute with patriotic fervour. The function started with the unfurling of the National Flag followed by a review of the parade by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar. Also present during the event were Prof. R.K. Panda, Dean Alumni Affairs & International Relations, Prof. Sujit Roy, Dean Research and Development (R & D), Dr. V.R. Pedireddi, Dean, Student Affairs, Dr. P.R. Sahu, Dean Academic Affairs, Col (Dr.) Subodh Kumar, Registrar, Shri. Debaraj Rath, Jt. Registrar and Dr. Sankarsan Mahapatro, President, Student Gymkhana, IIT Bhubaneswar. The Faculty, Staff and students participated in the celebrations by adhering to the social distancing and the COVID-19 protocols in place. The event culminated with the playing and recital of the national anthem.

Martyr's Day

30th Jan, 2021

Martyrs' Day was celebrated at IIT Bhubaneswar to salute the martyrdom of soldiers who lost their lives defending the sovereignty of the nation. Our nation mark 30th January as Shaheed Diwas in the memory of Mahatma Gandhi following the memory of all patriotic persons who shed their breath for the nation.

Col (Dr.) Subodh Kumar, Registrar, IIT Bhubaneswar including all faculty and staff members paid homage to the Father of the Nation on the eve of Martyr's day. This was followed by his inaugural address. The session witnessed active participation from faculty, staff and students.

Pulse Polio Drive for In-Campus Children as a Part of National Polio Immunisation Programme

31st Jan, 2021

A pulse polio drive was organized at IIT Bhubaneswar for In-campus children (under 5 years of age) as a part of the National Polio immunization programme under the Ministry of Health, Govt. of India. The pulse polio drive was organized by the Medical Unit of IIT Bhubaneswar in collaboration with the State Government of Odisha.

Speaking on the occasion, Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar appreciated the initiative by the Medical Unit of IIT Bhubaneswar headed by Dr. M.A. Khan, in collaboration with the State Government for organizing a pulse polio drive for the In-campus children (under 5 years of age). He further mentioned pulse polio immunization programme, aimed at bringing down the number of polio affected people, has been successful across the nation in recent years. He urged the faculty, staff members to utilize such immunization camps organized inside the campus including the ones conducted by the state government and non-governmental organizations to

help eradicate polio from the world. He also mentioned that from the time of its inception, IIT Bhubaneswar has been consistent in its commitment for the wellbeing of its students, workforce and its dependents.

Taking the above into consideration, we at IIT Bhubaneswar successfully organized this pulse polio drive in the best interest of in campus children. He commended the efforts of the Ministry of Health, Govt. o India and State Government and thanked them for their valuable support during the polio immunization drive. As many as 55 children aged below five were administered the pulse polio drops inside the campus due to the active participation of faculty and staff members.

13th Foundation Day celebrated in Hybrid Mode

12th Feb, 2021

Indian Institute of Technology (IIT) Bhubaneswar celebrated its 13th Foundation Day at its Campus. Dr. G. Satheesh Reddy, Chairman, Deference Research Development Organization (DRDO), Scientific Advisor to Defence Minister, Secretary, Department of Defence Research and Development and Director General, Aeronautical Development Agency (ADA) graced the occasion as Chief Guest by online and delivered the Foundation Day lecture. The event was presided over by Prof. R.V. Raja Kumar, Director.

Prof. R. V Raja Kumar, Director, IIT Bhubaneswar, on this auspicious occasion, welcomed the Chief Guest, the other luminaries and the fraternity including those who joined online, to the event. He also added that IIT Bhubaneswar has been prominent and top two in terms of student strength among the second generation IITs. He said, "I am happy to say that during the last 12 years of existence the institute could remarkably rise the standards of the institute to offer the best of education, grow to build the best of the campuses of the IIT's, co-host Inter

IIT Sports Meet and organize it in high standards and initiate creating very ambitious centers of excellence in very relevant research areas, wherein some of them like the atmospheric sciences group acquiring the ability to predict the course of movement of the cyclone with a great degree of accuracy well in advance 5-6 days prior to its landfall. The institute consciously made its vision very ambitious to be globally well respected to produce outstanding graduates and research output and took several developmental steps in that direction. Some initial results of efforts are already visible and it is very encouraging including figuring prominently in rankings across international and national frameworks.

Adding further, he explained how the institute could protect its campsites all through the pandemic owing to its cautious approach of the COVID Task Force of the Institute and disciplined functioning owing to the SoP's put in place by the Institute to prevent the spread of COVID-19 inside the campus. He expressed his deepest satisfaction in the grand successes of the Institute in all of its innovative endeavours including running the academics at the global best with no compromises including running academics timely, holding laboratory practice with both online and physical presence, conducting pen and paper comprehensive exams by only with 100 % attendance and first of its kind live convocation in hybrid mode very successfully at high standards, by online during the pandemic. He also made a mention about the innovative endeavours undertaken as part of research by the various faculty members of the Institute against COVID-19. He complemented the faculty and staff who helped the Institute for serving as a role model to the other institutes in the endeavour of offering the best of education with no compromises during the pandemic, on this occasion. Lastly, before concluding, he thanked the Ministry of Education (MoE) for their benevolent support towards the Institute

Dr. G. Satheesh Reddy, Chief Guest expressed his happiness for being a part of the 13th Foundation Day celebrations. He expressed the contributions IIT Bhubaneswar is making to DRDO and lauded the outstanding contributions and healthy association of Prof Raja Kumar with DRDO in their projects of the past. He credited the director for his visionary approach, leadership, tireless efforts and sheer determination which led the Institute to scale new heights.

He also made a mention about the various opportunities for collaborating with IIT Bhubaneswar in terms of research, long terms projects, applied research, providing Incubation and mentoring for start-ups centres along with establishing their Center of Excellence at IIT Bhubaneswar. He talked about the various synergies that could be exchanged between IIT Bhubaneswar and DRDO where IIT Bhubaneswar could play a major role in the progress of the state and the nation. He further said that real Atmanirbhar (self-reliant) is when the design, development and production of state-of-the-art systems that are required by the defence are done within the country. He proudly mentioned about indigenous developments in form of Battle tank Arjun and fighter planes which were conceptualized, developed and made

in India. He also talked about achieving excellence in manufacturing by bringing out products at affordable prices with good quality and thereby establishing India as a major manufacturing hub across the world. He further mentioned that IIT Bhubaneswar could contribute significantly by their expertise, research, technological contributions for strengthening the manufacturing sector in the country. He appreciated the endeavours by the Students and Faculty members of the Institute and urged them to focus their energies on next generation technologies ranging from Artificial intelligence, Advance missile technologies, cyber security and thereby paving the roadmap of growth for India across the world.

Prof. R.V. Raja Kumar in presence of Dr. G. Satheesh Reddy, Chief Guest felicitated the students, faculty and staff members of the Institute with teaching excellence awards given based on student feedback, and Director's Commendations for outstanding research contributions, services, and meritorious services in their respective fields on this historic occasion. Those honoured includes,

Teaching Excellence Awards for 2020 (Faculty Members):

1. Dr. Srinivas Pinisetty, Assistant Professor, School of Electrical Sciences for overall best performance,
2. Dr. Nirmalendu Acharya, Assistant Professor, School of Basic Sciences,
3. Dr. Anoop Thomas, Assistant Professor, School of Electrical Science,
4. Dr. Raj Kumar Guduru, Assistant Professor, School of Humanities and Social Sciences

Director's Commendation for Outstanding Research 2020 (Faculty Members):

1. Prof. V.R. Pedireddi, Dean, Student Affairs,
2. Dr. Rajan Jha, Associate Professor, School of Basic Sciences
3. Dr. Subhransu Ranjan Samantaray, Associate Professor, School of Electrical Sciences
4. Dr. Venugopal Arumuru, Assistant Professor, School of Mechanical Sciences

Director's Commendation for Outstanding Services 2020 (Faculty Members):

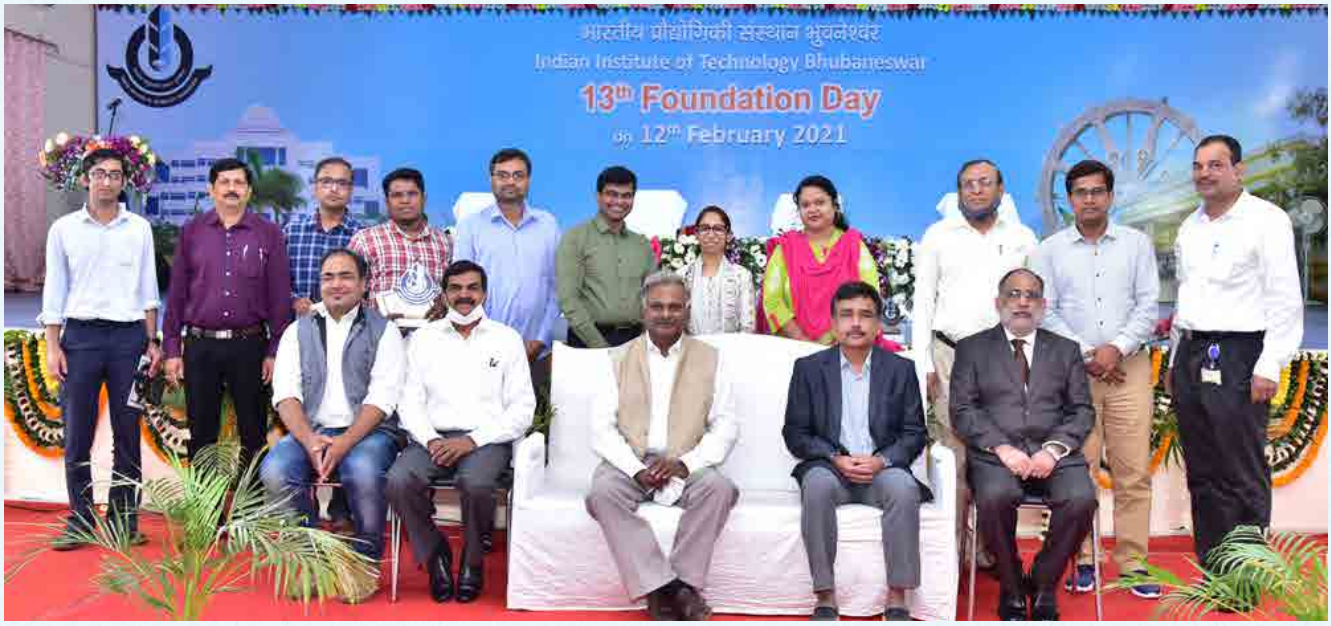
1. Dr. Shantanu Pal, Warden
2. Dr. Barathram Ramkumar, Chairman, Computer & IT Services Cell
3. Dr. Srinivas Bhaskar Karanki, Professor-in-Charge (Counselling)

Director's Commendation for Meritorious Services 2020 (Staff Members)

1. Mr. Chandra Vadde, Programmer
2. Mr. Prasanna Kumar Das, OSD - Internal Audit and Finance & Accounts Section
3. Dr. Gagandeep Kaur Makkar, Student Counsellor
4. Mrs. Suhana Parween, Junior Accounts Officer
5. Mr. Pradeep Kumar Pattanaik, Private Secretary
6. Mr. Tapan Kumar Mohapatra, Assistant Security officer

The event ended with vote of thanks by Prof Saroj Kumar Nayak, Dean (Faculty).

Also present on the occasion were Prof. Sujit Roy, Dean Research and Development, Prof. V.R. Pedireddi, Dean Student Affairs, Prof. Pravas R Sahu, Dean (Academics), Prof. Brahma Deo, Prof. P.V. Satyam, Prof. R. G. Sastry, Col (Dr) Subodh Kumar, Registrar, and Dr. Sankarsan Mahapatro, President Student Gymkhana, several faculty members, staff and students of IIT Bhubaneswar.



The National Science Day and Research Scholars Day

28th Feb, 2021

Indian Institute of Technology Bhubaneswar observed the National Science Day on 28th February, 2021. Institute also celebrates this day as the Research Scholars' Day of the institute. It is the 11th Research Scholars' Day of the institute. National Science Day is observed to honour the invention of the Raman Effect by the Indian physicist and Nobel Laureate Sir C. V. Raman. On the eve of the Research Scholars' Day the institute conducts a poster presentation competition among the research scholars and awards prizes to best posters. This year the competition was conducted on 27th February with the inauguration by Prof. R.V. Rajakumar, Director. The Chief Guest of the National Science Day event was Prof. Ashok Kumar Mahapatra, Former Director, AIIMS Bhubaneswar and Current Vice Chancellor, SOA University, Bhubaneswar. The event was presided over by the Director Prof. R.V. Raja Kumar.

Dr. P R Sahu, Dean Academic Affairs and Col (Dr) Subodh Kumar, Registrar, IIT Bhubaneswar besides faculty, staff and students marked their presence at the event. The event also comprised of announcement of the award winning posters, as evaluated by a panel of experts followed by prizes and certificates being awarded to the Research Scholars of these awards winning posters. The event ended with vote of thanks.

Matribhasha Diwas

23rd Feb, 2021

Indian Institute of Technology, Bhubaneshwar celebrated the Matribhasha Diwas to commemorate the "Fostering multilingualism for inclusion in education and society", the theme observed by UNESCO this year to promote the use of mother tongues for fuller awareness of the linguistic and cultural traditions throughout the world. The Ministry of Education is celebrating it as "Matribhasha Diwas" all over India with the objective of sensitizing the people on the need for the greater use of mother tongues and other Indian languages for the development and progress of the nation. Smt. Susmita Bagchi, Chairperson Mo School, Govt. of Odisha was the Chief Guest on the occasion. The event was presided over by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

Also present during the event were Prof. R.K. Panda, Dean Alumni Affairs and International Relations, Prof. V.R. Pedireddi, Dean Student Affairs, Col (Dr.) Subodh Kumar, Registrar, IIT Bhubaneswar. The event saw active participation from Faculty, Officer, Staff and Students reciting stories, articles and poems in the mother tongue. The programme ended with vote of thanks by the Registrar.

IIT Bhubaneswar is honoured with the University of the Year Award by FICCI

25th Feb, 2021

Indian Institute of Technology Bhubaneswar has been honoured with the University of the Year award in the category of universities in existence for 11-30 years, at the recently concluded FICCI Higher Education Excellence Awards 2021 ceremony. There were in total 11 categories of awards in this 7th edition of the event and the awards were announced today in the 16th FICCI Higher Education Summit 2021. The jury comprises of an eminent panel of experts chaired by Prof. R. A. Mashelkar.

Speaking on the occasion, Professor R.V. Raja Kumar, Director said, "IIT Bhubaneswar has been trying to offer holistic education to its students, in standards at par with the cream of global class Institutions by bringing in academic excellence through several unique pedagogical and operational reforms. The sudden onset of the pandemic posed us a lot of challenges in fulfilling the self-imposed commitment and the Institute had to bring in right innovative processes required for offering education which is not compromised or affected by the pandemic. Some of the distinguished and unique innovative initiatives, the Institute could bring in, in this endeavour include,

- Coming out with a method for conducting pen and paper comprehensive examinations by online with online invigilation by faculty members (for which there is no commercial product available) for evaluating the student learning and applying the same successfully right from the beginning of the lockdown, including conducting end semester exams online for the last academic year.
- Switching to online education with zero gap at the onset of lockdown.
- Holding of a combination of partial lab practice online and the rest with the physical presence of the students
- Protecting the whole campus including the students who stayed back on the campus, faculty, staff and their respective families and 2000 construction workers, during the lockdown as well as thereafter, keeping the campus completely COVID free except for 5 cases during September 2020.
- Coming out with a unique and innovative method of holding a real convocation with online and physical participation of students, applying the same to hold the 9th convocation of the institute, by the side of many other initiatives including technology development Covid-19 control.

The entire Institute including the faculty, staff and the students participated in all these endeavours upon my own call and the Institute could very successfully implement all of these, apply in practice and have been successful in all the initiatives. Many faculty members, staff and students have worked hard as a team in very successfully realizing these initiatives and all deserve to be complemented."

He added that for the institute, receiving the honour in the 13th year of its existence, in the category of the Universities in existence for 11 to 30 years, is special, and it certainly encourages all at IIT Bhubaneswar and it will help the Institute to march towards fulfilling its dream vision, as soon as possible. The director acknowledged the support and encouragement of the Ministry of Education and thanked the jury members and FICCI for the honour and recognition.

The director himself provided the conceptual framework and the guidance and a number of institute functionaries including Dr Bharatram Ramkumar (Chairman CITSC), Dr. Pravas Ranjan Sahu, (Dean Academics), Prof V R Pedireddi (Dean Student Affairs), Dr. Srinivas Karanki, Dr. Rajan Jha and Mr. Chandra, besides several others worked closely for implementing and successfully applying the systems and processes, at the institute.

World Philosophy Day

26th Feb, 2021

The World Philosophy Day, an UNESCO event, was celebrated at IIT Bhubaneswar on 26th Feb, 2021. The event was graced by Prof. Ramesh Chandra Sinha, Chairman, Indian Council of Philosophical Research (ICPR), New Delhi as the Chief Guest and presided over by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

The program also included a thought provoking session addressed by Prof. P.K. Mukhopadhyay, Former Professor, Dept. of Philosophy, Jadavpur University, Kolkata, Prof. Raghuram Raju, Professor, Dept of Philosophy, IIT Tirupati, SHSS, Andhra Pradesh. It was chaired by Prof. Jatin. K. Nayak, Former Professor, Dept. of English, Utkal University in the morning.

The afternoon session too featured some equally interesting lectures by Dr. Ranjan Mukhopadhyay, Visva Bharati University, Shantiniketan, West Bengal, Prof. Bijoy Hati Boruah, Visiting Professor, SHSS, IIT Ropar, Punjab. Prof. G.P. Das, Former Professor, Dept. of Philosophy, Utkal University, chaired this session.

The event was coordinated by Prof. Godabarisha Mishra, Visiting Professor, SHSSM, IIT Bhubaneswar. Also present at the event were Dr. P.R. Sahu, Dean Academics, Col (Dr.) Subodh Kumar, Registrar and Dr. Bibhuti Bhushan Sahoo, Deputy Librarian, IIT Bhubaneswar, other dignitaries from around the country participated in the event along with faculty, officers, staff and students. The event ended with vote of thanks.

International Women's day

8th March, 2021

On the eve of International Women's Day, on 8th March, IIT Bhubaneswar Women Welfare Committee (WWC), organized a thought provoking session at its campus today. This year's theme for the International Day, "Women in leadership: Achieving an equal future in a COVID-19 world", celebrates the tremendous efforts by women and girls around the world in shaping a more equal future and recovery from the COVID-19 pandemic. Mrs. Rajita Kulkarni, President of World Forum for Ethics in Business & President Sri Sri University graced the occasion as Chief Guest via video conferencing. Adv. Snehanjali Mohanty, Senior Member State Commission for Women Odisha attended the event in person as the Guest of Honour. The event was presided over by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

He stressed on the need for promoting women as entrepreneurs and as heads of organizations for providing them an opportunity to play a predominant role in today's lives. Encouraging women to incubate technologies, create start-ups and seed funding opportunities would greatly help in this endeavour.

Mrs. Rajita Kulkarni, President of World Forum for Ethics in Business & President Sri Sri University and Chief Guest of the evening in her address spoke about the several complex aspects of womanhood and their course of journey lucidly in an easy to understand manner by giving day to day examples from daily life. She inspired the audience with the glorified message about breaking the stereotypes of today and accepting the path of change and living up with challenges every day as per 2021 theme, "Choose to Challenge". She further stressed on the fact for conscious action, intentionality, investing in training, linking oneself with the platforms and network to make women more visible in the crowded and noisy society of today. She also opined on the fact that the nation today considers woman as the engine of growth and believes in being committed to the rise of women nationally and globally.

Adv. Snehanjali Mohanty, Senior Member State Commission for Women Odisha and Guest of Honour on the occasion emphasized on the core fact to make the women of today aware of their basic rights and empowering them for living their lives with a sense of pride and dignity. She also spoke about the need for having Internal Complaints Committee at workplaces and also at the local level leading to women empowerment in a true sense.

Also present at the event were Dr. P.R. Sahu, Dean Academics (Online) Dr. (Col) Subodh Kumar, Registrar (In-person) along with active participation from faculty, staff and students on online and offline mode. The event ended with vote of thanks by Dr. Remya Neelanchery, Chairperson, WWC, IIT Bhubaneswar.

E-Summit 2021, the four day Entrepreneurial Conclave

26th - 29th March, 2021

The seventh edition of the annual four day Entrepreneurial Conclave of IIT Bhubaneswar, E-Summit '21 was inaugurated by Shri. Kris Gopalakrishnan, Chairman Axilor Ventures and Co-founder Infosys and Chief Guest of the event via video conferencing. The event was presided over by **Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.**

E-Summit'21 (26th-29th March) comprises of several guest talks, interactive sessions, workshops, panel discussions centered on the theme, "Reign of Resilence" featuring some eminent personalities ranging from Shri. Kris Gopalakrishnan, Dr. Kiran Bedi, Former Lieutenant Governor of Puducherry and First Female IPS Officer, Shri. Sidharth Sogani, CEO, CREBACO Global Inc and many others. The major highlight of the summit this year would be the hosting of the cryptocurrency conclave, research development conclave, investors conclave and virtual start-up internship fair.

Also present at the event were Col (Dr.) Subodh Kumar, Registrar, Dr. Madhusmita Dash, Chairperson, Dr. Rajakumar Guduru, Vice-Chairman, E-Summit and Dr. Gaurav Bartarya, PIC E-Cell of IIT Bhubaneswar. More than 2000+ participants from various colleges across India are already participating in the conclave. The inaugural ceremony concluded with vote of thanks.

Valedictory Ceremony of E-Summit 2021 ends on a positive note

29th March, 2021

IIT Bhubaneswar successfully organized the four day entrepreneurial conclave, E-Summit '21 with many thought provoking sessions and interesting workshops. Dr. Kiran Bedi, Former Lieutenant Governor of Puducherry and the First Woman IPS Officer was the Chief Guest for the valedictory ceremony. The event was presided over by Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

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Also present at the event were Col (Dr.) Subodh Kumar, Registrar, IIT Bhubaneswar, Dr. Madhusmita Dash, Chairperson and Dr. Rajakumar Guduru, Vice-Chairman E-Summit 2021, and Dr. Gaurav Bartarya, Pic E-Cell, IIT Bhubaneswar. The valedictory ceremony concluded with vote of thanks. More than 2000+ participants from various colleges across India participated in the conclave.

Ek Bharat Shreshtha Bharat

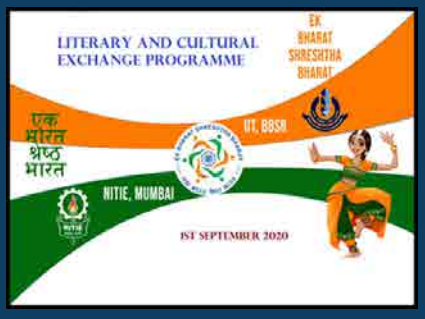
EBSB Club IIT Bhubaneswar organised cultural exchange programme (Language) with NITIE Mumbai on 1st September 2020

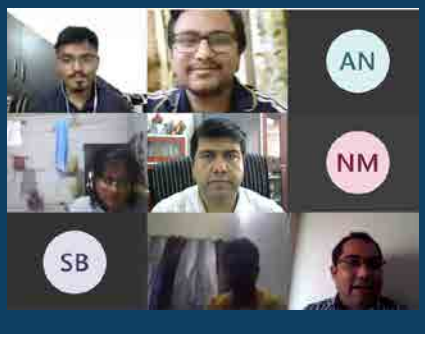
The "Ek Bharat Shrestha Bharat (EBSB)" programme, is an idea of a sustained and structured cultural connect between denizens of different regions was mooted by Prime Minister Shri Narendra Modi during the Rashtriya Ekta Divas held on 31st October, 2015, to commemorate the birth anniversary of Sardar Vallabhbhai Patel. Hon'ble Prime Minister propounded that cultural diversity is a joy that ought to be celebrated through mutual interaction & reciprocity between people of different states and union territories so that a common spirit of understanding resonates throughout the country.

IIT Bhubaneswar has been organising number of informative and cultural events under the aegis of Ek Bharat Shrestha Bharat (EBSB) and has formed an EBSB club consisting of students, staffs and faculty members to promote the spirit of national integration through a deep and structured engagement between paired states Union Territories (UT), for enabling people to comprehend and admire the diversity of the nation, thus nurturing a sense of common identity. As per the guidelines of MHRD, Odisha state has been paired with state Maharashtra, hence IIT Bhubaneswar being an institute of higher education in Odisha has been paired with IIT Bombay and NITIE Mumbai in the state of Maharashtra.

Continuing with the legacy of conducting EBSB events, under the leadership of **Director Prof. R.V. Rajakumar**, EBSB club of IIT Bhubaneswar is regularly conducting online literary and cultural exchange programmes including quiz, painting competitions with the institute of higher education in the state of Maharashtra though out the year on monthly basis. Also, many students of IIT Bhubaneswar have participated in completions conducted by NITIE Mumbai's EBSB club and received prises for painting, essay writing competions.

On **1st September 2020**, the EBSB club of IIT Bhubaneswar organised a cultural exchange programme with NITIE Mumbai. In the event EBSB club members interacted with each other with screening of posters, photographs and videos on the theme of paired states. Reciprocating the Marathi class conducted by NITIE Mumbai on 9th August 2020, EBSB club IIT Bhubaneswar conducted hour long Odia class for NITIE students and faculty members on this occasion. The literary and cultural exchange programme was attended online by more than 200 students from both the institute, along with the faculty members. The event ended with the poster display on the paired states (Odisha-Maharastra) and chorus singing of national anthem. The event was coordinated EBSB team members Dr. Rajesh Roshan Dash (Coordinator), Dr. Manaswini Behera and Dr. Seema Bahinipati (Co-Coordinators), Dr. Anush K. Chandrappa and Dr. Devesh Punera.





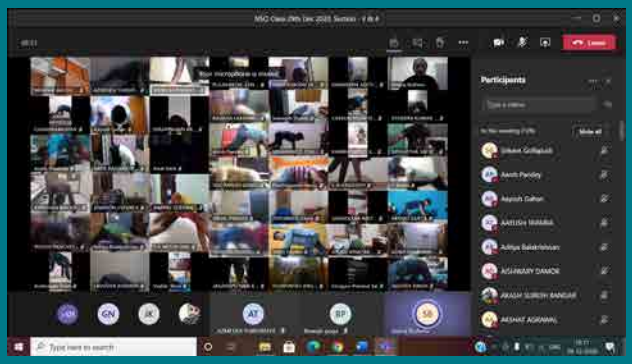
EAA Activities

A brief report of EAA activities 2020-21

- International day of Yoga
- Fit India Movement
- Independence Day
- Republic Day
- Cleanliness drive
- Plantation drive

Extra Academic Activities by undergraduate and dual degree fresher students

Despite the pandemic, the EAA classes saw the full and enthusiastic participation of the first year undergraduate and dual degree students who joined in the year 2020. A few snapshots from these classes are provided below



Participation of students in a physical fitness training session.

Participation of students in a Yoga session.

EAA-NSS students carrying out cleanliness of their surroundings while maintaining social distancing as part of the Swachh Bharat Abhiyan program.

Unnat Bharat Abhiyan Report

A brief report of UBA activities 2020-21

Online Drawing and Essay Writing Competition on the eve Gandhi Jayanti

On the eve of Gandhi Jayanti, October 2, 2020, UBA team organized an online Drawing and Essay Writing competition for kids from all the UBA adopted villages to celebrate the birthday of Mahatma Gandhi, Shahid Bhagat Singh and Lal Bahadur Shastri. Unique, creative and beautiful drawings and essays within 200 words in either Oriya/English/Hindi on the following three themes were invited: "Proud to be Indian", "Jai Jawan, Jai Kisan" and "India fights COVID".

Kids from Khudupur and Podapoda participated in the event with great enthusiasm and vigor. We received about 30 entries in total.

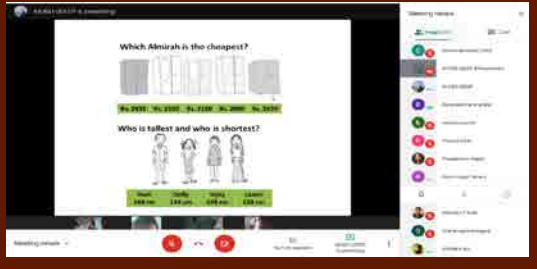
Report on Event on National Education Policy (NEP) 2020 Sensitization

UBA team has conducted two webinars consecutively on 21.09.2020 and 22.09.2020 in order to sensitize UBA volunteers and villagers of the adopted villages about the proposals of National Education Policy 2020. The parents and school teachers participated in the discussion, in addition to the volunteers and villagers. The main focus of the webinar talk was on school education.

About 15 people, including the Sarpanch, Sundaria village, parent and teacher from Khudupur village joined the event. We had an engaging discussion after the talk was delivered. People from the adopted villages appreciated the features in the policy. Parents expressed their concerns about the quality of education imparted in the Government schools. Teachers stressed upon the need to recruit more teachers and staff for the schools. The need to ensure a method to monitor the attendance of students was also stressed upon.

Online classes on Science, English and Mathematics have been continuing since November 2020

This is conducted every Sunday by the student volunteers of IIT Bhubaneswar led by Soumen, Ayush, Ankita and Mrutunjay. This is guided by UBA co-coordinator Dr. Seema Bahinipati. Besides teaching, storytelling sessions, playing of motivational videos are also done.



Students' Activities

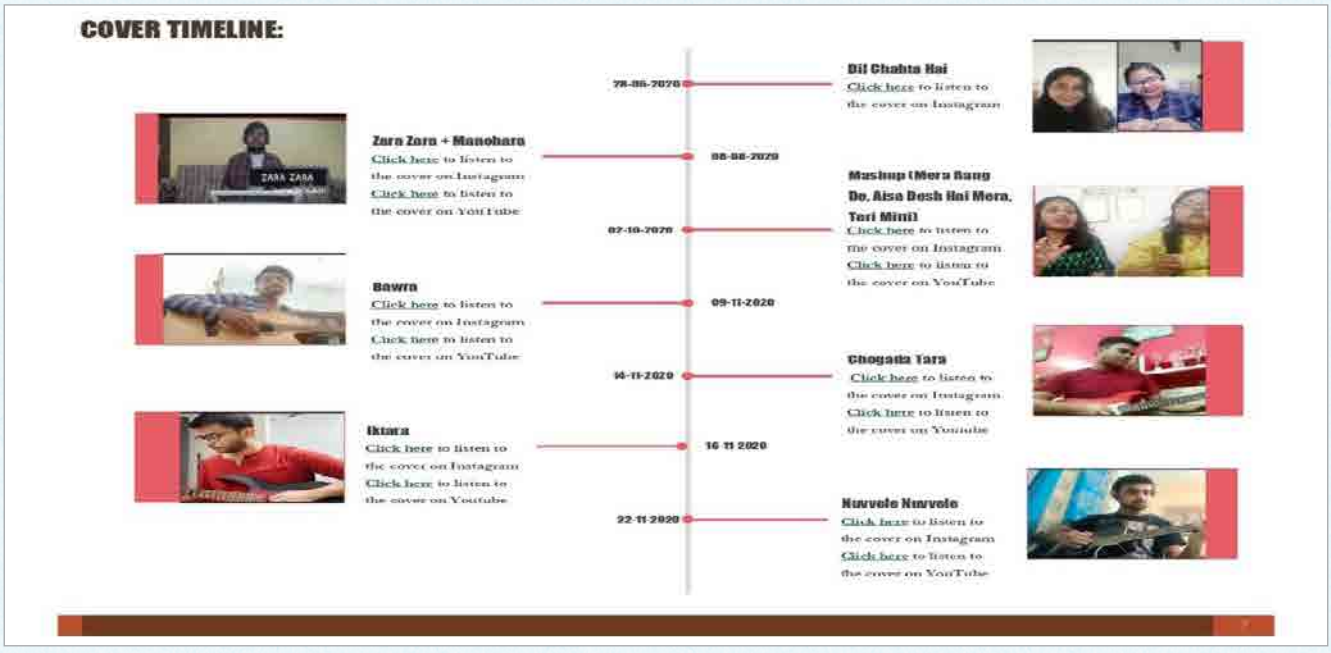
Socio-cultural Council

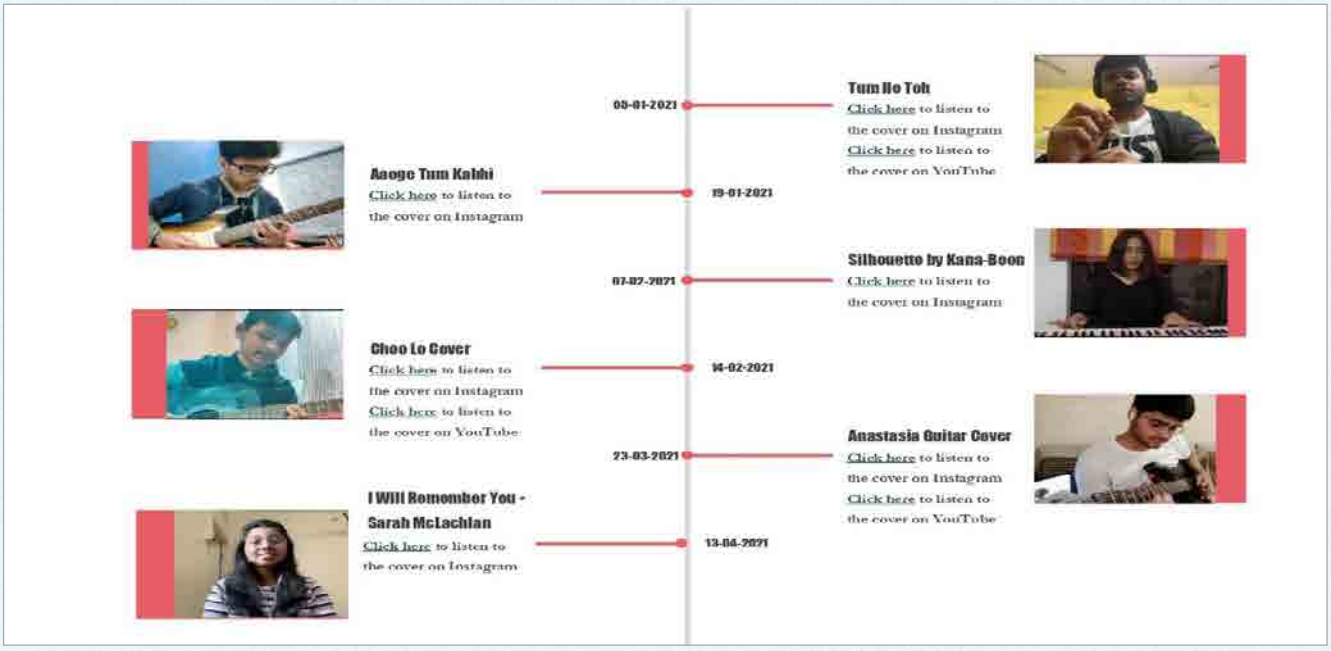
AAROH-MUSIC SOCIETY

The most prominent part of the society was pulling off online covers like we used to perform despite the members being a state away. To perform songs in this lockdown, there was only one way for the society to do that, by doing covers using the most out of this situation. To keep our whole audience entertained we tried to cover all types of songs. We performed 6 Hindi songs, 3 English songs, 2 Telugu songs, and are still working on some covers. Although the society members didn't have all the instruments required with us but we somehow managed to create covers to entertain our audience. For covers, everyone recorded their parts on their own, but where we lagged the needed instrument, we tried to cover it using software to record those parts, i.e., for replacement of drums we used FL Studio while recording bass guitar we used software to create a feel of bass from an acoustic guitar. Now coming to the most important and difficult part was the mixing and creating the final cover. For mixing, we used Mixcraft where it was very tough to sync all the parts together, but somehow after 4-5 takes, we managed to create the final song. For the video edition, we asked Cinewave to do that part, but in some songs due to some time constraints, our society members even tried editing in one night and released the song the next day. We were successful in making the covers and released them on online platform like YouTube and Instagram and received a very positive response from the audience.

1. Quarantine Covers

- This has served as an alternative to our regular productions.
- We have covered different genres & languages in them.
- Videos of a few covers were made in collaboration with Cinewave.
- We have 13 Quarantine Covers until now





2. Alumni Covers

- Our alumni have also made covers which helped us inspire & learn from them.
- We have made a special playlist on our YouTube channel for this purpose.
- There are 2 alumni covers on YouTube until now.

Competitions

1. Grounded Sounds (14th May 2020-04th June 2020)

- Aaroh organized a music competition for the student community of our college.
- The competition had two categories; Vocals & Instrumental.
- Participants submitted their videos which were uploaded to our Facebook page which helped us in increasing our reach.
- Everyone was given the opportunity to showcase their music talents and deserved winners were given certificates and cash prizes.
- Participation: 34 Nos.

2. Synesthesia (07th June 2020 – 09th July 2020)

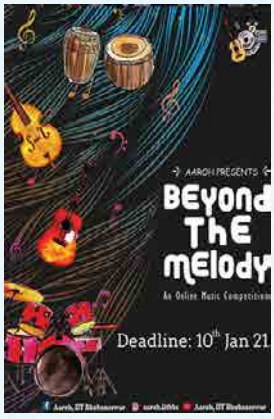
- AAROH held another online musical competition for people all over the country with nominal entry fees.
- The funds hence raised along with contributions from society members was donated to the Covid-19 relief fund in association with Zomato Feeding India initiative and to the Assam and Bihar flood relief fund.
- The competition had two categories; Vocals & Instrumental. Winners of the competition were also acknowledged with certificates and cash prizes.
- The videos of all the participants were regularly posted on Aaroh's social media platforms.
- Participation: Vocals – 21 Nos., Instrumental – 9 Nos.

3. Music Quiz (1st November 2020)

- AAROH in collaboration with Quiz Club organized an online quiz competition.
- Quiz Club prepared questions & the audio related to the questions was recorded by us.
- It received a good response, about 20 direct participation and later viewed by almost 300 people.
- This helped in increasing our reach & helped our audience to improve their musical knowledge.

4. Beyond The Melody (29th December 2020to 12th January 2021)

- An online music competition was organised for faculty & their family members.
- It was organised from 29th December to 16th Jan.
- No. of Participants: 7 Nos.
- The winners were awarded certificates.



5. Euphonic Combat (General Championship)

- A Music competition was organized for all the branches of our college under General Championship 2021.
- There were two categories: Vocals & Instrumental.
- Participants: Vocals-18 Nos. & Instrumental-4 Nos.

WORKSHOP

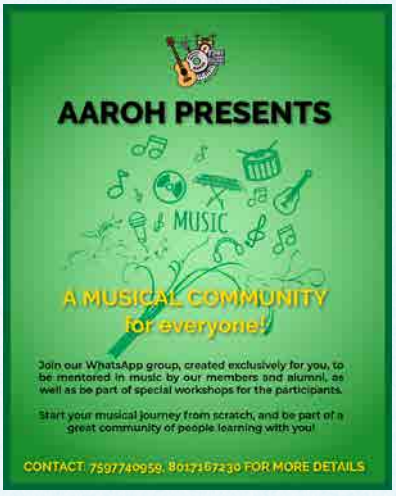
Audio Software Workshop (1st August 2020 to 10th August 2020)

This workshop was organized for the members of our society. Some members of the society helped others to get accustomed to multiple audio recording & processing software. The Members were provided with guides and their queries were resolved. This helped us in making the quarantine covers efficiently

INITIATIVES

AAROH for Everyone

- AAROH has made a community, initially as a WhatsApp group, for people who are not in the society but are interested in music and want to learn more.
- We regularly post training videos on that group.
- Song suggestions are also provided so that people can learn from them.
- Participation: 51 Nos.



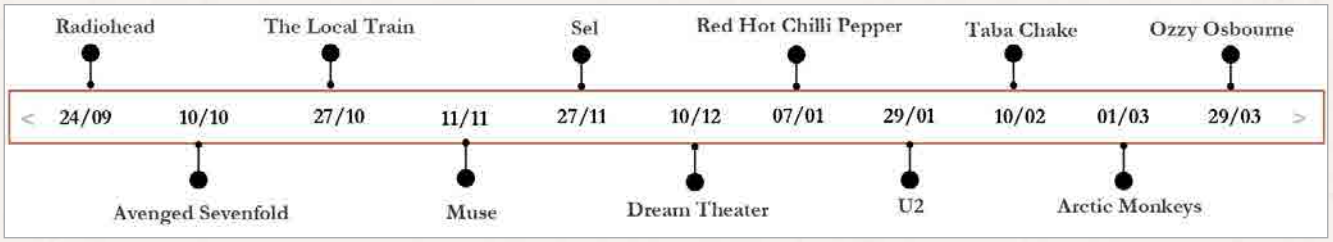
Genre of the Month

Society decided to not let the pandemic push us down and despite being considered as a performing society, we decided to keep the society functioning and found a good opportunity to make people know about the various types of music out there in the world. Keeping in mind that different people have different tastes of music, we in the AAROH society decided to post different genres of music every month which kept the people updated on different tastes of music and also introduced new genres and musical forms to the people who have not heard about it before. We started posting the genre of the month on social platforms from August 2020 and monthly updated the account with different genres of music every month. Through this we have already covered many genres such as modern pop, indie rock, classic rock, psychedelic rock, blues, progressive metal, hip hop, jazz and country music and much more to come.

Know the Artist

The society introduced a new type of series on social media which basically kept the people informed on many famous and new bands and solo artists originating from both across the world and India. This type of post got people to know various types of artists who many people don't know about. We started posting Know the Artist in September and have been regularly updating it every month. In such posts, members generally review the members of the band and their most prolific songs. We have covered many rock bands such as Radiohead, Avenged Sevenfold, The Local Train, Muse, Dream theatre, Red Hot Chilli Peppers, U2, Arctic monkeys and also solo artists and groups like SEL, Ozzy Osbourne and Taba Chake.

The society members post about the band, their members and their roles and finally some famous songs by them so that people can diversify their music taste and know the music artists behind those marvelous compositions



Song of the Day

As a consistent and daily involvement with music, the society came up with a plan of "Song of The Day". We started posting regular stories on our Instagram account which is called Song of the day. Various types of songs of different genres are daily posted on our stories. We try to ensure that people of all music tastes can enjoy the songs as well as diversify their musical tastes. A wide range of songs are covered and the playlist of all the songs around the months are shared in the stories. We use Spotify, an audio streaming and media services provider, to make the songs reach the audience. We started this series this year in 2021.

CINEWAVE –CINEMATIC SOCIETY

Cinewave is the movie-making society of IIT Bhubaneswar that makes short films, documentaries, ads and takes part in various film-making competitions

Coverage

Cinewave has covered various campus events like FGT, Independence Day, Unity Run, Republic Day, Open Day, etc. Events on Wissenaire, E-Summit, and Alma Fiesta. The Inter IIT Sports Meet was covered by Cinewave which was held in IIT Bhubaneswar.

Short Films

Cinewave has produced 8 short films while present on the campus.

- The Foreboding
- Dobey Detective
- Enigma
- #HeforShe
- Matron
- Voyage to Courage
- Betrayal
- Delirium

During the lockdown, a short film named 'Chicken' (A Social Awareness Film) was made by virtually connecting with the team.

Participation in Competitions

- Cinewave has secured the top two positions in the filmmaking competition on the occasion of Women's Day.
- During the lockdown, Cinewave has participated in the Silver Edit Competition by IIT Bombay with a good number of entries.
- We have made a one-minute short film (Brace Up!) themed around Covid-19 for the Reel of Change Event in Manfest-Varchasva (IIM Lucknow Fest).
- Cinewave has participated and got selected for the final round in the Ad-Mad Event in Ensemble Valhalla (XLRI Jamshedpur Fest). We have made an advertisement for a Multipurpose Belt.
- Cinewave is participating in the event ExagerratAD by IIT Gandhinagar which is going on now

Farewell

- Cinewave has made all the required videos for the Farewell of the passing out batch in 2020. Cinewave also hosted Farewell 2020 on its YouTube channel.
- We have also hosted the Farewell 2021 on the 19th of March on our YouTube channel and made all the required videos for the event.

Freshers' Video 2020

- Cinewave has made a First Impressions video with the freshers. Amidst the Covid-19 havoc, we made the video in online mode. It is a video about how the students feel about certain aspects of life at IIT Bhubaneswar and how life would have been if they were in college and their experiences, expectations, and various other factors. It has got more than 20000 views on YouTube and became the second most viewed video on the channel in just 4 weeks.

Quarantine Challenge: Cinewave conducted a set of competitions under the name 'Quarantine Challenge' during the lockdown. It includes Acting, Cinematography, and Editing Competitions

Scriptwriting Competition

We have conducted a Scriptwriting Competition from the 29th of December to the 5th of January and got 10 participants with amazing scripts.

Trailer-Making Competition (Re-Cut)

Cinewave has conducted a Trailer-Making Competition as a part of the General Championship. Participants have to make their trailer cut of any movie of their choice but in a different genre. It is conducted from the 19th of March to the 28th of March.

Occasional Videos

- Cinewave is producing short tribute videos on special occasions. The following are the occasions and the dates on which the videos are released:

  Friendship Day (2nd of August)

  Independence Day (15th of August)

  Engineer's Day (15th of September)

  Gandhi Jayanti (2nd of October)

  Rashtriya Ekta Diwas (31st of October)

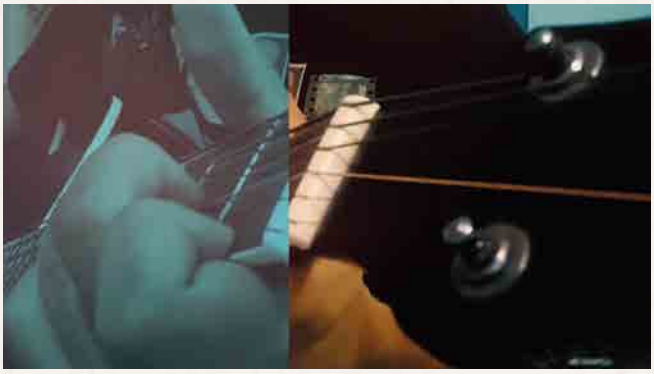
  Diwali (14th of November)
- We made a motivational video related to depression on the eve of World Mental Health Day. It was released on the 10th of October.

Star Gaze

- Cineave is making a monthly series called 'Star Gaze', which is a video series on major astronomical events. It is made in collaboration with Nakshatra, and six editions in the series have been released on the following dates:
- 28th of August
- 29th of September
- 30th of October
- 24th of November
- 31st of December
- 31st of January

Song Covers

We have made Song Covers in collaboration with Aaroh. Till March, we have made four of them. The first one is released in September. In November, another two-song covers and three teasers are released. The fourth cover (Choo Lo) was released in February.



Celtx Workshop

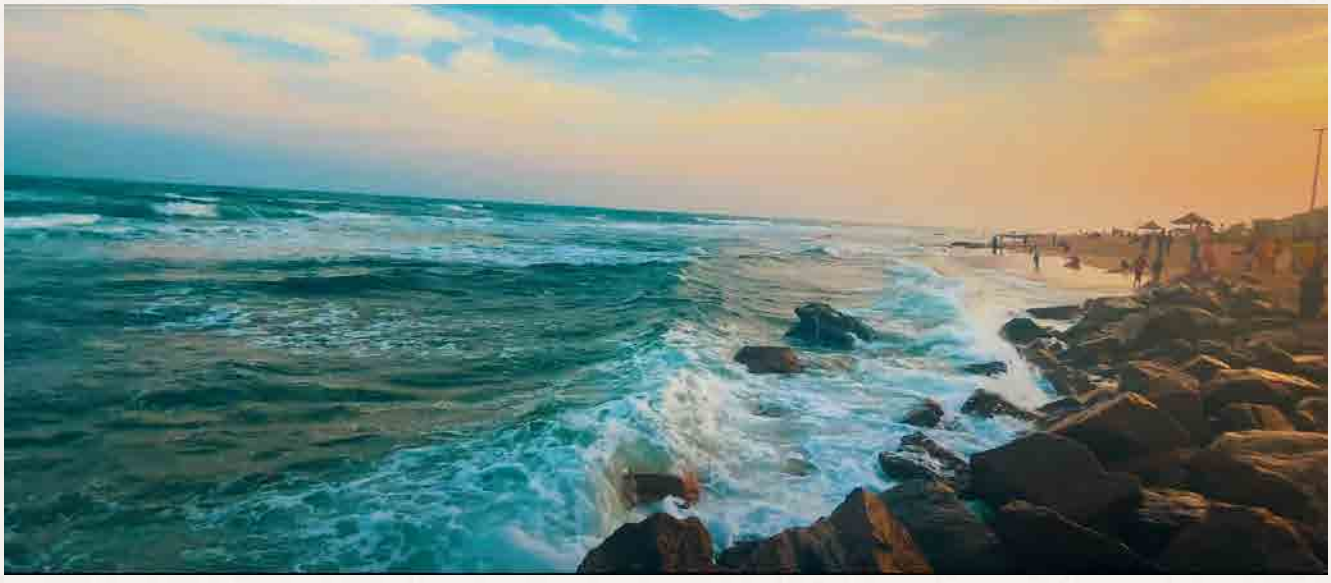
A well-prepared and planned Script always gives a better output. Celtx software is used for Screenwriting and Film Production Management. A workshop was conducted for the society members on Celtx Software by our seniors.

Filmmaking Workshop

Cinewave conducted a Filmmaking Workshop on the 24th of January which is open for all. We covered many areas of filmmaking such as Scriptwriting, Cinematography, Editing, and much more. More than 70 people attended the workshop.

Other Works

- A unique mashup video was made on IPL for the event Intense Prediction League conducted by Ashvamedha and the Sports Council. It was released on the 18th of September.
- We have made trailers for events of different societies and councils like Shred Challenge, Intense Prediction League, Star Gaze, Core Workout Challenge, Fitness Tracking Challenge, etc.
- Cinewave, in association with Sports Council, produced workout videos for a fitness program called 'Core Workout Challenge' under the mentorship of PTIs of IIT Bhubaneswar. A total of 16 videos, including one trailer, are made for this 6-week program. We started posting these from the 28th of October, and this will last till the 10th of December.
- We have collaborated with The Fourth Wall and made a Short Film (The Gift) which was released on the 14th of January and received more than 650 views on Instagram.
- We have made a Travel Video (The City of Destiny) in Vizag which is released on the 31st of March
- We have organized a Filmmaking Session for the newly joined members in the society which is scheduled from the 16th of March to the 29th of March. They have finished 4 Short Films as a part of this.
- Some scripts for our future projects are finalized which we will produce after going to campus.
- Many teasers, trailers, and intros were made by Cinewave for different Societies, Fests, and also Sports and Technical Councils.
- Cinewave cooperated with other societies like Aaroh, D-Gang, Souls for Solace, Abhivyakti, etc. for their videos to get posted on social media. We have made some intros, after videos, and some other edits for their social media posts.
- Cinewave has made the Society Introduction Videos for Aaroh and Nakshatra. All the videos are compiled and made into larger videos for making hosting easier. The Intros were also hosted on the YouTube channel of Cinewave.



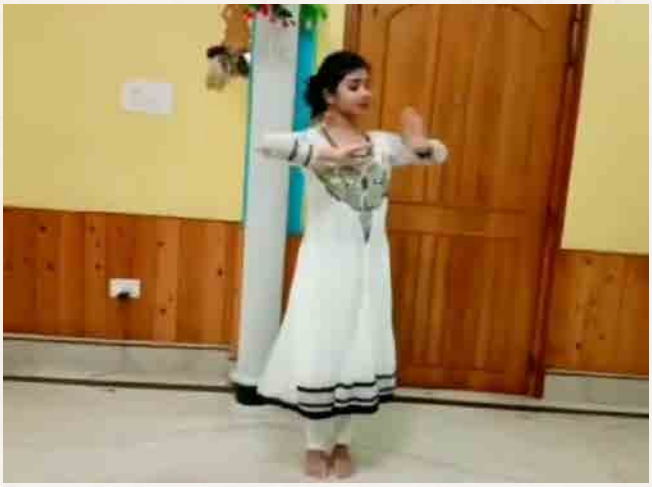
Social Media

- We kept our social media pages engaged by posting a series of posts like 'Tuesday Trivia' which is based on movie facts and their trivia. It started on the 18th of August, and we continued to post one every Tuesday. We have posted 16 posts in this series till April. We have got 400-450 reach for every post on Instagram.
- 'Shot of the Week' started on the 5th of December. We are making posts on cinematographic techniques and different types of shots, movements, etc, and posting some shots every Saturday. We have posted 12 posts (24 types of shots) in this series till April. We have got 500-600 reach for every post on Instagram.
- 'BTS' started on the 9th of December. We are making posts comparing an actual scene to the final scene and posting one every Wednesday. 8 posts have been posted in this series till April. We have got 500-600 reach for every post on Instagram

D GANG–DANCE SOCIETY

Quarantine Challenge

- Considering the health and psychological benefits of dance, the society has given due attention to popularizing dance in college by conducting open for all dance competition, QDC.
- Results of the competition were announced on 26th July, 2020.
- No. of participants: - 15+ Nos.



Dance Covers

- We have been posting solo dance covers at regular intervals on our social media handles.
- Genres of dance covers posted include waacking, freestyle, lyrical hip hop, bharatnatyam, semi-classical.
- A special dance cover shot in our campus was posted on our youtube and Instagram handles

DANCE-O-PEDIA

- This is an instagram series in which a brief idea about various dance forms were given through short videos.
- No of social media posts: - 7 Nos.

D-FACT

- This is an informative instagram series in which we disseminate some interesting facts concerning a particular dance form.
- No of social media posts: - 15 Nos.

Online Dance Competitions

- Some members of our society participated in an online dance competition conducted by ISM, Dhanbad. On 21st to 28th September, 2020.

Cultural GC

- Conducted an online solo dance competition, Break free under cultural GC, 2021.
- It was an individual and single round event, open for all.

ALMA FIESTA

- Participated in the rip (solo dance competition) and imitate the step, results of which haven't been announced yet on 15th to 18th April, 2021

KALAKRITI – FINE ART SOCIETY

Kala Kriti, Fine Arts Society of IIT Bhubaneswar aims at encouraging and nurturing the speckle of creative imagination within everyone. The Society embodies within its sphere, the areas of painting, sketching, clay-modelling, collage making, and crafts. The society encourages and provides an opportunity for participation in Fine Arts competitions across different colleges

Competitions

- Team members of the society were participated in "Art Avail" in IIT Madras, Saarang Competition and Secured 1st Position.
- Team members of the society participated in IIT Kharagpur, SPRING FEST'21.

1st prize in Art Avail at IIT Madras, Saarang Competition

1st prize in Finger painting in Spring Fest Achievements at IIT Kharagpur

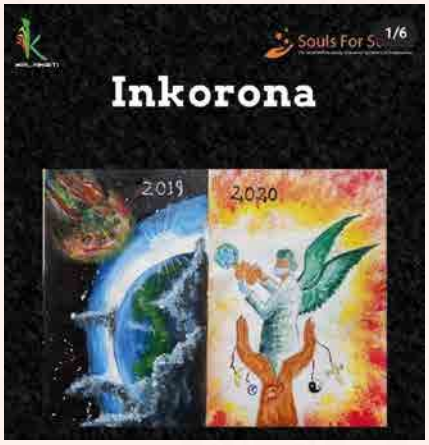
2nd position top 10 in Spring Fest Achievements at IIT Kharagpur

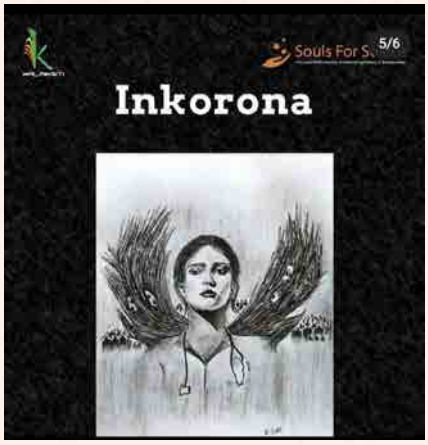
1st prize in face painting in Spring Fest Achievements at IIT Kharagpur

1st Place In Sketching at ALMA FIESTA

INKORONA

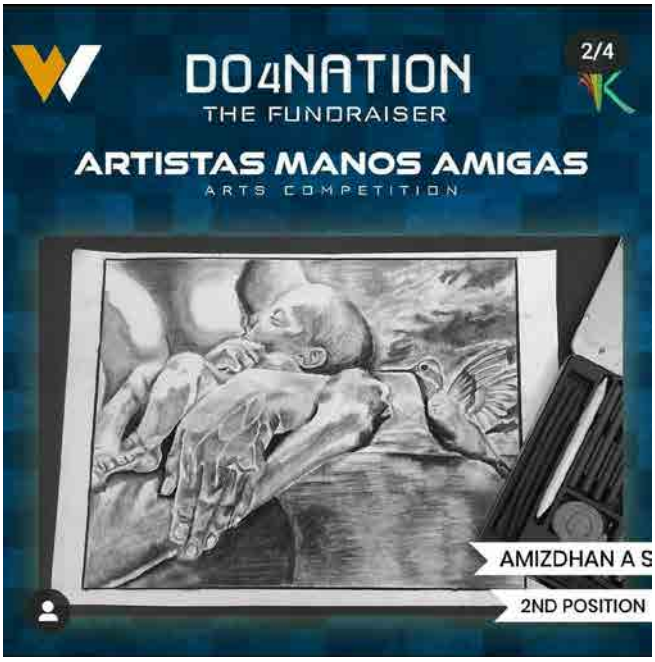
A competition with the theme of "let's fight corona" was conducted in collaboration with s4s to spread the message of the current pandemic due to corona.





DO4NATION

Competition with the theme of "ALTRUSIUM" was conducted in collaboration with Wissenaire. This is a fundraiser competition, and fraction of money is donated to PM cares fund to fight with corona.

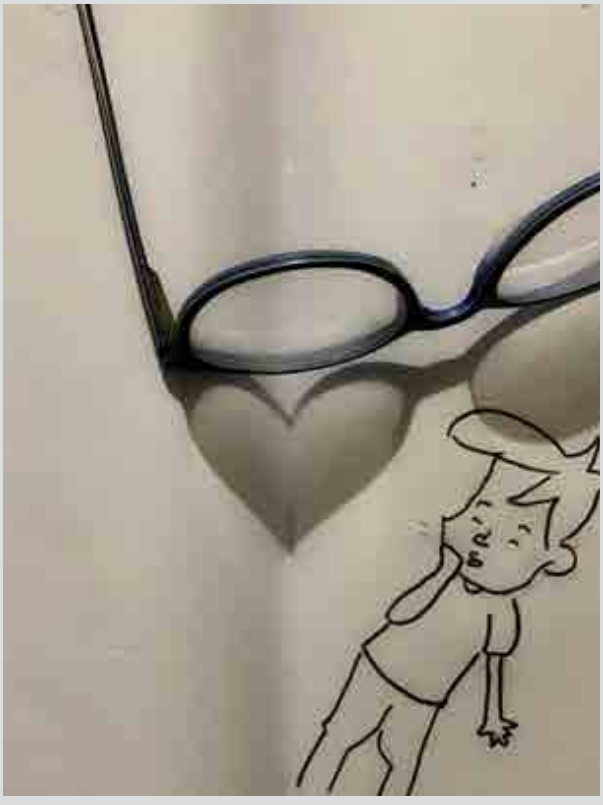


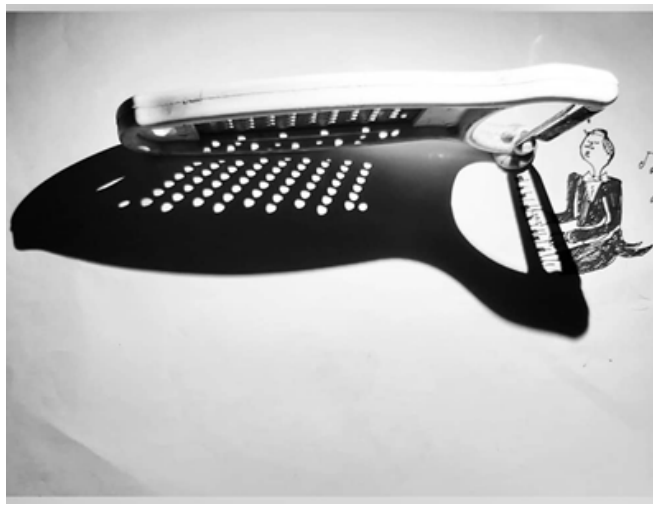
KALAKAARI

Competition in 2D art medium was conducted on the eve of Gandhi Jayanti.

SHADOWOLOGY

A Creative shadow sketching fun Activity, which is creatively making sketch on the shadow of objects, giving it another meaning.

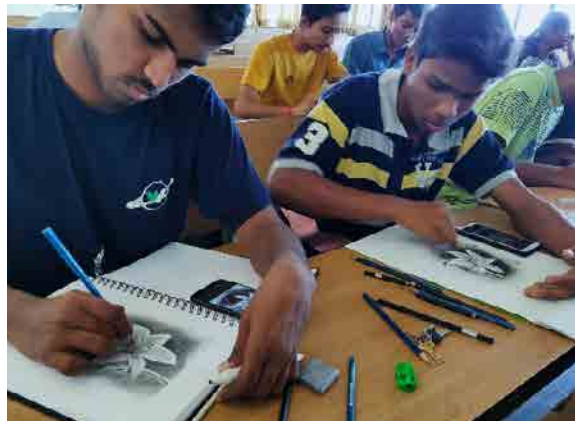




INKTOBER

Inktober is a Month-long Global Challenge for all artists. There is theme for each day throughout October every year. Kalakriti members have all participated in this fun challenge and and posted artworks of members every day in October.

Participated in heritage fest painting competition conducted by Gauranga Seva Foundation

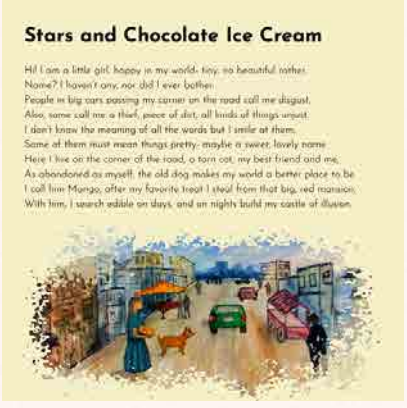


Festive DIWALI

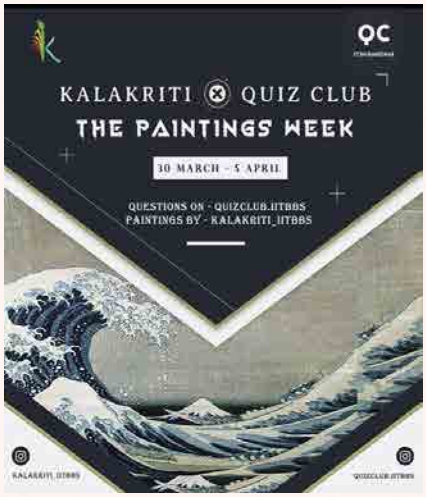
- Kalakriti during Diwali, has posted many diya decoration videos on our social media handles.
- We also made a comic series having 3 chapters related to “Celebrating Diwali Online” in an eco-friendly and safe.
- Also, we have 3D Rendered our main Building of IIT BBS with diya’s (Video of 45s posted on our social media handles), colorful lanterns and wishing everyone a Very Happy and Safe Diwali.
- A huge rangoli, made by many members of the society with a lot of memories and flashbacks of previous year’s celebrations

Collaborations

- Kalakriti and Panacea successfully collaborated on a poem with poem related artworks in the background. Alongside the team also made a trailer video of the collaboration before releasing the whole poem



- Kalakriti in collaboration with the Quiz club has conducted a "Paintings week", in which members of Kalakriti recreate some of the Famous Artworks, and based on that questions were made by the Quiz club.



Workshop on Sketching

- The society conducts a Workshop on Sketching, detailing parts and different art materials used in artworks. Total No. of Students: 40 Nos.
- We have conducted an online Sketching workshop for Freshers, Including Basic to Advanced techniques (Textures like Fur, Skin, and Hair).

GENERAL CHAMPIONSHIP' 21

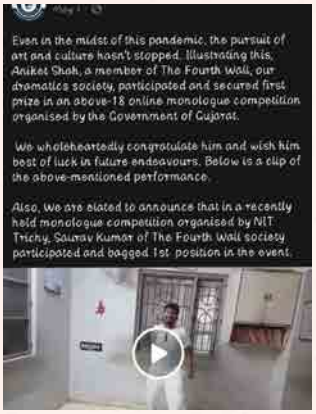
This Year the theme for the General championship's Art competition was "Dream World", and many students from various branches have enthusiastically participated in it. Details of the event are as follows:



THE FOURTH WALL – DRAMATIC SOCIETY

Competitions

- Participated in the monologue online competition, 'Spotlight', conducted by Festember, NIT Trichy winning first prize. The genre was parody and comedy monologues and Saurabh Kumar bagged first prize on behalf of the society.
- Participated in an online Monologue Competition conducted by the Government of Gujarat and won first prize. The theme was an informative and awareness video on COVID 19 crisis. Aniket Kamlesh Shah bagged the first prize.
- Participated in an online monologue competition conducted by the Instagram page, Funkaar. Results aren't out yet. The genre of the competition was diverse and it was an open competition.
- Maintaining high engagement in terms of online activity on social media platforms, like Instagram in lockdown Period. Continuously uploading posts, monologues, tribute posters, tribute videos etc.
- Participated in the monologue/mono act/mime-making competition conducted by Antaragini, IIT Kanpur (Results aren't out yet).
- Conducted online monologue competition, 'Unlock the Actor', in collaboration with Pantomime, Theatre club of NIT Rourkela. No of Participation is more than 50 from all over India
- Organised the Bollywood quiz in collaboration with the quiz club.
- Currently participating in the 'I,Me,Myself' monologue competition in Spring Fest, IIT Kharagpur.



Common activity in COVID lockdown Period

- **Monologues:** Throughout the lockdown, we have been continuously posting monologues/short videos of our society member's acts on our instagram pages.The most popular one attracted more than 1800 views. This is common for all the months. Till now we have posted 20+ monologues and posts.

Monologue on 26th December 2020

- This is a regularly scheduled event where a monologue is performed by one of the society members and the video of the same is posted on the social media pages of "The Fourth Wall".
- This monologue is performed by Debadrita Das and posted on 26th December 2020.
- The video got a great response of 811 views and appreciation from all.

Short Film on 14th January 2021

- This is a regularly scheduled event where a short film performed and scripted by the society members is posted on the social media pages.
- The cast had Debadrita Das, Mayur Vastrakar and Omkar Ghag and was posted on 14th January 2020.
- The film got a huge viewing of 650 views and appreciation.

Movie Reviews:

Episode 1 on 16th January 2021

- This is a new initiative to make videos reviewing the movies.
- The movie "Coolie no. 1" was reviewed by Prateem Prakash Singh, Omar Ghag and Saurabh Kumar.
- The review got 1165 views and a great response from the viewers.

Episode 2 on 5th February 2021

- This was the 2nd episode of the Movie review series.
- The movie "Ludo" was reviewed by Saurabh Kumar, Aniruddh Pratap Singh, Pratham Agrawal, Jaswanth, Sanjeet Patra, Saranshi Singhai, Madhu Chauhan.
- The review got 1342 likes and appreciation from the viewers.
- Spring Fest: IIT Khagarhpur Monologue: I me myself (Last week of February 2021)
- Spring Fest is the Cultural Event of IIT Kharagpur.
- Saurabh Kumar, Debadrita Das, Prateem Prakash Singh and Madhu Chauhan participated in the monologue competition held by the fest in online mode.
- The results of the competition are not out yet.

GC event: Curtains Up (20th March to 31st March 2021)

- The Dramatics event is held by "The fourth wall" in the IIT BBS General Championship named "Curtains Up".
- It was an Individual and single round event.
- The theme was open to the creativity of the participants with a time limit of 1 minute.
- The competition is open to all.
- Received 15 entries for the event.

NIT Rourkela Theatre fest (21st March to 26th March)

- The Theatre fest of NIT Rourkela "Hunkar'21" will be held between 21st March to 26th March
- The members of the society will participate in three of its events namely 'Radioplay'. 'Alternate Ending', 'Movie Quiz' soon.

Audio play (First week of March)

- First episode was released on Instagram having more than 1400 views.
- Stories were inspired by Neelesh Mishra

Collaboration with SOCH theatre group, New Delhi

- Collaborated with soch rangmanch, New Delhi for their campus talks series.
- Soch theatre group has more than 4000 followers on Instagram.

Alma Fiesta (April 2019)

- Bagged second prize in Audioplay Competition
- Participated in many more competitions such as Dubsmash, monologue,etc.

PANACEA - LITERARY SOCIETY- (ENGLISH) & ABHIVYAKTI -LITERARY SOCIETY (HINDI)

PANACEA Report

- We have been writing articles on different personalities of IIT Bhubaneswar, and they get published on the Facebook Page 'Humans of IIT Bhubaneswar' in association with the photography club, Clix. We have also been writing articles for the Alumni Association and covered various events like the Inter-IIT sports meet.
- Online competition: We conducted an online article and poetry writing event called 'PenDemic' on 9th April 2020, in association with social welfare society, Souls for Solace, on the topics related to the COVID-19 pandemic and the front-line warriors, which received a good number of entries.
- Connect Interview: We started an online series called 'Connect', in which we interview the faculties of IIT Bhubaneswar to improve student-faculty bonding.
- Online activity: Started various weekly series on our Facebook, Instagram and WordPress handles like Poetry writing, Reviews of Movies/Books/Animes, Article writing on our blog, Experiences of students who interned during the summer of 2020.
- Gandhi Jayanti 2020: We organised two events on the occasion of Gandhi Jayanti, Short Story Writing on one of the Gandhian principles of Faith, Truth and Non-Violence; Poetry Writing on the relevance of a famous line from Mahatma Gandhi's autobiography.

- We conducted an article writing competition in collaboration with Nakshatra on topics related to astronomy. We received 25+ articles for this event.
- We participated in an online MUN of Rotaract club of Galgotiya group of Institutions and we got the High Commendation award in it. We also participated in IIM Ahmedabad's Debate competition where our team performed great.
- Collaborated with Kalakriti for a poem and various artwork describing the poem.
- Organized Conspiracy Theory writing competition and Poetry Writing competition for fresher's batch of 2020, which received good participation of 25+ students.
- Participated in Vaad Vivaad - an oxford-style debate competition organised by R.C. Ambarnath, and secured First and Second position in it.
- Collaborated with the Alumni Association and wrote 10+ articles for the upcoming edition of the Alumni Newsletter.
- The third episode of Connect interview will be released by April-end.
- Conducted two events: Devil's Advocate and Wikipedia Game under General Championship '21 with an average participation of 50 in both the events.
- Launched the Oracle- the journalism body of IIT Bhubaneswar and wrote 40+ articles about our institute and its current and former students which have been published on the Oracle's website.

Glimpses of IIT BBSSR MUN'20

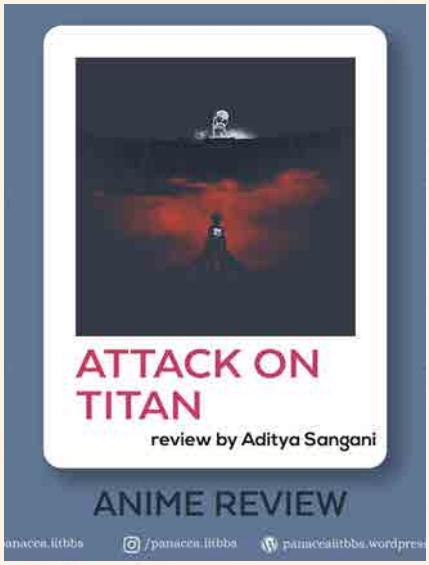


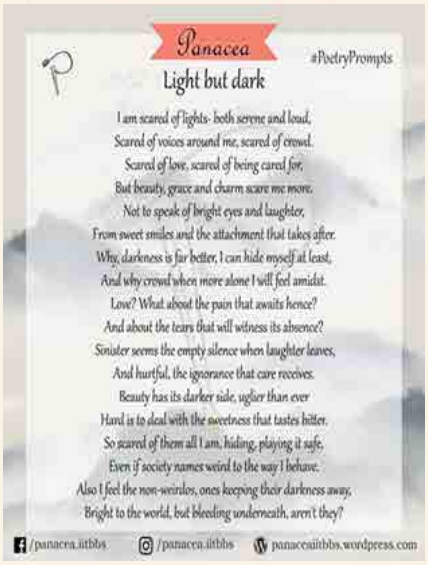


Online Activities

- Snapshot of First Episode of 'Connect Interview'

- Weekly series like Anime review, Poetry writing, Crossword and the online event 'PenDemic' conducted in April 2020.





Blog

Panacea's blog where we post articles under different categories, it acts as a repository for us to put our articles, poems, experiences and stories and also a medium to connect with our readers.

ABHIVYAKTI REPORT

Competitions

Hindi Pakhwada on 14th September 2020

- Poetry writing - In this competition, we collected poems from participants. Participants send the handwritten poem (on any subject) to us via Google Form in .pdf format, the top three poems were selected by the committee. Poetry evasion and poaching were prohibited. (The prize amount for the First prize is Rs.1000, the second prize is Rs. 800 and the third prize is Rs.800).

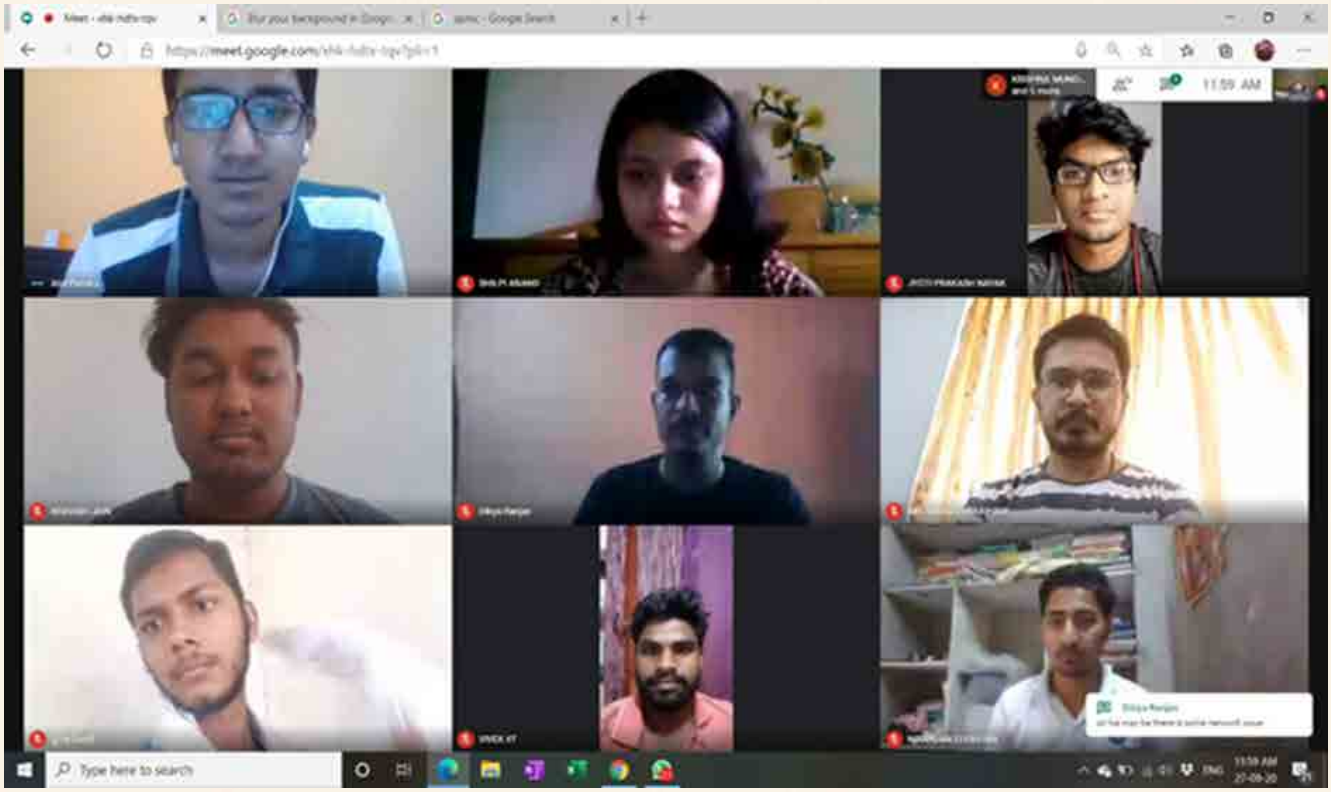
- **Writing Articles -** In this competition, we collected poems from participants. Participants sent handwritten articles to us in .pdf format through Google Forms. Participants can choose the topic of the article from the following 5 topics: -
  1. The process of privatization in India, development or hindrance for the country.
  2. How the National Disaster Response Force (NDRF team) is protecting the countrymen in the disaster of floods and rains.
  3. National examinations for students like Joint Entrance Examination (JEE) and National Eligibility cum Entrance Test (NEET) should be postponed.
  4. Is the newspaper in India forgetting its moral elements and is violating the rights of citizens.
  5. How the ongoing lockdown in the Corona era changed the routines of people around the world.
- **Awaaz Dil Ki –** Participants expressed their thoughts by looking at the picture for which they will be given 2 to 3 minutes. This competition was conducted through Google Meet. The 3 best speakers were selected by the committee. (The prize amount for the First prize is Rs.1000, the second prize is Rs. 800 and the third prize is Rs.800).

Report writing competition with the collaboration of Souls For Solace on 27th September 2020

- On the occasion of Gandhi Jayanti, Abhivyakti and Souls for Souls organized a Hindi report writing competition based on the Assam and Orissa flood crisis, with the ultimate aim of making everyone aware of the situations caused by a natural disaster.

Debate Competition on 27th September 2020

On the occasion of Gandhi Jayanti on 2nd October, our committee (Abhivyakti) organized a debate competition on "Agriculture Bill 2020 milestone in the social and economic development of rural farmers" in virtual mode. In which students can participate and showed their talent by expressing their ideas and ideas in the Following subjects.



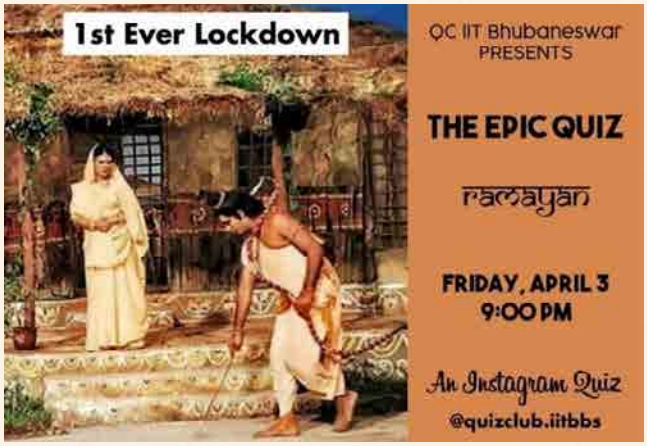
Video Series

- Abhivyakti initiated with Vaktrutva" a series where we posted 5 videos from our Social media handles and tried to introduce everyone to a new form of poem Recitation.
- A new video series “vivechana” started this year on the current general topics worldwide.
- Two videos have already been completed on Myanmar and Suez canal.

QUIZ CLUB REPORT

Events

- Two other Online Quizzes were conducted – "The Epic Quiz – Ramayana" on April 3rd, 2020 and "The IPL Quiz" on April 13th, 2020.
- Quiz Club collaborated with Dare2Compete in organising "Twenty-in Quarantino – The General Quiz" as a part of "Online Quizzing Festival 2020" on April 23rd, 2020 on Dare2Compete. It saw more than 10,000 teams taking part.



- On 2nd May 2020, an online quiz was conducted – "The Joint venture" in collaboration with CETQuizzite, quiz club of CET Bhubaneswar. On 15th May 2020, another online quiz was conducted – "The Medgineering quiz" in collaboration with Triveon, quiz club SCB Medical college.
- For the DO4NATION fundraiser initiative by Wissenaire, Quiz Club conducted 2 online quizzes- "XI- Factor- The cricket quiz" on 13th May 2020 and "Hydroxychloroquizone- The SciTechBiz quiz" on 14th May 2020.

- On Instagram, Quiz Club conducted quizzes such as "The Football Quiz" on 28h May 2020, "World Travel Food Quiz" on 3rd June 2020.
- "Baniya Buddhi- a Business Quiz" was conducted online on 13th June 2020 through Google Forms.
- In August, Quiz Club conducted quizzes related to a variety of topics on Instagram. By this time the Quiz Club page on Instagram had gained over 1000+ followers. The quizzes were attended by 20-30 people during the runtime of the quiz and the questions posted on Instagram stories were viewed by almost 250-300 people within a day of completion of quizzes
- On 27th September, Quiz Club in collaboration with Fourth Wall, the Dramatics society conducted a Bollywood themed Quiz on Instagram. The quiz witnessed good participation (30-40) from the audience which was supported nicely by the good acting performances from The Fourth Wall members.

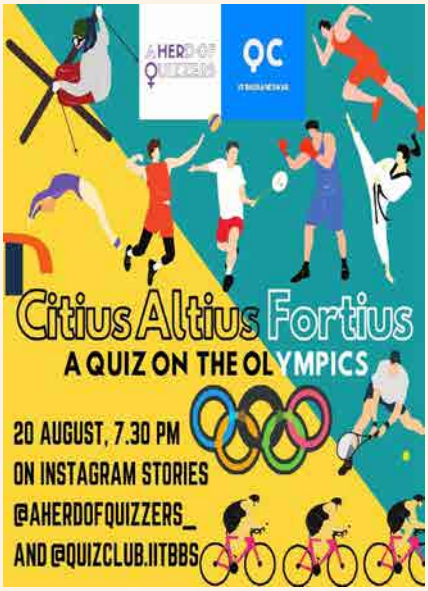
Quizzes organized on the occasion of Gandhi Jayanti

- On 30th September, Quiz Club conducted Prahelika- a General Quiz for kids of Faculty and Staff of IIT Bhubaneswar. Registrations for Prahelika(Juniors Category) – 10 (Participants- 9) Registrations for Pragyaan(Open Category) – 24 (Participants- 16)
- On 1st October, Quiz Club is conducted Pragyaan- a General Quiz open to all the people of IIT Bhubaneswar via GoogleMeet.
- In October, Quiz Club conducted Instagram quizzes such as

- 2nd October- Cartoon Quiz
- 17th October- Eminem Quiz
- 25th October- Business Quiz
- The quizzes were attended by 20-30 people during the runtime of the quiz and the questions posted on Instagram stories were viewed by almost 300-350 people within a day of completion of quizzes.

Quizzes organized on the occasion of Rashtriya Ekta Diwas

- On 30th October, Quiz Club conducted an India Quiz open to all the people of IIT Bhubaneswar via GoogleMeet. The quiz received 13 registrations (9 participants)
- On 1st November- Music Quiz in collaboration with Aaroh, the music society received a good response, about 20 direct participation and later viewed by almost 300 people. Aaroh provided us with the audios and QuizClub made questions on those songs.
- In November, we started a new thing called "Fandom November" with quizzes based on famous TV shows/ films/books which are popular among the audience. By this time the Quiz Club page on Instagram had gained over 1500+ followers.
- 4th November - Harry Potter Quiz (50-60 responses live participation within a minute)
- 8th November - Game Of Thrones Quiz (30-40 responses live participation within a minute)
- 11th November - Lord of the Rings Quiz (10-15 live participation)
- 14th November - Star Wars Quiz (10-15 live participation)
- 18th November - F.R.I.E.N.D.S Quiz (30-40 live participation)
- 21st November - How I met Your mother Quiz (15-20 live participation)
- 24th November - The Office Quiz (15-20 live participation)
- On 29th November-Space Quiz in collaboration with Nakshatra, the Astronomy society was partly conducted on our Instagram page. Participation- 10-15 and indirect 200+
- In December, we started something new called "Followmpics" wherein we post a new question every day based on a year which is the same as the page's followers count
- On 27th December, Quiz Club had organized a Freshers' Quiz exclusively for first year BTech students via GoogleMeet. (70 registrations, 34 people turned up for the quiz)
- On 24th January, IndiaFactsQuiz organized the Game of Facts on Zoom exclusively for the people of IIT Bhubaneswar. 36 people participated.
- On 1st and 2nd January, Quiz Club conducted the inductions for freshers and inducted new members into the club.
- On Instagram, Quiz Club conducted quizzes such as "The Nursery Rhymes Quiz" on 6th January 2021 and "Valentine's Quiz" on 14th February 2021.(25-30 participation)



General Championship 2021

- Question making – 1st March (9 participants)
- General Quiz on MS Teams – 22nd March (21 participants)
- Sports + Entertainment on MS Teams – 27th March (20 participants)
- For the World's biggest Online Quizzing festival Season 6, Quiz Club organized "The Kyun(Q) factor" an online quiz on Dare2Compete.com which got 86 registrations and Quiz Club was 12th on the list of the collaborators on the website.
- As an event of E-Summit 2021, the SciTechBiz Quiz was organized on Remo conferences which received 30 registrations (24 participants).
- Quizzaire was conducted as an event of Wissenaire 2021, 23 participated in the Quiz on Remo conferences platform.
- Paintings Quiz week was held on Instagram in collaboration with Kalakriti, the Fine Arts Society. 7 questions, 7 days of quizzing with around 50 people answering the questions. Paintings were supplied by Kalakriti.
- Quiz Club hosted the CWC 2011 Quiz on Instagram stories (2nd April) which received good participation with almost 40-45 DMs/answers within 24 hrs.

QuizClub Instagram Page

- The page was started in March 2020 and at present, it has almost 2260+ followers. The page has close to 500 posts including. Questions on miscellaneous topics, Facts and information posts and Posters of quizzes

Achievements

- Sarthak Patnaik secured the 1st position in a team event- "The General Quiz" conducted on Discord by Quizzing_Always. (18th June 2020)
- Sarthak Patnaik secured the 3rd position in a team event- "MELAS- The Music. Entertainment, Literature, Arts and Sports quiz" conducted on Discord by Quizzing_Always. (28-29th June 2020)
- Rahul Rajeev secured the 1st position in the Messi Quiz on Instagram organized by Quizzinga, LNMIIT Quiz Club (24th June 2020)
- In the "Game of Facts" organized by India Facts Quiz on 24th January 2021- Amal Mathew James, Vedanta Mohapatra and Pawan Kumar Reddy secured the 2nd, 4th, 5th positions respectively.
- Sarthak Patnaik secured the 5th position in Aurobinda Mishra Memorial Quiz 2021 conducted by Silicon Institute of Technology. (7th February 2021)
- 3 members of Quiz Club Vedanta Mohapatra, Aayush Gahan, Prathamesh Patil cleared the prelims round of the TATA Crucible campus quiz. (15-16 February)

Participation

- 34 students from our institute took part in The Game of Facts organized by India Facts Quiz on 24th January on Zoom and Kahoot.
- 4 members of Quiz Club participated in the SciTech, India, TLQ, MELAS and Lonewolf – 5 quizzes as part of Saarang- socio-cult fest, IIT Madras. (4-7 February)
- 18 members from Quiz Club participated in the prelims of the TATA Crucible Campus Quiz held on 15-16 February. All members of Quiz Club participated in the quizzes held under the Online Quizzing festival Season 6 on Dare2Compete.com
- Quiz Club made its presence felt at other quizzing events too -
- Aurobinda Misra Memorial Quiz (February 7th)
- IITM Shaastra General quiz (Feb 25)
- Phir Bhi Dil Hai Hindustani India Quiz by quizsocdsj (March 5th)
- IIT BHU fest quiz. (March 21th)
- 4 quizzes as part of the Quizzing Society of Dyal Singh College's annual quizzing festival, Coeus '21
- 4 quizzes as part of the Quizzing Society of Dyal Singh College's annual quizzing festival, Coeus '21 (16th April)
- 4 quizzes as a part of Interrobang 2021 by NALSAR University of LAW (24th April)

SOULS FOR SOLACE – SOCIAL WALFARE SOCIETY

Initiatives

Hope Initiative for Unprivileged Kids on 17th August 2020 Onwards

- Hope Initiative in Collaboration with Pranyas Development Foundation and four other colleges. An initiative which aims at education for all where we can adopt a kid by just Donating Rs. 100 per month for one year. Rest will be taken care of by us. Participation- Adoption of 60+ kids all over India.

Cycle Donation Drive for Construction Workers from 18th August 2020 to 23rd August 2020

It was organized to make the best use of the Cycles which mostly we'll not be needed in the future which were particularly of the passed on 4th years. It was organized with the help of some Ph.D. and M.Tech scholars who were on the campus. Total 23 to 27 numbers of the cycle were donated.

Fundraising Tech Fest in association with YIF from 14th September 2020 onwards

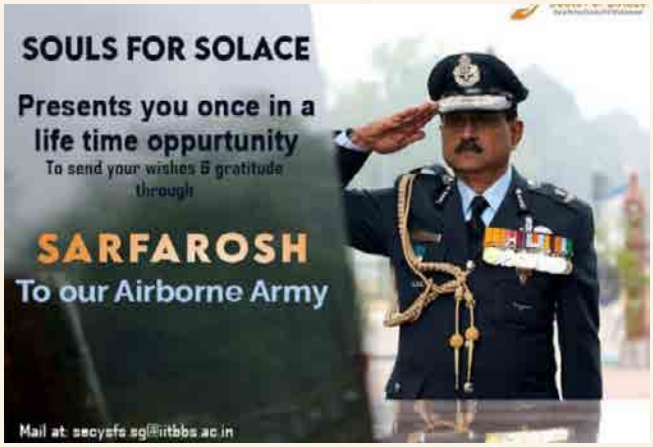
To raise funds for some other big NGOs working in the field of social welfare this Tech Fest was organized. This was done and promoted on a separate Instagram page alongside Youth India Foundation.

Report Writing Competition in Collaboration with Abhivyakti 19th September 2020 to 27th September 2020

To create awareness among our college mates about Assam and Odisha Floods this competition was organized, the best entries were forwarded to Asam Sahitya Sabha and Odisha Sahitya Akademi and were featured on their website.

Sarfarosh for the Indian Air Force from 29th September 2020 to 08th October 2020

To express our gratitude towards INDIAN AIR FORCE, this competition was conducted and the entries were sent to the media mail of IAF as our Thanksgiving. This Idea was adopted from Abhyuday, IIT Bombay.



e-Mela in Collaboration with SOCH foundation On 02nd of October 2020.

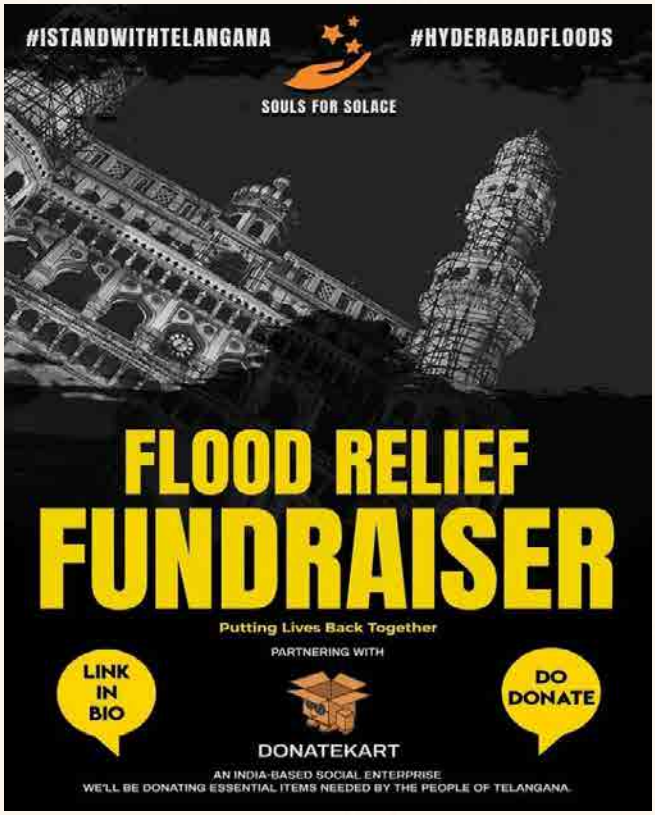
Assisted SOCH Foundation for their Amazon wishes list approach to deliver happiness for the less fortunate in the form of gift items on 2nd October and saw immense participation around the state.

Fundraising MUN in Collaboration with GEI from 15th October 2020 to 18th October 2020

A Model United Nations was organized in Collaboration with Galgotias Educational Institutions to raise funds for the unprivileged kids and was done quite successfully.

Fundraising partnering with DonateKart from 18th October 2020 onwards

To raise funds in the form of necessary Items needed by the Flood Victims in Telangana this Donation Drive was organized in Collaboration with DonateKart.



Promoting NAMI on 04th November 2020

Souls for Solace to tackle the mental health-related issues of the scholars attempted to make everyone aware of the National Alliance on Mental Illness and promoted it on our Social media handles.

Vocal for Local on 11th November 2020

Souls for Solace organized an Innovative Photograph session under which we asked our college colleagues to send us a picture of them shopping for Diwali from our Local shopkeepers and Shops to promote the Vocal for Local initiative by the Government of India.

International Dialogue Program 2020 in Collaboration with Sakonsa Organization from 27th November to18th December 2020

Souls for Solace in Collaboration with Sakonsa Organization conducted an International Dialogue Program 2020 alongside other reputed colleges as well. It was a full 4 week awareness program for Sustainable Development Goals which consisted of Open Dialogue sessions and sharing of Information or Opinions on the respective social media handles of the Participant. We covered different Sustainable Development Goals on the different week through online mode with Open Dialogue sessions and collected tons of Informative content which can be used to fulfill the needs of mankind.

Winter Campaign from 20th December onwards

Souls for Solace in Collaboration with UTSA Foundation Trust organized the yearly Blanket Donation Drive for those living on the Streets of Cuttack and Bhubaneswar to assist them in the shivering months of December and January.

Plantation Drive from 23rd December 2020 to 25th December 2020

Souls for Solace with the ultimate Motto of preventing Tree cutting and adoption of Live Christmas Trees during Christmas organized a Plantation drive for the individuals of our Campus as well as for outside college members.

Competitions during Lockdown

Design Contest from 6th of April, 2020 to 13th of April, 2020

Number of Participations- 05 Entries in Total

Souls for Solace in association with Web and Design society organized a poster making event to make sure that everyone showcases their creativity during the lockdown phase. We invited the scholars to make posters showing their sincere thoughts and concern to express themselves on the Covid-19 pandemic. This competition was held up to one complete week and on 13th April, winners were announced.

Painting Competition from 7th of April, 2020 to 14th of April, 2020

Number of Participations- 15 Entries in Total

Souls for Solace, the social welfare society, along with Kalakriti, the fine arts society of IIT Bhubaneswar organized INKORONA, an online painting competition themed on the pandemic of Corona to bring out the colors, pencils and brushes of everybody at their homes and so that everyone can paint their imagination on the theme 'LET'S FIGHT CORONA'. This was organized for one week as well.

Content writing and Poetry writing competition from 9th of April, 2020 to 16th of April, 2020

Number of Participations -09 Entries in Total

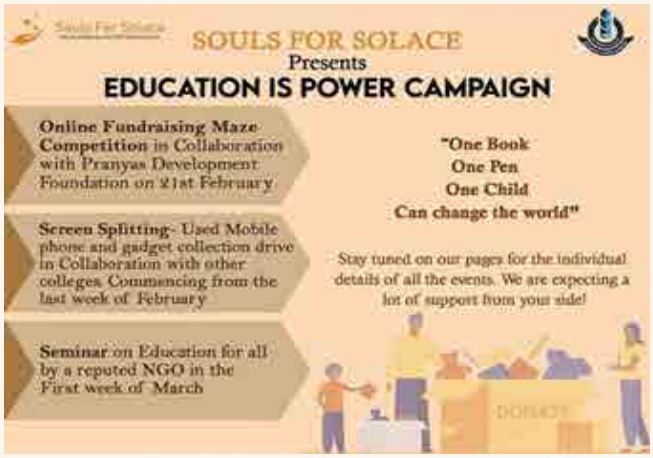
Panacea and Souls for Solace came up with PenDemic, an online event comprising of two competitions, content writing and poetry writing, to get everyone going through the quarantine period and to remind everyone that everything is not lost yet, that hope remains.

Initiatives

- Souls for Solace initiated with Biweekly Handouts and monthly Newsletters to tackle the necessary issues during the Lockdown which ultimately affects Mental Health. Number of Handouts Circulated- 03 Handouts on different objectives biweekly.
- To make everyone aware of the hard work and dedication needed to work in the field of social welfare, we organized interviews with some of the most influential social workers of our country and uploaded them to our pages on special occasions.
- Souls for Solace, to spread some positivity from the start of the year, presented some experiences of our batch mates who went through the tough phase of Corona and recuperated from it. Everyone got to read about the various hurdles they crossed, other occurrences they went through, and how they managed to come out of that and successfully moved on.
- Souls for Solace to engage their followers on various Social Media Platforms introduced an enthralling set of Posts on the number of Organizations and Companies that have always stood up on helping our community through their various schemes and Donations.
- Souls for Solace have been promoting volunteering for various NGOs around our globe for our mates through our weekly set of posts "Real Heroes" where we introduce everyone to one of the most influential Social Activists around alongside the NGOs they are associated with.

Interview with Sanjeevani

On the special occasion of World Cancer Day (04, Feb 2021), Souls for Solace got a golden opportunity to interact with a Non-Profit Organization highly committed to impart an immense change in society through their impeccable efforts. We presented an interactive session featuring Mr. Anil Ahluwalia, Co-founder of Sanjeevani NPO. Sanjeevani- Life Beyond Cancer, is an award-winning registered Public Trust devoted to enriching the lives of cancer patients and raising the bar of cancer care in India.



Education is Power Campaign

Souls for Solace Begin with Education in Power Campaign to promote Education for all under which we planned 03 various fundraising competitions with seminars as well out of which one activity has already been done and Education is Power Campaign is still on the Roll.

Online Maze Competition under Education is Power Campaign in Collaboration with PDF

Pranyas Development Foundation, in Collaboration with Souls for Solace, launched an Online Fundraising maze competition.

It was an Event to raise funds for Smartphones and education for underprivileged Kids. The event carried prizes worth Rs.20,000.

Amazon Wish list Introduction in Collaboration with SOCH

Society for Children And Souls for Solace in Collaboration is introduced an Amazon wish list consisting of the necessary items required by the underprivileged kids of the society that are receiving their share of education through SOCH Residential Educational Bridge Camp.

Number of Participations- 146 individuals

Panel Discussion with Sakonsa

On a quest to find the answer to the prevention of certain mishappenings like freedom of speech. Souls for Solace and SAKONSA invited everyone to attend the panel discussion.

Number of Participations - 12 individuals

Cloth Donation Drive

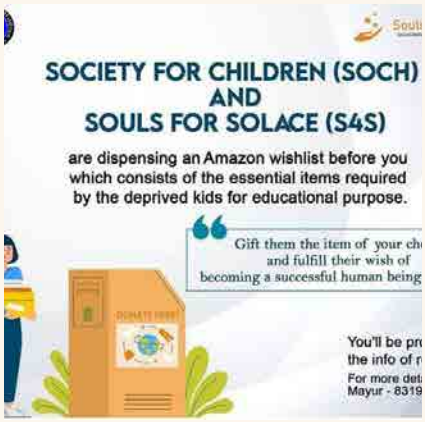
Souls for Solace have initiated their forever successful Cloth Donation Drive in the safest way possible this time as we have only asked the students to drop the clothes they want to donate in the rooms we have told them where everything is getting systematically stabilized by our members.

Final Remarks

Other than the Events, Fundraising ACTIVITIES, Collaborations, Social Media elevations, and Handouts, Souls for Solace has organized some PS Workshops and Video Editing Tutorials for our Society members.

Souls for Solace are volunteering some of the NGOs like Society for Children and Earthlings NGO throughout our Session and will continue doing so.

Souls for Solace planned some more events and Collaborations which we weren't able to conduct and will surely do in the future.



SOCIO-CULTURAL COUNCIL

WEBND - WEB and Design Society

Workshops and Competitions

Full Stack Development with PHP and MySQL from 21st May 2020 – 3rd June 2020

The society had organised a 12 day workshop on its Facebook page by posting Google docs daily prepared by the members of the society. During this workshop, the society has also taken an assessment of the students participating in the workshop through google forms. This workshop has seen a participation of around 40 throughout the 12 days.

Web UI Design workshop on 27th June 2020

The society had organized a workshop on web UI design in collaboration with eeveno. The workshop is organised through a google meet and it has lasted for 2 hours. The speaker of the session is Mr. Karan Kapoor, working as a freelancer with experience of 9 years in this field. In this workshop, basic tools of Figma were discussed which are very much essential for a UI Designer. This workshop has seen a participation of 90.

Intense Prediction League from 19th September to 10th November 2020

The society has developed a platform for organising an online fantasy premier league, organised by Ashvamedha, the sports fest of the institute, during the ipl. The site was developed in javascript and used firebase for the real time database and web hosting.

CreatiWFacts from 27th October 2020 to 26th November 2020

Society has organized an ecvent to provide a basic foundation for design skills. The event is 30 days long and has been carried out using Instagram as a platform where the society has been posting tips on usage of a tool in Adobe Photoshop daily with short video demonstrations covering all the tools of photoshop. The event has witnessed a reach of 250 on Instagram.

Digital Arts Competition 11th November 2020

The society has organised a digital arts competition to showcase the creative skills of the students amidst the pandemic situation on the eve of National Education Day. Several students have actively participated in the competition and put up their design skills related to the theme 'Empowering children through Education'. The event has seen a participation of around 20.

Beginner's workshop for freshers on design from 17th January 2021 to 24th January 2021

The society has organised a design workshop which focussed more on using various tools in Adobe Photoshop and basics of Adobe Illustrator. Over 75 freshers had attended the workshop.

Beginner's workshop for freshers on web development from 31st January 2021 to

14th February 2021

The society has organised a series of workshops starting with a session on intro to git and intro web development on Jan 31 followed by workshops on HTML, CSS and Basic Javascript using slab as a medium. Weekly assessments have been carried out to assess the knowledge gained by freshers. Over 70 freshers had enthusiastically participated and gained knowledge.

Competitions in General Championship

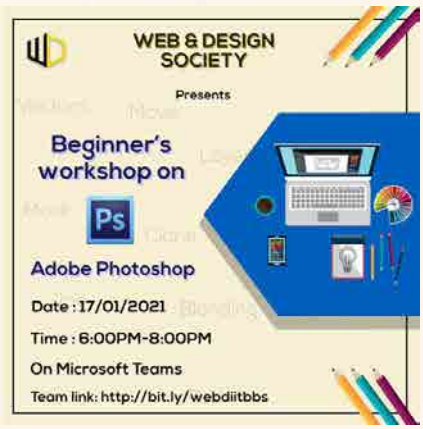
The society has organised 3 competitions as a part of General Championship 2021 of which Design marathon tests the skill in logo rebranding, Graphic design tests the skill in illustrator, webathon tests their skillset in HTML, CSS, and javascript. Over 30 members have participated in the competitions.

Web work

- Developed a new website for the career development cell of the institute to provide a smooth registration process of placements and internships for final and pre final year students online.
- Collaborated with Ashvamedha, the sports fest of IIT Bhubaneswar to organise an IPL prediction league online.
- Developed a new website for the institute's Students' Gymkhana.
- Hosted the resources prepared by the academic council to make it available for all the students.
- An online fitness challenge in collaboration with the sports council of the institute.
- Launched the website for our society on heroku.
- Developed and maintained a website for General Championship 2021.

Design work

- Designed 6 banners for the institute on the occasion of Ekta Diwas and 5 banners for Republic Day.
- Designed a new gymkhana logo for the institute.
- Designed the first edition of the spaghetti alumni newsletter in November.
- Designed logo, brochure, and posters for General Championship 2021
- Have been maintaining the social handles active with posters on occasions like Rakshabandhan, Independence Day, Ganesh Chaturthi, Sports Day, Teacher day, Gandhi Jayanthi, National Education Day, Christmas, Newyear, Sankranti and photoshop tooltips.



NAKSHTRA- ASTRONOMICAL SOCIETY

Workshop and Competitions

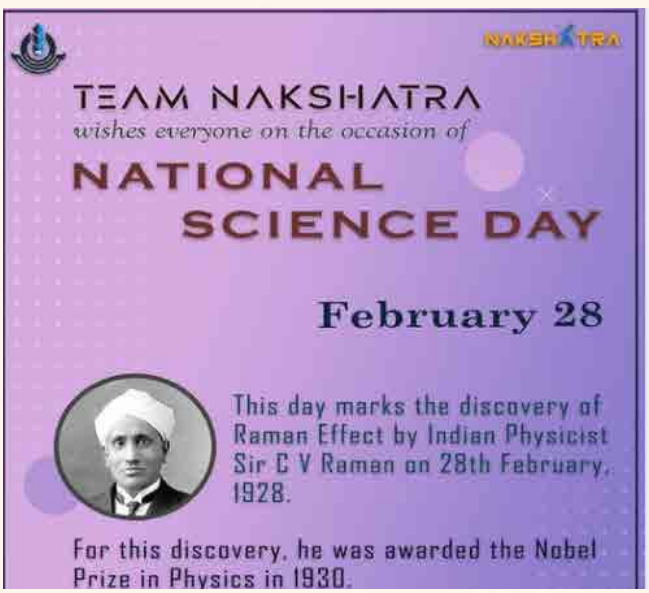
- Many internal Photoshop and Illustrator were organised according to member's requirements for editing purposes.
- Different types of quizzes and crossword puzzle solving competitions were arranged and received a great amount of responses.
- A space quiz was arranged along with a collaboration with the Quiz club.

Newsletter works

- Bi-monthly newsletters were published (5 editions) with a great amount of information and quality.
- New fun columns and Astrogallery (Collaboration with Kalakriti) were added.

Other

- As our max work is better in offline, still for knowledge gathering purposes we arranged short seminars where speakers are from our society itself.



RICS- ROBOTICS & INTELLIGENT SOCIETY CLUB

Workshop

- We conducted a series of workshops on the topic of the Robotics Operating systems. There were 2 sessions in this series. We are planning on conducting more sessions based on the response from the previous sessions. The dates and agenda of each session are as follows:
  - The first session of the workshop was conducted on the eve of National education day (11-11-2020). The first session was to introduce ROS to both second and third-year students and was open to all students. We also explained a detailed procedure on how to install ROS on the laptop. A total of 10-12 students attended this session.
  - The second session was conducted on 21/11/2020 and we explained how to set up ROS and start working on it. We also introduced some useful libraries and how to use them. A total of 12-15 students attended this session.
- ML introductory session: There was a session to introduce the 2nd year students to the concept of machine learning and to give a roadmap of how they can start learning ML from beginners to expert level. We also discussed some applications of ML and how they can find mini-projects to apply their learning. The session was on 12-08-2020 and it was attended by 15 RISC members.
- Arduino Workshop (31st Jan and 7th Feb 2021): A workshop was conducted to introduce the concepts of Arduino programming and working of Arduino board to the 1st year students. The session was attended by more than 100 students.

Projects

- E-yantra: A total of three teams participated in E-yantra-2020 from our society. The projects were related to vargi-bots. The idea behind the bots was to create a bot capable of separating objects based on their category. Concepts such as Robotic Manipulation, Robotic Perception, ROS, IoT, Google App Scripting, Python, and Javascript were used in the projects.
- Individual Projects: Members of our society have been working on individual projects to solve small real world problems. One of them was an automatic hand sanitizer dispenser using an Arduino circuit.

Competitions

Automaton

We conducted an online competition to test the critical thinking skills of students. The competition was to conceptually devise an automation system that solves common household problems. It was held in June but the competition was canceled due to less participation.

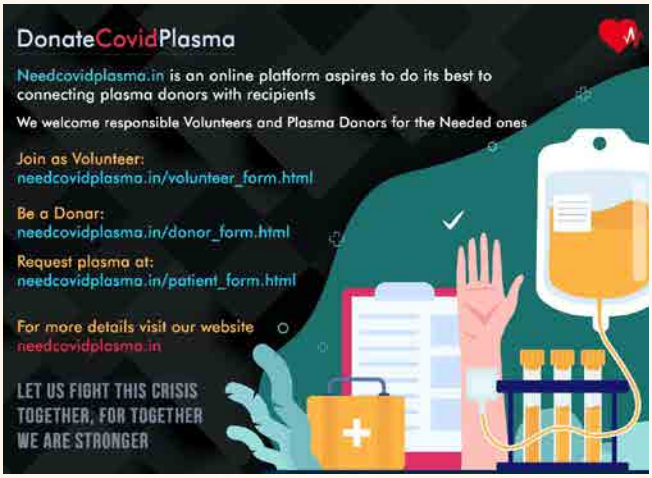
Internal Hackathon

The competition was conducted among the first year students which also formed the basis of their induction in society. A list of components was given to the students, from which they had to create an Arduino based model on tinkerCAD and also create a short video explaining the working of the model. Also providing an idea on how a similar circuit can be applied to solve a real life problem. Points were given based on the novelty of ideas and implementation of the tinkerCAD model.

Yantrix Competitions

The society conducted two competitions in collaboration with Wissenaire the techno-management fest. The competitions were:

- **Arduino Hackathon:** The candidates were provided with a real-life problem. They were required to design and simulate a circuit with Arduino as a part of it in Tinkercad to solve the problem statement and submit it in the least time.
- **RoboCAD:** The participants were provided with a CAD drawing of certain components and their task was to replicate it by making CAD models of the same and submit them in the least time. Points were given on the accuracy of the model and the time taken to complete it.



An initiative of team RICS: Donate Covid Plasma

NUUROMANCERS- PROGRAMMING SOCIETY

Workshops

C++ Workshop series

- A series of workshops aimed at introducing Programming in C++ to people who are new to programming, mostly first-year students.
- Post-workshop support by solving their doubts and sharing resources through Microsoft
- A total of four sessions were conducted between 27-12-2020 to 30-01-2021. All four sessions got the active participation of around 100 students.

Competitive Programming Workshops

A series of workshops were conducted on Competitive Programming. These were aimed at giving an overview of competitive programming. Few frequently encountered topics like Dynamic Programming were taught specifically.

There were two sessions and each saw a participation of around 50 students.

- **OOPS series**

  A series of workshops were conducted on Object Oriented Programming in association with DSC IIT Bhubaneswar. Participants were given assignments as practice.

- **Introduction to Google Cloud and 30 days google cloud program**

  A Bootcamp conducted in association with DSC IIT Bhubaneswar. This series aimed at providing an introduction to cloud computing. Several assignments were given and students who completed the program were provided perks and goodies

- **Explore Machine Learning**

  Workshop conducted in association with the DSC IIT Bhubaneswar. This workshop was meant for those who were willing to learn Machine Learning.

- **App Development program**

  Conducted in Association with DSC IIT Bhubaneswar. In this program students were allowed to choose either beginner's track or advanced track based on their experience in android development. This program contains tracks to learn Android development in Kotlin

Competitions

Neuro Weekend Challenge

A Competitive coding competition was held. Top performers of the contest were given a chance to attend a mock interview with the 4th year society students. This opportunity was given to increase the student's interest in competitive programming.

Blogathon

Technical Writing has become an important skill. A blog writing contest was conducted to let the students explore the world of Technical Writing. Participants were asked to choose a topic among four given topics. All four topics were trending in the field of computer science.

Induction Coding Contest

A competitive programming contest was held to judge the programming knowledge of the first-year students. Based on the results few students were inducted into the society

GC Coding Contest

A Coding Contest was held as a part of the General Championship. The questions ranged from important topics like arrays to complex topics like Graphs.

Achievements

Competitive Programming

- Second year students Arpit Kesharwani and Sarthak Gupta had achieved a 7-star rating in Competitive Coding platform Codechef
- A final year student Hrishabh Yadav has been placed among the top 50 rated Indian Coders on Codeforces
- Google Kickstart is an algorithms and Data structure competition conducted by Google. Arpit Kesharwani, Sarthak Gupta secured international ranks of 84 and 95 respectively among 6000+ participants in round H
- A 4th-year dual degree student Arooshi Verma secured a global rank of 320 in Facebook Hackercup Round 1 among 13,820 participants

Development

- A 4 member team (Navaneeth Bysani, Shrirang, Kartikeya, Sai Krishna) secured 4th position among 100+ teams in HackOwasp, a 36-hour hackathon.
- Atul Goyal, a second year member was placed in the top 20 in Codeinhack, an open source competition held by Hackincode
- Individual or group Projects: Society members have been involved in various individual and group projects. Most of them are being developed in making things better in keeping the Covid-19 crisis in mind.

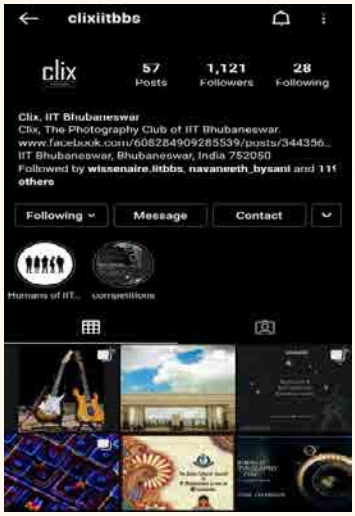
Social Media

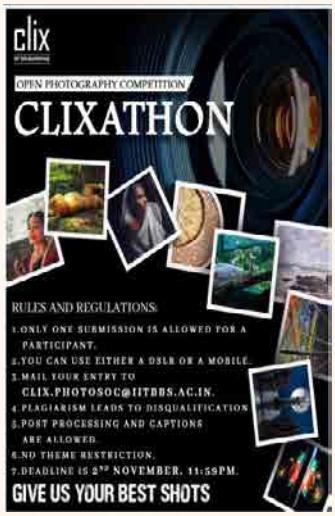
- Updates about various coding events and contests have been informed through our social media pages
- Informative Posts about coding have been posted in our social media pages
- Roadmaps about excelling in various domains of programming like App development, Machine learning, Competitive Programming designed by senior members of the society who are proficient in those fields were also shared.

CLIX- PHOTOGRAPHY SOCIETY

Online Activities

- We conducted an online photography competition "Through the lens" on 5th may in association with wissenaire as a part of Do4nation fundraiser, to help in this pandemic.
- Even though we were hit by the pandemic we didn't stop sharing the knowledge of photography through our regular posts on social media platforms. We shared the experiences of people of IIT BBS through 'HUMANS OF IIT BBS ' on social media handles.
- We have also conducted a photography competition, 'CLIXATHON' to boost the enthusiasm of photographers after the pandemic hit on 26th October 2020.
- We conducted an online photography competition as a part of the cultural General championship in which students from various branches gave their active participation on 23rd March 2021.





Activities Covers

- Humans of IIT Bhubaneswar

Conducting various interviews with people like lectures, alumni, workers and presenting them in front of all through the 'HUMANS OF IIT BBS' posts in association with Panacea. This is an attempt to take a look at the unique perspective of each one at IIT Bhubaneswar, and also promote to share their opinions, thoughts, anecdotes, and experiences with everyone who associated in this.

- ### Society Series

  We have started a society series on Clix social media by posting pictures of the other societies taken by us and promoting them.

  I. On 29th November 2020 with Aaroh society and

  II. On 5th April 2021 - Kalakriti society

We have made a beautiful photo collection of all the campus events since 2014 and shared it to all the students of IIT Bhubaneswar through a Google drive link.

Competition

- We have participated in a theme based online photography competition “AAKRITI” conducted by Mystichues, IIT Indore on 23rd February 2021.
- Participated in a virtual photography competition “AINDRI” conducted by Shutterbugs, IIT Jodhpur on 5th March 2021.
- Participation in open online photography event “LENZ LAW” conducted by BLITHCHRON, IIT Gandhinagar on 12th March 2021.

Achievements

- One of our team members Mr.Nikhil Yerra won 1st prize in Anwesha Fest, Macro Photography competition of IIT Patna.
- Best Photo featured won by Mr. Naresh Chowdary at Fotomela 2020, ISM Dhanbad
- Mr.Sameer Choudhary won 2nd position in the Siniti Photo contest conducted by VNR VJIET.
- Mr. B. Raghunath got 1st position at Clixathon IIT BBS 2020
- Mr. Sathwikbobba won 2nd position in the 'THROUGH THE LENS' photo contest.

SPORTS COUNCIL

IIT Bhubaneswar offers wide scope for the students to excel in the domain of sports and games. The students play a wide variety of sports and games such as Cricket, Football, Badminton, Basketball, Table tennis, Volleyball, Chess, Lawn Tennis, Athletics, and Aquatics, etc. Being a budding Institute, IIT Bhubaneswar has never compromised in providing the facilities required to enhance the students' talent. A well-equipped Gymnasium is present at individual hostels to ensure students' fitness and sound health. Cricket nets, Volleyball, basketball and indoor courts, etc. are provided to the students.

Activities

National Sports Day on 29th Aug 2020

IIT Bhubaneswar celebrated National Sports Day on 29th August 2020, on the birth anniversary of hockey legend Major Dhyan Chand. The following events were conducted:

1. **Online intra college chess tournament:**

   Platform: Lichess

   Format: Blitz

   Time Control: 3 min + 0 sec

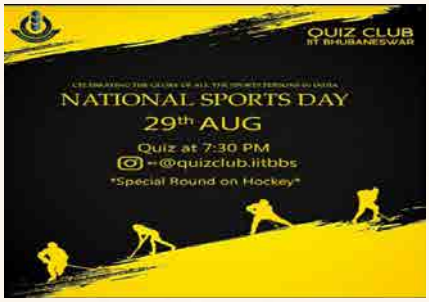
   Participation: 34

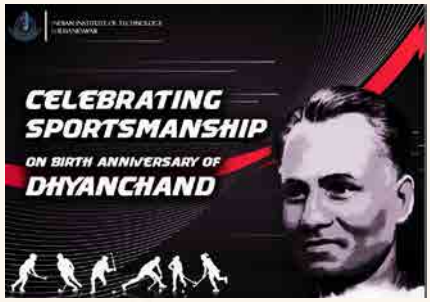
2. **Sports quiz competition:**

   Platform: Quiz club Instagram page

   Live Participation: 40

   Total viewers: 400





Fitness Drive

In the appalling times of the Covid pandemic, when people's mental and physical health had started to deteriorate, the Sports council took it upon themselves to come forth with an extensive plan. This plan consisted of a list of various activities that catered to engage students by taking care of their fitness.

- Warmup and Cool down routine – (on 2nd September 2020)
- Shred Challenge (From 3rd September to 17th September 2020)
- Core Workout challenge by Mr. Biswajit Pegu Continues for 6 weeks (From 28th October to 10th December)

Intense Prediction League from 5th September to 10th November

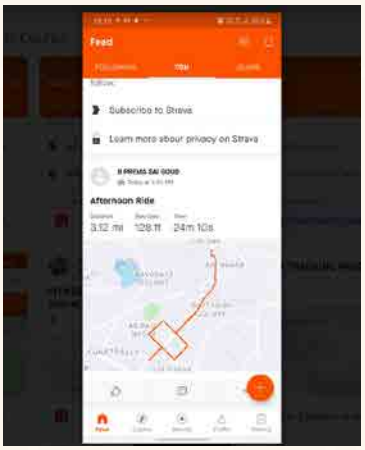
By collaborating with the team Ashvamedha, an online platform has been developed (with the help of Web And Design Society) that allows users to play fantasy cricket during the IPL 2020. A total of 350 members registered for the league, nearly 70 to 110 students participate daily.

Cyclothon on 26th December 2020

On 26th December 2020 as part of the FIT INDIA MOVEMENT, a Cyclothon was conducted successfully with a participation strength of 80 students and staff (Keeping in mind the covid protocols). The total distance was approximately 10 kms.

Fitness Tracking Program from 8th January to 8th March 2021

A fitness tracking website is launched (with the help of web and design society) which can keep a track of the workout routine- cycling, running and skipping. The students should post the distance or count on the website along with proof (usually from fitness apps like strava), score will be given based on the distance and count. Website: http://sports-council-web-app.herokuapp.com/



All IITs Chess Club

In the last few months, there were a series of online chess tournaments organised by IIT Bombay. Students from all the IITs took part and made these events a grand success. As the community grew larger, there was a need for a platform to not only play but discuss and bond over the sport.

IIT Bombay took the initiative to for the 'All IITs Chess Club' on chess.com; a forum for players from all 23 IITs to not only play regular tournaments with their peers every 2 months sponsored by @chesscomindia , but also share ideas, discuss and bond with fellow chess enthusiasts. 701 players participated in the first tournament conducted on 7th February 2021.

Skill training videos in the discord channel started from15th February 2021

Videos are being posted every two weeks on skill training in the respective discord channels. The videos will mainly focus on basic drills and exercises. Some of these drills will be demonstrated by the senior members of the sport with the assistance of their respective coaches

GC Fitness Challenge from 18th February to 31st March 2021

Branch wise competitions on Push ups, Pull-ups, one-arm push-ups, Burpees, Plank hold, Squats are organised on the official sports Facebook page of the institute. The competition was to perform the maximum number of repetitions in one minute.

Tournaments

Freshers 2k20 Chess Tournament on 23rd January 2020

The fresher's chess tournament was organised after the mid-semester examinations of the freshers. The main object of the tournament was to encourage freshers to take part in the gymkhana activities. There was a total of 84 participants from UG as well as PG freshers.

Racket Games Tournament from 1st February to 9th February

The rackets games tournament was successfully conducted from 1st Feb to 9th Feb 2021. Three Events Badminton, Table tennis & Lawn tennis were part of the tournament. The Badminton & table tennis events were conducted in the community Centre, while Lawn Tennis was held in the sports complex. The events were conducted separately for students & staff (Faculty /officer). All the players actively participated and showcased their skills and tried their best with great zeal and enthusiasm to win the game. A total number of 77 participants took part in the tournaments.

Game Name	Nos. of Student	Nos. Staff	Male/Female	Total No of Participant
Badminton (Single)	15	6	Male	21
Badminton (Single)	2	0	Female	2
Badminton (Doubles)	26	8	Male	34
Table Tennis	9	3	Male	12
Table Tennis	0	1	Female	1
Lawn Tennis	7	0	Male	7
			Grand Total	**77**

PG Cricket Tournament from 13th February to 28th February

8 Teams took part in the tournament (7 students and 1 faculty). 12 league matches were played among them, the top 2 teams from each pool advanced to the semi-finals. M-tech team bagged the championship.

Achievements

IIT Bombay online chess competition on 27th September 2020

Platform: Lichess

Format: Chess960 Team Battle

Time Control: 4 min + 0 sec

Teams: A total three numbers of teams, each consisting of multiple institutes, have participated in the tournament. Altogether, 271 individuals have taken part in the competition. The teams that participated are:

1) Team Wesley: IIT Bombay, IIT Kharagpur, IIT Bhubaneswar, IIT Ropar
2) Team Carlsen: IIT Delhi, IIT Madras, IIT Tirupati, IIT Roorkee

3) Team Nepomniachtchi: IIT Kanpur, IIT BHU, IIT Guwahati, BITs United, NITs United

Team Wesley stood 1st by the end of the tournament with Amlan Swain being the best performer from our institute.

GENERAL CHAMPIONSHIP 2021

This year, the General Championship was organised in online mode in three separate individual championships. The teams were ranked based on their performance in all three championships combined and the winner was declared as General Champion. This year, Mechanical **Engineering has been adjudged as the General Champions.**

Categories Championships

1. Sports and Games
2. Social and Cultural and
3. Science and Technology

Teams

- Computer Science and Engineering
- Electronics and Communication Engineering and Metallurgy
- Mechanical Engineering
- Electrical Engineering
- First year M.Tech and M.Sc
- Second year M.Tech and M.Sc and
- Ph.D.

1. Sports and Games General Championship

- ### Fitness Challenge

  In this event, numerous physical fitness exercises like Push-ups, Pull-ups, one-arm push-ups, Burpees, Plank hold, Squats were put in the form of challenges. In all the summons, repetitions were considered for one minute except for Plank under which the longest time was considered.

- ### Chess

  It was a general chess championship under which all the teams were divided into two groups with the teams further getting divided into 04- 04 teams.

  There were in total three rounds and the scoring pattern was the same as the normal chess scoring pattern.

- ### CSGO (Counter Strike: Global Offensive (Steam Version)

  It was a general 05 Player team tournament and the software used was Counter Strike: Global Offensive (Steam Version).

  The initial fixtures were knockouts and the best of 03 was allowed to play the Semis and Finals.

- ### Valorant

  This Event was also a general 05 Player team tournament and the software used was Valorant by riot. (Current Updated Version).

  The first team to win 13 rounds were declared the Winners in general matches and the initial fixtures were Knockouts with a best of 03 advancing into the next round.

2. Socio-cultural General Championship

- ### Hindi Story Writing Competition: Vrittant

  Hindi literary society organized Vrittant, Hindi story writing competition on the gradual fading out of our root culture under the facade of modernity.

  The word limit was 1000 words and we received several participants for the same.

- ### Hindi Poetry Slam: Akshar

  Hindi literary society of IIT Bhubaneswar organised one Poetry Slam individual event as well.

  Participants were asked to send their recorded videos reciting their poems.

- ### Art Competition

  This Year the theme for the General championship's Art competition was "Dream World", and many students from various branches have enthusiastically participated in it. The details of the event were as follows:

  Eligibility: Open for all

  Theme: DREAM WORLD

  Duration: 4 Hrs

  Medium: Any 2D medium was accepted. (No digital art)

- ### Curtains Up: event under Dramatics

  Curtains up was a monologue based dramatics event held under GC 2021. Participants were required to perform any monologue self-written/ copied from any movie/series. The winners were Ojasv, Dhananjay and Mischel in order and points allotted to their particular branches were 300, 200 and 100 respectively. The branches of all participants were rewarded with 30 points.

- ### Online Photography Competition

  As a part of the cultural general championship, Clix has conducted an online photography competition without any theme restriction in which students from various branches gave a healthy competition. We have received nearly 48+ entries including Ph.D., M.Sc, M.Tech, B.Tech and out of them, the top 3 were listed.

- ### English Literary Events

  The Wikipedia Game: Wiki Tracing

  The Wiki Game is a game in which you learn whilst having fun.

  How come? You get two Wikipedia articles. Your goal is simple; Reach from one to another, by clicking the hyperlinks in the article.

  We received a very good amount of participation from our students.

  Devil's advocate: "Accusio Salvare"

  This game invites you to advocate for the devil. You get a criminal's case, who will be your client, and you have to try your best to defend your client before the jury.

- ### Quiz Competition on various themes

  A Question-making event was conducted where participants submitted quizzing questions which were judged based on creativity, authenticity, hints, etc.

  The General Quiz had participants pairing up in teams of two to crack answers to questions spanning various genres ranging from NFTs to Cosmos and many interesting fundas.

  The Sports and Entertainment Quiz was an amalgamation of two genres - sports (badminton, tennis, cricket, etc) and entertainment (literature, movies, music, etc). A perfect treat for sports lovers, cinephiles and bibliophiles.

- ### Music Competitions

  Euphonic Combat

  A Music competition was organized for all the branches of our college under General Championship 2021.

  There were two categories: Vocals & Instrumental.

  Participants: Vocals-18 and Instrumental-4

  Re-cut: Trailer Making Competition

  Re-cut was a trailer making Competition where participants had to make their trailer cut of any movie of their choice but in a different genre.

  Submissions were taken online and we received a good amount of participation.

- ### Dance Event

  It was a general Solo Dance Competition with the time limit being given as 1-2 minutes.

  Under the event, participants have to record their video of themselves performing.

  Only one entry per participant was allowed and we received immense participation from everyone.

3. Science and Technology General Championship

- ### TRADING CONTEST: Virtual trading Competition

  Trakinvest is a virtual equity trading platform where you can invest in stocks at real-time prices but with virtual money in a completely risk-free environment.

- ### Coding Contest

  The event will be 2 to 3 hours long and will have 5-7 coding related questions where the participants need to attempt as many questions as they can in a sortable manner.

  Winners were decided on the maximum number of questions attempted correctly.

- ### WEBATHON

  Develop a multi-page website for your 'organization'. Your organization can be real or fictional working in any field.

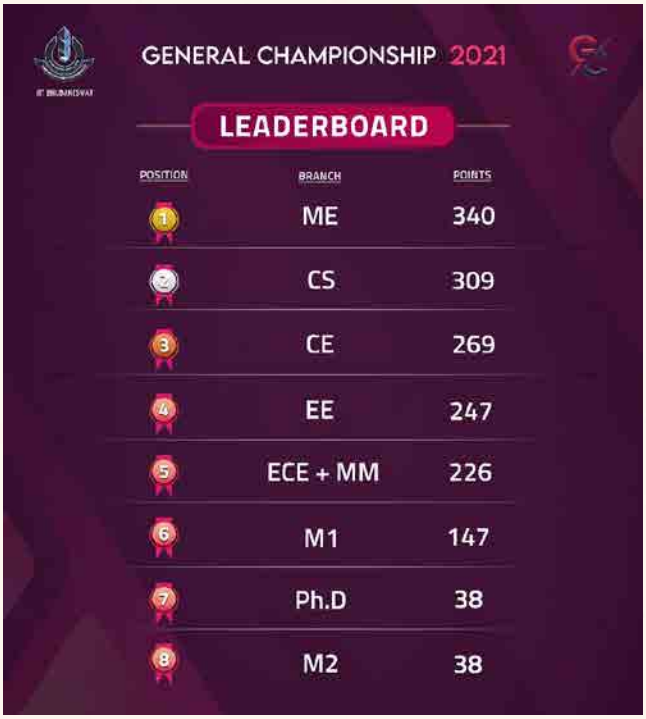
  Design Marathon ('Rebranding')

  Redesign of the logo according to the necessity

Graphic Design

Choose a news agency of your liking. Design (or Redesign if already existing) the UI for their mobile news application by solving any current problems faced by their users and thereby improving the user's reading experience.

Final Result



This year, Mechanical Engineering has been adjudged as the General Champions by scoring 340 points.

FEST

ALMA FIESTA' 21- Annual Socio-Cultural Fest

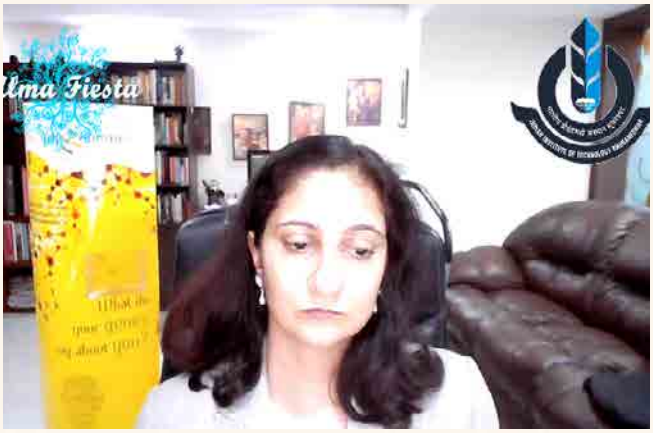
The annual socio-cultural fest of IIT Bhubaneswar, Alma Fiesta hosted its 12th edition with the cultural theme "Bollywood Boulevard: Exhibiting billion sentiments on 24 frames" and social theme, "Sashakt Nari Se Banta Hai Sashakt Samaj". This cultural extravaganza spanned over 4 days starting from 15th till 18th of April, 2021.

During this short amount of time, Alma Fiesta organised a variety of cultural and social events like Parliamentary Debate, Music and Dance competitions, Dramatics' events, Rock-band competition, Face Art competition and many

more, including Technical workshops. While the day saw various competitions and events unfold and mesmerize people, the nights were even brighter.

The first night, Leela, our Inaugural Night, saw the esteemed Smt. Anuradha Acharya, Founder and CEO, Ocimum Bio Solutions and Mapmygenome, bless us with her august presence.

On the second day, we witnessed "Udbhav: The Guest Talk Series" by Lt Cdr Lekshmi Priya, Ms. Nikita Baliarsingh and Dr. Neharika Yadav to name a few. Lamhe, the first star night, was pumped with excitement as the famous Anuv Jain decorated the night with his soothing music. The final night, Headbang, saw an overwhelming excitement and enthusiasm as renowned comedian Anubhav Singh Bassi entertained greatly. As Alma Fiesta 2021 saw a grand success, Team Alma knew that all their hard work had accrued well.



Wissenaire '21 – The Annual Techno-Management Fest

In its 11th iteration, Wissenaire'21 themed "Transhumanism: Enhancing contemporary technology engendering an era of engineered humans", was conducted with grandeur and grace on 1st April 2021.

The following were the highlights:

Preludes

- ### DO4NATION- The Fundraiser

  "Alone we can do so little; together we can do so much!" Wissenaire '21 had conducted a Fundraiser for PM CARES to aid India's fight against COVID19 titled "Do4Nation". The event was a grand success, epitomized by the selfless and enthusiastic contributions from the participants! We have successfully donated INR 15991 to the PM CARES Fund! We would like to extend our sincerest gratitude to all the participants, without whom the event wouldn't have been a success

PM CARES
Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund

PAN : AAETP3993P

Scan QR To Verify Receipt

Receipt No : PMCARES/Web/202005281210082108

Date : 28-05-2020

Dear M/S Wissenaire IIT Bhubaneswar

Thank you very much for contributing to PM CARES Fund.

Prime Minister Shri Narendra Modi expresses his gratitude for the thoughtful and compassionate gesture on your part. The valuable contribution will greatly help India in fighting distress situations like COVID-19.

Under Secretary
PM CARES Fund

Received with thanks from: M/S Wissenaire IIT Bhubaneswar

IIT Bhubaneswar, Odisha, India 752050

The sum of INR 16,001 (INR Sixteen Thousands One Only)

(Contributions to PM CARES Fund have been notified for 100% deduction from Taxable Income under Section 80G of Income Tax Act, 1961)

Prime Minister's Office, New Delhi

- ### DELL ON-LINE – Workshops by Dell

  Wissenaire - IIT Bhubaneswar in association with LabourNet brings to you "Dell On-Line", a CSR (Corporate Social Responsibility) Program supported by Dell, which seeks to educate, train and certify candidates in Machine Learning/Web Development/ Digital Marketing. The duration of the training will be 2-2.5 months, it will be online and will consist of interactive doubt clearing sessions, technical lectures and hands-on activities. The training will be handled by LabourNet Academy. Certificates issued by DELL will be provided to candidates on successful completion of the course.

- ### NCO – National Coding Olympiad Junior

  Coding is the call for the day! In this time, where everything is becoming more and more automated, everyone should be able to code. Acknowledging the fact, coding has been touted to be an irreplaceable part of modern education in the National Educational Policy 2020. Wissenaire '21 is collaborating with

SuperTeacher Edureforms to organize the National Coding Olympiad Junior. Through this olympiad, we aim to encourage creativity and help them develop some cool coding skills.

- **Training Programmes – WINTERN is Coming & Samchaar**

  WINTERN is coming: Wissenaire'21 had conducted a free online internship drive. This internship opportunity was exclusively for Wissenaire'20 participants as a token of gratitude. With the current pandemic situation and changing market dynamics, it is very important to upgrade and polish your skills. This internship drive was a good opportunity to gain a hands-on experience in the career field that you want to pursue. It will also open a window of opportunities for you as it will allow you to increase your network and help you in building your profile.

  Sanchaar: Sanchaar is the out-house Workshop Program organized by Wissenaire in association with some of the prominent names in the tech industry, which provides an extraordinary opportunity to give a boost to students' skills and expertise in their respective fields of interest along with valuable hands-on experience. From the latest cutting edge technology topics such as IoT, Cyber Security, AI and ML, Digital Marketing, etc., Sanchaar brings the tech carnival to the major cities of India.

Wissenaire '21 – From 1st to 4th April 2021

The following were the highlights of the 4 days of the 11th Edition of Wissenaire – The Annual Techno-Management Fest of IIT Bhubaneswar:

Inaugural Evening on 1st April 2021

Wissenaire '21 was taken to new heights with Dr. Vasudev Kalkunte Aatre, Former Head of DRDO and a recipient of Padma Bhushan in the year 2000, delivering the Chief Guest's lecture.

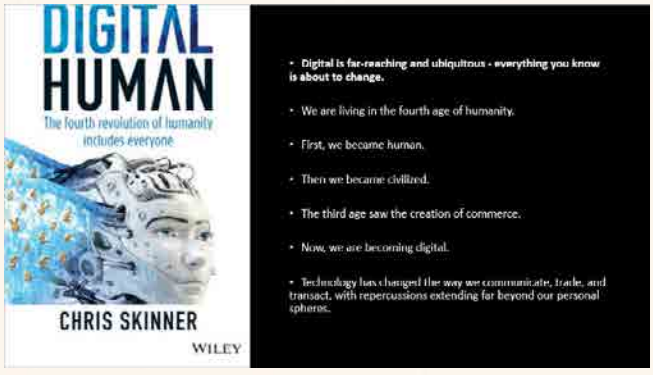
"There are no limits to what you can accomplish when you know who you are and have faith in what you can do". This very fact is symbolised is symbolised by Dr. Vasudev Kalkunte Aatre, and helped for the kick start of Wissenaire'21.

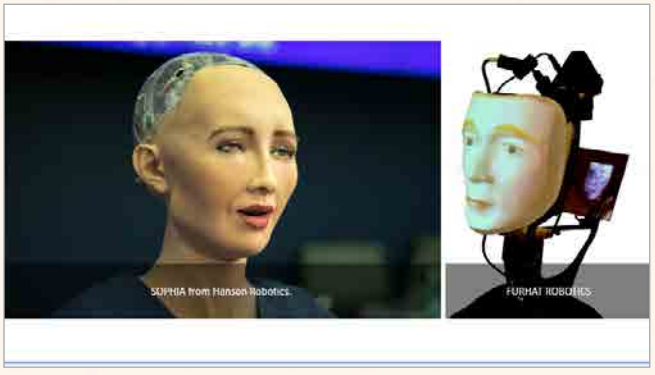
TEKNITE on 2nd & 3rd April 2021

The second night of Wissenaire, christened "TEKNITE" saw a series of Guest Lectures by eminent personalities sharing their industrial expertise with the students.

Mr. Michael Radice, currently leads the technology adoption and development for the ChartaCloud Group a New Hampshire, USA Based Company. He explained to us about the robots and robot behaviour software.

Mr. Avinash K Singh, founder of India Future Society and Longevity Alliance India. He gave us a glance at his research areas which include the intersection of Brain-Computer Interfaces (BCIs), Physical Human-Robot Collaboration (pHRC).





MagnaVista on 4th April 2021

MagnaVista 2021 was graced by Stand-up Comedian Karunesh Talwar.

Exhibits

Wissenaire '21 also proudly hosted exhibits from ISRO. A virtual Space Exhibition and Talk on Indian Space Programme.

Wissenaire has successfully conducted a Virtual space exhibition from Vikram Sarabhai Space Centre. The scientists gave a gist about future space missions of ISRO and explained their purpose. And the speakers namely: Sci. Naresh Bhatt, Sci. Ravi Varma, Sci. Satish Rao gave a talk on future space programs and helped the young aspirants to get motivated.

Events, Competitions and Workshops

- The flagship event of Wissenaire, Yanthrix – The Robotics Competition was conducted in collaboration with RISC – The Robotics Society of IIT Bhubaneswar. It comprised of the following competitions: Arduino Hackathon & Robotics CA.
- A nationwide hackathon - "HACKBUZZ" was conducted in two rounds, which saw students solving real-world problems.
- School Champ, a competition filled with puzzles and riddles exclusively for school children was also conducted during Wissenaire '21. School children were also encouraged to demonstrate their science and technology projects.
- In addition to these, Colloquia (a Paper Presentation Competition on Electrical, Computer Science, Mechanical and Civil Engineering topics), branch specific competitions like Grand Arcanum (Circuit Designing, water-propelled rockets designing and smart city challenge competitions), Matrics (Counter Cypher & Artelligence), On-Net events (Shutter, Sherlock and Sciencetoons), Quizzaire (A SciTechBiz Quiz Competition), Investr (A stock market competition), Executive Suit (A managerial skills competition) and LAN WARS (Gaming Event in COD4: Modern Warfare and CSGO) were successfully conducted, among others.
- Workshops were conducted during Wissenaire '21, imparting knowledge to the ones seeking, on the following topics: AI and ML, Android Development, Cyber Security and Ethical Hacking, Automobile & Electric vehicles, Bridge Design. Top performers were also offered internships.
- Wissenaire also commemorated Science and Technology with updated fun facts, news and buzz of advancements around the globe under "TEKWISSEN" through social media every Friday.

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR

Receipts and Payments Account for the Year Ended 31st March 2021

Sl. No.	RECEIPTS	CURRENT YEAR 2020-21	PREVIOUS YEAR 2019-20	Sl. No.	PAYMENTS	CURRENT YEAR 2020-21	PREVIOUS YEAR 2019-20
I.	**Opening Balance**			I.	**EXPENSES**		
	a) Cash in Hand	-	-		a) Establishment Expenses	35,52,64,376.82	33,64,18,796.00
	b) Bank Balances				b) Academic Expenses	13,40,74,215.55	16,16,44,442.10
	i) In Current accounts				c) Administrative Expenses	4,69,81,766.00	4,43,02,972.55
	ii In deposit accounts				d) Transportation Expenses	62,219.00	1,31,039.00
	iii) In Savings accounts	12,56,09,487.73	17,25,69,182.10		e) Repairs & Maintenance	1,28,165.00	3,11,520.00
					f) Prior Period Expenses	3,58,268.00	36,28,527.15
					g) Finance Cost	1,12,311.68	3,34,200.68
II.	**Grants Received**			II.	**Payment against Earmarked/ Endowment Funds**	37,05,719.00	11,96,039.00
	a) From Govt. of India	87,71,39,119.00	64,46,00,000.00				
	b) From State Government						
	c)From Other Sources (Details)						
	(Grants from Capital and Revenue expenses to be Shown Separately)						
III.	**Academic Receipts**	29,75,79,626.00	26,17,09,907.12	III.	**Payment against Sponsored Projects/ Schemes**	27,73,73,961.39	24,82,92,838.96
IV.	**Receipts against Earmarked/ Endowment Funds :**			IV.	**Payment against Sponsored Fellowships/ Scholarships**		
	a) Earmarked/Endowment Fund						
	c) Own Funds (other Investment)						
V.	**Receipts against Sponsored Projects/ Schemes**	30,60,02,487.33	19,84,11,161.03	V.	**Investments and Deposits made**		
					a) Out of Earmarked/ Endowment funds		-
					b) Out of Own funds (Investments - other)		
VI.	**Receipts against Sponsored Fellowships and Scholarships**			VI.	**Term Deposits with Scheduled Banks**	1,17,18,69,503.12	1,00,40,04,780.00
VII.	**Income/ receipt on Investment**			VII.	**Expenditure on Fixed Assets and Capital Work-in-Progress**		
	a) Earmarked/ Endowment funds	14,36,381.39	1,10,53,399.15		a) Fixed Assets	2,28,245.53	56,54,856.23

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR

Receipts and Payments Account for the Year Ended 31st March 2021

Sl. No.	RECEIPTS	CURRENT YEAR 2020-21	PREVIOUS YEAR 2019-20	Sl. No.	PAYMENTS	CURRENT YEAR 2020-21	PREVIOUS YEAR 2019-20
	b) other Investments				b) Capital Works-in-Progress		
VIII.	**Interest received on**			VIII.	**Other Payments including statutory payments**	49,34,88,227.54	59,23,96,784.32
	a) Bank deposits	1,77,51,699.85	27,65,427.08		Capital fund		
	b) Loans and Advances				HEFA Loan	27,50,00,000.00	
	c) Savings Bank Accounts	12,82,059.54	36,99,944.36				
IX.	**Investments encashed**			IX.	**Refunds of Grants**		
X.	**Term Deposits with Scheduled Banks encashed**	1,15,54,34,061.91	1,05,56,41,865.85	X.	**Deposits and Advances**	7,71,43,197.46	7,29,93,559.20
XI.	Other Income (including Prior Period Income)	27,33,874.90	1,82,93,350.23	XI.	**Other Payments**		
	Hostel Receipt	2,45,14,993.56	21,88,216.13		Hostel	8,81,100.25	19,55,743.00
	Receipt against Hostel Current Assets	2,63,59,581.00	90,74,799.00		Hostel Payment against Fixed Assets	98,370.00	7,30,690.00
	Gymkhana Receipt	9,58,722.38	1,21,78,326.09		Hostel Payment against Current Liabilities	3,78,86,040.00	1,54,45,709.11
	CEP Receipt	55,53,857.96	4,94,38,564.51		CEP Payment	1,31,13,097.44	1,04,57,404.26
	Guest House Receipt	20,24,647.62			Gymkhana payment	10,10,174.00	
	S K Bet Receipt	62,18,362.00			Guest House Payment	20,96,212.59	
					S K Bet Payment	62,26,702.00	
XII.	**Deposits and Advances**	1,49,14,933.00	98,87,106.00	XII.	**Closing Balances**		
					a) Cash in Hand		
XIII.	**Miscellaneous Receipts including Statutory Receipts**	18,54,52,612.38	17,39,98,140.64		b) Bank Balances		
					i) In Current accounts		
XIV	**Any Other Receipts**				ii) In deposit accounts		
					iii) In Savings accounts	15,38,64,635.18	12,56,09,487.73
	TOTAL	**3,05,09,66,507.55**	**2,62,55,09,389.29**		**TOTAL**	**3,05,09,66,507.55**	**2,62,55,09,389.29**

Registrar
IIT Bhubaneswar

Director
IIT Bhubaneswar

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR
RESEARCH & DEVELOPMENT
Receipts and Payments Account for the Year 2020-21

Receipts		AMOUNT (in Rs.)
Opening Balance		64,30,73,739.60
Receipt during the year		
Consultancy Project		3,82,13,390.02
Sponsored Research Project	9,57,57,824.00	
Less : Refunded	29,77,346.36	9,27,80,477.64
Sponsored Fellowship		41,04,199.00
Seed Grant Project		2,75,39,605.00
Institute Overheads		1,80,90,132.00
Tax Deducted at Source (TDS)		66,64,659.00
Goods & Service Tax (GST)		90,00,644.25
GST TDS		4,03,176.00
Professional Tax		4,900.00
Earnest Money Deposit (EMD)		6,95,000.00
Performance Bank Gurantee (PBG)		10,62,183.00
Other Current Liability		3,71,390.00
Sundry Creditors		7,99,37,402.79
Liquidated Damages		73,451.00
Bank Interest		20,58,311.96
Interest on TDR		18,01,597.00
Interest on TDR Accrued		2,29,44,552.67
Stale Cheque		2,54,416.00
Tender fee		3,000.00
TOTAL		**94,90,76,226.93**

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR
RESEARCH & DEVELOPMENT
Receipts and Payments Account for the Year 2020-21

Payments	Amount (in Rs.)
Payments during the year	
Salary to JRF/SRF and project Assistant	3,11,25,269.00
Consumables	78,72,107.80
Contingencies	51,79,768.00
Recurring Expenses	22,15,687.50
Travel Expenses	3,97,082.00
Consultancy Fees & Honorarium	2,17,85,415.26
Meeting & Workshop Expenses	4,43,154.00
Institute Corpus Fund	1,03,00,747.00
Fellowship	26,79,948.00
Overhead refund	18,000.00
Sample Preparation	1,19,469.00
Outsourcing Facility	2,12,506.00
R&D Recurring Expenses	15,45,377.00
Fabrication & Other Cost	64,976.00
Startup & IPR Expenses	1,33,948.00
Duty & Taxes	2,22,46,707.13
Stale Cheque	1,24,151.00
Sundry Creditors	6,81,84,593.66
Other Current Liability	22,500.00
Faculty Development Fund	4,12,329.00
Bank Interest	6,29,111.00
Research Grant	15,86,138.00
Earnest Money Deposit (EMD)	15,09,700.00
Performance Bank Gurantee (PBG)	2,59,565.00
Liquidated Damages	10,055.00
Closing Balance	76,99,97,922.58
Total	**94,90,76,226.93**

Notes

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR

Argul, Khordha, PIN - 752050, Odisha, INDIA

www.iitbbs.ac.in