



Indian Institute of Technology Bhubaneswar



Vision

"We will be a highly respected Institute in the world for our distinctive 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 partnership between the Industry and the Institute.

Core Values

- Respecting students as budding engineers and scientists embarking on a journey towards innovation, invention and nation building.
- Nurturing freedom of thought & expression and encouraging sense of enquiry.
- Empowering each person to realise his/her full potential.
- Respecting and valuing the opinions and rights of others.

IIT Bhubaneswar started functioning from 2008 at the campus of IIT Kharagpur, the mentor institute; and, commenced its operation from the city of Bhubaneswar from 22nd July 2009.



Upcoming Campus

The Foundation Stone of the permanent campus to be constructed on 936 acres of land allotted by Government of Odisha at Arugul, 25 km away from the city of Bhubaneswar was laid on 12th February 2009. On the eve of the 65th Independence Day on 14th August 2011, Shri Naveen Patnaik, Hon'ble Chief Minister, Odisha formally launched the construction of Phase -1 of the permanent campus.

The Master Plan of the Campus has been designed to accommodate 10,000 students, 1000 faculty and 2100 support staff including security personnel and includes a Research Park. The Phase -1 would be limited to 2500 students, 250 faculty members and about 300 employees. The 2,21,000 sq. m. of area of construction (63,000 sq. m. for academic complex and 1,58,000 sq. m. for residential complex) would include Administrative Building, Lecture Hall & Class Room Complexes, Laboratory Complexes, Seven Academic Schools (viz. Basic Sciences, Earth, Ocean & Climate Sciences, Electrical Sciences, Infrastructure, Mechanical Sciences and Minerals, Metallurgical & Materials Engineering) besides Central Workshop, Students Activity Centre, Residential Complex for Atudents, Faculty & Staff, Shopping & Community Centre, Guest House & Service Centre, etc.

Infrastructure

Currently, the Institute has over 30,000 sq.m for academic use and 12,500 sq.m of residential space spread over a number of campuses which includes IIT Kharagpur Extension Centre, Toshali Bhawan in the heart of Bhubaneswar City and Workshop cum Laboratory complex near IIT Kharagpur Extension Centre. The Institute receives additional support from sister institutions like IMMT (a CSIR Institution) and Central Tool Room & Training Centre, Bhubaneswar for additional laboratory and workshop facilities. The Institute has currently housing facilities for 500 students and 40 faculty & staff families. Additional student housing for about 200 students is being sourced.

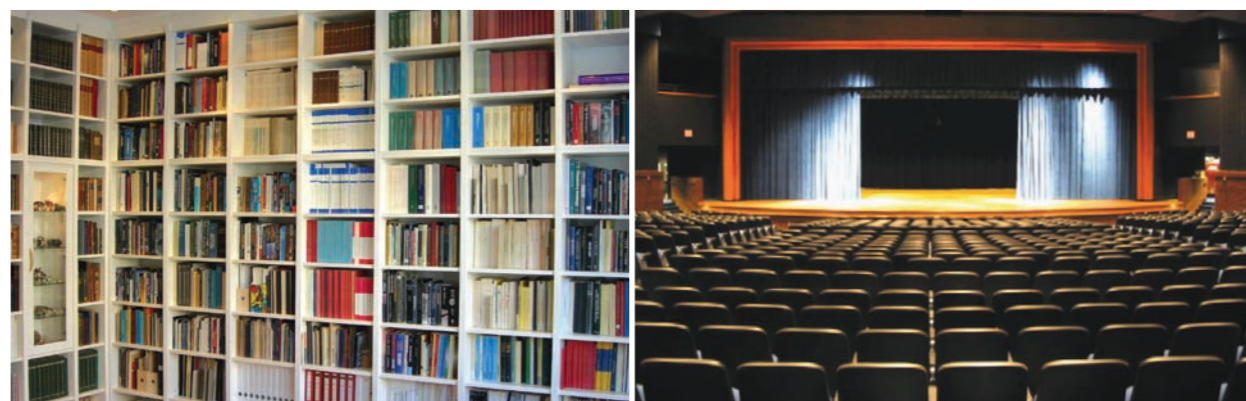
The Institute has about 480 under-graduate students & 180 post-graduate students, 62 full-time faculty members, 7 officers and about 56 support staff at its current operating academic capacity.

Library

The Central Library provides an excellent collection of books, journals and magazines from all disciplines. It is a state of the art, hybrid library whose academic resources include 16 numbers of databases, both CD-ROMs and online such as IEEE Explore, Science Direct, ASCE, ASME, Annual Review, etc.; over 5000 full-text journal & publication titles; and about 600 book & reference titles. Users through the campus-wide broadband network routinely access the online databases and catalogues and check the real-time availability of library materials from their own computer terminals. The Central Library is fully automated and operates on Visionary Technology in Library Solutions (VTLS) software.

Central Auditorium

The Institute has a well-equipped, air-conditioned 300-seat central auditorium that routinely hosts Workshops, Institute Lectures, Conferences and Events.



Computational Facilities

The Institute has a Central Computer Facility with 60 desktops with the latest OS, software and learning tools with high speed broadband internet connectivity. Apart from this centrally shared facility, the various schools have their own robust HPC and Computational Facilities with specialized software and computational tools.

Teaching Facilities & Aids

The Institute is well equipped with modern class rooms for teaching and laboratories for both teaching and research. All the class rooms are equipped with multimedia projectors and wireless internet connectivity. Besides these class rooms, the Institute designed and developed three virtual class rooms (VCR) sponsored by National Knowledge Networks (NKN). These rooms facilitate real time on-campus and off-campus teaching and learning processes. They are connected to the NKN Network by means of dedicated 1Gbps leased lines. A campus-wide optical-fibre ensures internet connectivity in all class rooms, computer labs, central library and faculty rooms.

Academic & Research Activities



Academic Programmes

Indian Institute of Technology Bhubaneswar offers several academic programmes through its seven academic schools. Each school offers both specialized and interdisciplinary courses. The Institute offers under-graduate programmes in all the engineering branches and also post-graduate programmes - Master's, Doctoral and Post-Doctoral programmes in all of its seven schools. The Institute follows a seven point grading system with letter grades and the corresponding grade points per credit.

School of Basic Sciences

The School currently offers Ph.D. programme and proposes to offer integrated M. Sc. - Ph.D. programme in Bio-Sciences, Physics, Chemistry and Mathematics.

The School currently has 20 faculty members whose areas of research include: Organic Solid State & Materials Chemistry, Coordination Chemistry, Organometallic Chemistry, Supra-molecular Chemistry, Molecular Modeling & Molecular Dynamics Simulations, Biophysical Chemistry, Protein Chemistry & Spectroscopy, Artificial Intelligence, Optimization Theory, Functional Analysis, Variational Inequalities, Computational Applied Mathematics, Queuing Theory, Applied Probability Models, Stochastic Modeling & Simulation, Oxide Nanorods, Soft Condensed Matter Physics, Nanostructure Formation, Quantum Interference, Optical & Electronic properties of Metal Clusters, Semiconductor Nanocrystals, Optical Fiber Sensors, Photonics Crystal Fiber Interferometer, Nanowires, Plasmonics, Fiber Sensors, Surface Plasmon, Nano- & Bio-Photonics, Infrared & Terahertz Sensing, Spectroscopy & Imaging, Solar cells, Waveguides & Interferometers, Experimental Condensed Matter Physics, Strongly Correlated Electron Systems, Magnetically Driven Ferroelectrics, Thermoelectric Oxides, High Temperature Superconductors, Low Dimensional & Frustrated Magnetic Systems and Magneto-Caloric-Inter-Metallics.



School of Earth, Ocean & Climate Sciences

The School currently offers Joint M.Tech. - Ph.D. and Ph.D. programmes in Earth Sciences and Climate & Ocean Sciences and proposes to offer integrated M. Sc. - Ph.D. programme.

The School at present has 4 faculty members involved in diverse areas of research such as: Tropical Cyclones, Climate Change Modeling, Air Pollution, Long-Term Ocean Observation, Earth System Modeling, Mineral Exploration, Ground Water Exploration, Water Pollution, Rock-Water Interaction and Geothermics.

The School is in the process of setting up an Innovation Center for Climate Change on 75 acres of land off Bay of Bengal coast. The School is acquiring cutting-edge HPC which will be used for weather prediction, climate modeling and simulations. Other labs that are being developed are: Computing & Simulation Lab, Geological Instrumentation Lab and Geochemistry Lab to name a few.

School of Electrical Sciences

The School offers B. Tech., Joint M. Tech. - Ph.D. and Ph.D. in Electrical, Electronics & Communication Engineering.

The School with its 9 faculty members is involved in areas of research such as: Digital Signal Processing, Soft & Evolutionary Computing, Sensor Networks, Intelligent Instrumentation, Theoretical & Computational Electromagnetics and Wireless Communication Systems.

The School is equipped with teaching & research laboratories such as: Digital Signal Processing & Embedded Systems Lab, VLSI Lab, Power & Energy Systems Lab, Signals & Networks Lab, Wireless Sensor Networks Lab, Radiating Systems Lab, Communications Systems Lab, Measurement & Electronic Instrumentation Lab and Electronics Lab.

School of Humanities, Social Sciences & Management

The School offers Ph.D. programmes in Humanities, Social Sciences and Management with its 6 faculty members involved in areas of research such as: Commonwealth Studies, Postcolonial Literature, Indian Writing in English, Macroeconomics, Psychology of Personality, Cognitive Psychology, Environmental Economics and Natural Resources Management.

School of Infrastructure

The School offers B. Tech., Joint M. Tech. - Ph.D. and Ph. D in Civil Engineering and provides an academic space for interaction between all disciplines of engineering related to infrastructural development: Civil Engineering, Architecture, Urban Design, Town Planning, and Traffic & Transportation Engineering.

The School has 11 faculty members whose areas of research include: Structural Dynamics and Earthquake Engineering, Disaster Mitigation, Nonlinear Structural Dynamics, Greenhouse gases and global warming, Bioremediation of solid wastes, Geotechnical Risk and Reliability, Earthquake Geotechnics, Soil-Structure Interaction, Bacterial Concrete, Geo-environmental Engineering and Self Compacting & High Performance concrete.

The School has a number of teaching & research laboratories dedicated to various aspects of Civil Engineering such as: Environmental Engineering Laboratory, Earthquake Engineering Laboratory, Structural Engineering Laboratory, Hydraulics Lab, Transportation Lab, Survey Lab and CAD Lab.

School of Mechanical Sciences

The School offers B. Tech., Joint M. Tech. - Ph.D. and Ph.D. programmes in Mechanical Engineering.

The focus areas of research are: Numerical Transport Phenomena, Ultra-Fast Radiation Phenomena & Conjugate Heat Transfer, Bio Heat Transfer, Technical Acoustics & Industrial Noise Control, Industrial Engineering & Quality Control, Future Energy Systems, Fuel Cells, Probabilistic Mechanics, Smart Composites & Smart-Structures, Bio-Medical Engineering, High-Speed Flows, Turbulence, Fluid Structure Interaction and Dynamic Design.

The School has a number of teaching & research laboratories such as: Machine & Mechanism Laboratory, Mechanical Engineering Workshop, CAD / CAM / CAE Laboratory, Advanced Product Development Lab, Thermo-Fluids Lab, Fluid Dynamics Lab, AI Machine-Learning & Mechatronics Lab, Instrumentation Lab and Acoustics & Vibrations Lab.

School of Mineral, Metallurgical and Materials Engineering

The School presently offers Joint M.Tech. - Ph.D. and Ph.D. programmes in Minerals, Metallurgical and Materials Engineering.

Its 5 faculty are involved in varied research areas such as: Metal Matrix Composites, Advanced Materials Processing, Structural & Magnetic Frustration of Materials, Modeling & Simulation of Materials, Materials Design, Ceramics, Advanced Joining Processes, Inter-metallics and Metal Diffusion Processes.

The School is in the process of setting-up several teaching & research labs including: High-Temperature Processing Lab, Mechanical Testing Lab, Joining Lab, Amorphous Materials Processing Lab, Mechanical Metallurgy Lab, Powder Processing Lab, Metallographic Sample Preparation Lab, Microscopy Lab, Machine-Shop and Modeling & Simulation Lab.

Research

The Institute provides an ambience that facilitates research and development leading to creation of knowledge through fundamental and applied research, innovations, and entrepreneurship. The Institute facilitates sponsored and collaborative research with reputed industries, R&D laboratories, universities and institutes globally. The Institute strives to enhance its research capacity for sustained growth in research & consultancy and encourages development of technologies for commercialization through science & technology parks. The major themes of research for the Institute are:

- Green & Sustainable Technologies
- Climate Change
- Biological Systems Engineering
- Complex Multi-Scale Multi-Physics Systems
- Future Materials



Publications, Awards & Distinctions

During the last four years of its existence, the Institute's faculty members have already contributed to creating new knowledge by publishing about 220 papers in National and International Journals of repute and published 19 books / chapters of books in humanities, science and technology. Besides, 130 papers have been presented by them in various National and International Conferences. Our doctoral and undergraduate students have also published papers in journals and made presentations in national and international conferences.

Both our faculty and students have been routinely receiving fellowships, awards & distinctions for their research and overall contribution to the scientific community from national and international bodies.

International Collaboration

Memorandum of Understanding for faculty and student exchange programmes, and research collaborations have been signed with University of Massachusetts, Dartmouth USA; University of North Texas, Denton, USA; University of Western Ontario, Canada; and Warwick Manufacturing Group, University of Warwick, UK.

Sponsored Research and Consultancy

The Institute has received a number of sponsored and consultancy projects from various national and international funding agencies viz. UKEIRI, DST, CSIR, DRDO and industries to the tune of 50 million rupees. In addition, the faculty of the Institute has applied for projects worth more than 70 million rupees. IIT Bhubaneswar is collaborating with many universities and institutes abroad.

Continuing & Professional Education

The Institute is active in its continuing and professional education theme through a numerous workshops, conferences and short-term courses that it conducts regularly. Some of the recent events include: 35th National Systems Conference and Workshops on varied themes such as “Access for all”, “Robotics”, “Swarm Intelligence”, “CFD and Heat Transfer”, “Cloud Computing”, etc independently as well as in collaboration with organizations like IBM, IEEE, WMG, ANSYS and SAE.

Endowment

The Institute has received 30 million rupees towards endowment for Chair Professor and other academic and research activities in the School of Minerals, Metallurgical and Materials Engineering.

Internships

The Institute's students are regularly recognized for their contribution in internships in both educational institutions as well as the industry. The students have interned at various well recognized Universities, Institutes and R&D organizations viz. Ohio State University, Oklahoma State University, University of Massachusetts at Dartmouth, University of North Texas, Northern Arizona University in USA; McGill University in Canada; University of Cologne in Germany, University of Warwick, Imperial College in UK; University of Padua, Italy; Flanders Mechatronics Centre in Belgium; Tianjan University, Tsuighua University in China; Ming Chi University in Taiwan; University of Technology in Malaysia; University of Zacatecas in Mexico; Amazon Inc; Britannia; ISRO; HAL; Toyota Motors; TCS R&D; Tata Motors; National Instruments; Texas Instruments to name a few.

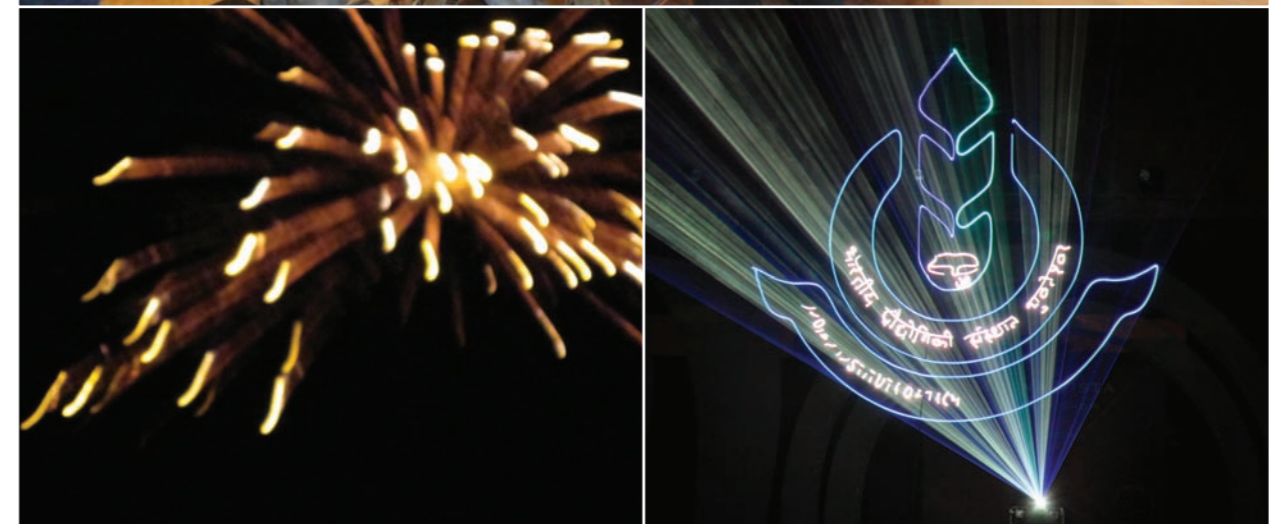
The Institute is looking forward to hosting international under-graduate and graduate students from across the world.

Placements

The recently graduated first batch of under-graduates from the Engineering disciplines have been placed in some of the leading national and international companies & institutions including: Caterpillar India, TCS (R&D), Infosys (R&D), Deloitte (USA), Flipkart, Tata Motors, Tata Consulting Engineers, Altair Engineering, 3DPLM, Samsung R&D, Headstrong Services, United Health Group, Cognizant, Larson & Tubro, Bank of India, HCL, AFFINE Analytics, DRDO and Persistent. A number of our students have been accepted into leading international institutions such as Stanford University, Cornell University, Penn State, Ohio State University, TU Delft, Imperial College, are among others for pursuing post-graduate studies.

Student Activities

The Institute has a vibrant student life that encompasses co-curricular and extra-curricular activities. Apart from an active sports programme that includes multiple-gyms & sports facilities, the students are also active in many cultural and social avenues. Students organize themselves and initiate societies & groups to enhance their learning & personality development. The annual socio-cultural and technical festivals are some of the largest ones in this part of the nation.





Gymkhana - The Student Body

The Institute ascribes great importance to student's opinion and it is the Gymkhana - the collective student body which voices them at the Institute level. The Gymkhana is structured with the Vice President as the highest student representative, followed by three General Secretaries for Socio-Cultural, Science & Technology and Sports. The General Secretaries are assisted by a host of Secretaries in different fields. The attempt of students to collectively expressing themselves and working as a team has been the “mantra” of success in the many events that the Gymkhana has been organizing.

The students are active in extra-curricular and co-curricular activities through various societies and groups such as:

Entrepreneurship Cell promotes entrepreneurial spirit in the students. It conducts sessions involving quizzes and success stories of various entrepreneurs & business persons; workshops; and organizes guest lectures by successful entrepreneurs from time to time.

SAE Collegiate Club with over 105 student members that are gearing up to participate in SAE events such as Formula SAE, Baja SAE, etc.

IEEE Student Chapter with over sixty active members conducts workshops, events and trainings.

The Robotics Society conducts workshops and competitions in different areas of robotics.

The Fine Arts Society promotes creative & fine arts amongst the student community. The society conducts workshops of arts which include movie making, photo editing and a greater participation in popular fests inside the institute as well as the city of Bhubaneswar.

The Dramatics Society promotes theatre arts & dramatics in the student community. It conducts introductory and in-depth training workshops and regularly produces several classic as well as avant-garde productions.

The Music & Dance Society promotes both classical as well as modern genres of music & dance and actively conducts trainings, workshops and several times a year produces musical events and shows.

The Literary Society also known as Panacea, is a platform focusing on four aspects-reading, writing, speaking and analysis. It is actively involved in organizing debates, publishing and other interactive events to promote literary art in the student body.

Alma Fiesta the annual socio-cultural festival of the Institute is one of the largest student event of the state. It creates a space for social awareness, promotion of culture & tradition and channelizes the youth energy and enthusiasm in a positive and constructive direction. Alma Fiesta plays host to an array of events, competitions, performances and workshops and is widely attended by students from across the nation.

Wissenaire the annual tech fest of the Institute is one of the finest techno-management festivals of this part of the country instilling the students with a spirit of innovation, entrepreneurship and a thirst for discovery. With attendance from all over the nation its workshops, events, competitions and performances are a big success year on year.