INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR
Samantapuri, Bhubaneswar - 751013, Odisha
www.iitbbs.ac.in

cygnusadvertising.in | 9830161350

RESEARCH & DEVELOPMENT PROFILE

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR

MESSAGE FROM THE DIRECTOR

I am delighted to see the preparations for publication of the R&D Profile of the Institute, highlighting the research strength and contributions made including a brief on sponsored projects being run. It is an important document for not only the Institute but also for the industry and research laboratories to learn about the research capabilities of the Institute so that they can avail the research services of the Institute, effectively. It would also serve the prospective employers to know about the training our students have undergone. Furthermore, it would help disseminating the R&D related achievements of the Institute among the academia of the country and abroad for appraisal and it may lead to possible collaborative research. I am sure, it would give the potential future faculty to understand about the R&D stature of the Institute on its journey to make a mark in the global map as a unique Institution of academic excellence. This would also serve to highlight the achievements of the contributing faculty members and may also provide encouragement to promote cutting edge, innovative and socially relevant research.

I congratulate the Dean (R&D) and his team for bringing out this document and look forward to have its updated versions in future.

Prof. R. V. Raja Kumar
Director

MESSAGE FROM THE DEAN (R&D)

It gives me immense pleasure that the R&D Profile of the Institute is finally published as a consequence of the concerted effort of the team in presenting the significant R&D related activities, achievements, facilities of different Schools of the Institute. It is a useful and handy document for the faculty and students of the Institute. It showcases the research strength and outcome of the Institute for not only the academic community of the country but for the outside world as well. The brochure will also attract potential research funding organizations as well as employers for our students. A lot has been achieved and I am sure this is just the beginning as we strive for excellence.

I wish to express my deep sense of gratitude to the faculty members and Heads of the Schools for their co-operation and my sincere thanks to Dr. S. N. Panigrahi, School of Mechanical Sciences, for making it happen.

Prof. R. K. Panda
Dean (R&D)

ABOUT THE SCHOOL

The School of Basic Sciences is a cluster of disciplines like Bioscience, Chemistry, Mathematics and Physics with faculty strength of 28, having expertise in contemporary fields of research. The School envisages to become a state-of-the-art department with high quality education and cutting edge interdisciplinary research in science. The School started its Ph.D. program in the year 2010; presently about 60 research students have enrolled. Further, the School has also initiated post-doctoral program to motivate researchers and scientists to build their career in academics and industries. The School leads two center of excellences (CoE) - one center focuses on novel materials for energy and the other focuses on bioscience and engineering research.

STATE OF THE ART FACILITIES

The School has procured state-of-art equipment to pursue advanced research. In addition, advanced instrumentation facilities like X-ray diffractometers (XRDs), Scanning Electron Microscope (SEM), Raman Spectrophotometer, Rheometer, Nuclear Magnetic Resonance (NMR), Physical Properties Measurement System (PPMS), sources and Detectors etc. are being created through central instrumentation facility. IIT Bhubaneswar is a member of both Belle and Belle II collaborations at KEK, Japan and is also 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 fully integrated and functional for all sorts of high computing research and analysis.

UNIQUE RESEARCH CONTRIBUTIONS

Our School works on interdisciplinary research cutting across science and engineering disciplines. Topics of research include catalysis, enzyme activity, bio-nano interfaces, studies on G-protein coupled receptor, chemistry of materials, supramolecular chemistry, theoretical and computational molecular spectroscopy, Condensed matter physics, physics of matters, high energy physics, advanced electronics and photonics materials, energy materials, fluid dynamics, graph theory to stochastic modeling.

SCHOOL OF BASIC SCIENCES



LABORATORIES

There are different laboratories in the school. These are equipped with systems for development of organometaliics and catalysis, metal complexes, magnetic materials, magnetostructural correlation and bio-inspired coordination chemistry, green chemistry, synthesis of exotic organic and organic-inorganic hybrid materials, G-protein coupled receptor biology, peptide / protein design and engineering, molecular modeling, computational biology, structure-function studies of various proteins of eye lenses, leprosy, tuberculosis and mechanism and regulation of a class of enzyme, design and development of optical devices mostly sensors. Further, labs are equipped to study the interactions of charged particles with different system along with nanostructure formation by ions bombardment. The condensed matter theory group studies the phase coherent transport in mesoscopic electronic systems. In the magnetic materials laboratory, we work with the materials with unconventional magnetic and electronic properties. We are also involved in the study of nano-structure materials and energy storage devices, molecular dynamics simulations, quantum transport and quantum biology. Further, labs are actively engaged in computational areas of research such as computational fluid dynamics, stochastic modeling and simulation, computational applied probability models, numerical methods, soft computing and artificial neural networks.

177+
Journals &
28 Conference Proceedings

01
Number of Patents (filed)

03
Number of Ph.D. Students Graduated

60
Number of Ph.D. Students
Enrolled at Present

39
Number of
Masters Students Graduated

RESEARCH PROJECTS

The research projects going in the schools are related to complex dynamics, multi-objective decision, and stochastic models. There are high value project to address next generation energy problems using different 2-D materials along with Nanostructure Genomics and bioscience engineering. Further, the projects deals with indigenous sensor and accelerometer developments for different applications by riding on the advantages of guided wave optics and next generation advance materials such as graphene and hybrid materials for biosensing applications. Also, thermoelectric properties of Half-Heusler Alloys with non-trivial topological order and disorder on magneto-dielectric properties are being studied. On other hand osmolytes on the structure, dynamics and hydrogen bond properties of water in aqueous solution is in progress, along with synthesis and biological evaluation of novel FtsZ inhibitors as potential anti tubercular agents, studies on the synthesis of isotwistane framework of pupukeananes. Also work is on in transition metal functionalized gold nanoparticles and high-dimensional [n x n] magnetic grids by Polytopic Ligand. Furtrher, synthesis of bioactive iridoid class of terpenoids and Clock ATPase KaiC in the temporal control of DNA replication in on way along with role of C-terminal region of Mycobacterium Tuberculosis Hsp16.3 is under progress.

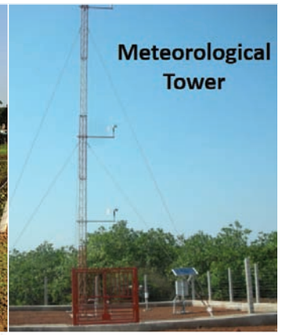
UNIQUE RESEARCH CONTRIBUTION FROM PHYSICS

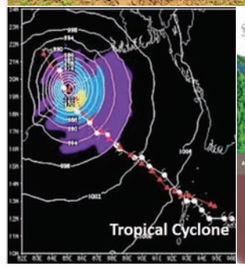
- 2-D materials for energy efficient devices
- Nano-displacement Optical fiber sensor for position monitoring and precision alignment
- Single Layer Semiconductor and atomic cluster
- Superconductivity in Topological Insulator
- Precision measurement of CP asymmetry in a charmed meson decay
- Quantum dissipation and decoherence

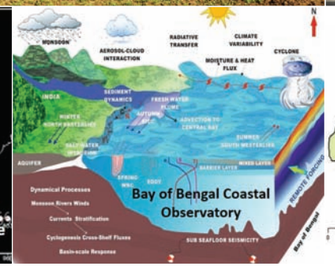
UNIQUE RESEARCH CONTRIBUTION FROM MATHEMATICS

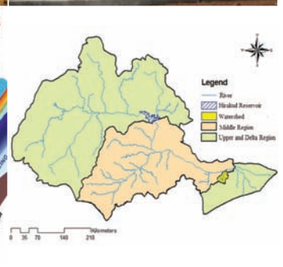
- Higher order accurate solution for Navier-Stokes equations and their applications
- Radial basis function (meshless) methods for unbounded fluid flows
- Baker omitted value in complex dynamics
- Index-range monotonicity and index-proper splitting of matrices
- Algorithm and convergence study of mixed variational-like inequality in Banach spaces

SCHOOL OF EARTH, OCEAN AND CLIMATE SCIENCES









32
Number of Publications

16
Number of Ph.D. Students
Enrolled at Present

23
Number of
Masters Students Graduated

STATE OF THE ART FACILITIES

Laboratories are equipped with state-of-the-art computational and scientific instruments viz. Broadband Seismometers, Engineering Seismograph, Digital Gravimeter, Resistivity meter, Continuously Operating GPS Reference Stations, High precision Multi-parameter ocean profiler, Binocular and Trinocular polarizing microscopes, High resolution stereo zoom microscope, range of hydrological and hydro-meteorological instruments, High Performance Liquid Chromatography, Total Organic Carbon Analyzer, Deionized Water Purification System, Micro-balances. In addition, a number of high-end workstations are available for simulation, modelling and visualization purposes.

RESEARCH PROJECTS

The thrust areas of research include Seismic and Tsunami Hazard evaluation, Ground water management, Paleoceanography and Paleoclimatology studies of Indian monsoon, Climate change and Urbanization, Bay of Bengal Circulation and Eddies, Regional modelling, Tropical cyclones, High impact weather systems, Extreme events, Monsoon dynamics, Air-sea-land interaction processes. Collaborations have been established with various national and international institutes UMASS Dartmouth, Univ. of Southampton, WHOI, MIT, USA etc. and projects by MoES, ISRO, DST, INCOIS, NCAOR, IUSSTF within India and by NERC and UKIERI internationally are being carried out.

UNIQUE RESEARCH CONTRIBUTIONS

An integrated multi-disciplinary approach in understanding the complex interactions among Earth-Ocean-Atmosphere has led to the establishment of MoES-IIT Bhubaneswar Joint Centre " Innovation Centre for Climate Change (IC3)-Bay of Bengal Coastal Observatory to predict extreme events, Regional climate variability, variability in Indian Monsoon, Impact of aerosol on Monsoon, marine seismology, ocean acidification to name a few.

ABOUT THE SCHOOL

Established in 2012 with a vision of generating highly skilled manpower in different specialized areas of Earth System Sciences. Experienced and motivated faculty members with varied specializations has been one of the strengths of the School. Currently, the specializations of these faculty members include geochemistry, hydrogeology and watershed management, active and passive source seismology and geophysics, paleoceanography & paleoclimatology, remote sensing & GIS applications, atmospheric aerosols & climate, data assimilation & analysis, ocean circulations & modeling, mesoscale modeling and prediction of extreme weather events, tropical cyclones, storm surges &air-sea interactions, tropical waves, modelling inter-tropical convergence zone, intra-seasonal variability, monsoon dynamics and climate change etc.

LABORATORIES

Within the last three years, the following laboratories have been established with state-of-the-art facilities for Geophysical and Geochemical analyses, Petrological and Paleontological studies, Remote Sensing & GIS, Modeling and Visualization, Weather Analysis and Forecasting and Simulation of Atmospheric and Oceanic processes. In addition, Bay of Bengal Coastal Observatory is being established on the coast line near Puri.

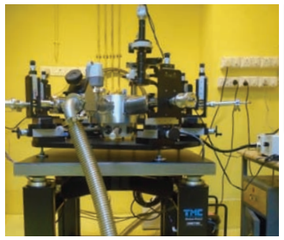
ABOUT THE SCHOOL

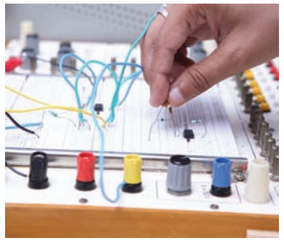
The School of Electrical Sciences was established in the year 2008.The School offers 4 year Bachelor of Technology in Electrical and Electronics Engineering and Computer Science Engineering, and 2 year Master of Technology in Electronics and Communication Engineering and Power Systems Engineering specializations. School has a distinguished record in both teaching and research. Faculty members are active in research activities and 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 number of consultancy and in project activities sponsored by government and leading industries.

LABORATORIES

The School has full-fledged laboratories to train the undergraduate and research students 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 equipment to carry out design and testing of various projects. At present there are 19 laboratories for UG and PG courses that include basic electronic, communication, measurement and instrument, digital signal processing, wireless sensor networks, optical fiber communication, VLSI simulation, electrical technology, control and robotics, electrical machines and power systems, RTDS, radiating system, power electronics and drives and renewable energy system.

SCHOOL OF ELECTRICAL SCIENCES





STATE OF THE ART FACILITIES

The School provides 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 tool and MATLAB provides a smooth platform for ambitious developers.

RESEARCH PROJECTS

The faculty members are currently carrying out many research projects funded by government and non-government R&D organizations from India and abroad. The ongoing and completed projects are in the research areas of Grid Connected Photovoltaic (PV) System, ICT for Smart-Grid Networks, Planar Antennas, SiC X-Ray Detectors in High Energy Neutron and Gamma, Speech-based Access of Agricultural Commodity Prices and Weather Information, Automated Security Verification and Diagnosis of Smart Grid, Anti-islanding Protection Relay for Distributed Generations and Adaptive Distance Relay.

CONSULTANCY PROJECTS

- Technical and Functional test of the customized GAGAN enabled GPS PDAs – Proposal submitted to Orissa Forest Department.
- Vetting of Electrical Part of Project – MECON India- Submitted.

UNIQUE RESEARCH CONTRIBUTIONS

- Performance Studies of Silicon Carbide X-Ray Detectors in High-energy Neutron & Gamma Radiation (ITER-like) Environment – Dr. V L N Murty.
- Development and Testing of Control Strategies for Standalone Wind Energy Conversion Systems – Dr. N. C. Sahoo.
- Design and development of an anti-islanding protection relay for Distributed Generations – Dr. S. R. Samantaray.

Number of Publications

151

Journals

200

Conference Proceedings

02

Number of Patents

07

Number of
Ph.D. Students Graduated

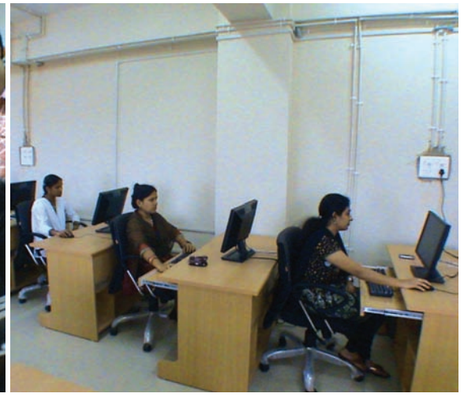
28

Number of
Ph.D. Students Enrolled at Present

29

Number of
Masters Students Graduated

SCHOOL OF HUMANITIES, SOCIAL SCIENCES AND MANAGEMENT



120

Number of Publications
(Journal & Conference Proceeding)

04

Number of
Ph.D. Students Graduated

05

Number of Ph.D. Students
Enrolled at Present

LABORATORIES

The School is equipped with two laboratories. The details are given below:

Language Lab

Language laboratory with its Integrated learning System (ISIL version 3.0 wireless), and user consoles for 1:1 teacher student interaction offers a variety of functions such as Recording Students' presentation, Teacher/Student Call, Group Conferencing, Role Play, GD, Mock Interview etc. Students are given a brief introduction to Linguistics and Phonetics to develop their communication skills in English using the facilities provided here.

Integrated 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 PROJECTS

Currently, two externally funded Research Projects are ongoing in the School as indicated below.

- A research project on "Impact of Joint Forest Management (JFM) on livelihood and Stress Migration in Odisha": A Case Study, funded by Indian Council of Social Science Research (ICSSR), New Delhi, From May, 2012 to May 2015. Project Director: Naresh Chandra Sahu.
- Two Years Research Project on "Solid waste Management in Indian Cities: A Case of Bhubaneswar City", funded by Indian Council of Social Science Research (ICSSR) , New Delhi ,From May, 2012 to May 2014. Project Director: Dukhabandu Sahoo

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 perfect amalgamation of technical knowledge, creativity, empathy and social responsibility.

ABOUT THE SCHOOL

In the arena of worldwide infrastructural escalation, School of Infrastructure at IIT Bhubaneswar has come up to dedicate excellence in engineering education, creation of knowledge, innovation in research and leadership in professional services. The mission of the School is to offer unbounded academic environment in undergraduate and postgraduate teaching, doctoral program, research, and public service. Presently the School offers programs as follows:

- B.Tech. Program in Civil Engineering
- M.Tech. Program in Structural Engineering
- Transportation Engineering
- Ph.D. Programs in Civil Engineering

The academic activities of the School emphasizes deep understanding of fundamental principles, development of creative ability to handle the challenges of Civil Engineering, and the analytical ability to solve problems which are interdisciplinary in nature. The School also encourages its students to engage in extra-curricular activities, essential for development, promotion of team spirit, and refining their budding managerial skills.

LABORATORIES

Department of Civil Engineering, School of Infrastructure presently runs with eight well-equipped under graduate and postgraduate laboratories as follows:

- Advanced Computational Engineering
- Concrete Technology
- Environmental Engineering
- Geotechnical Engineering
- Structural Engineering
- Surveying
- Transportation Engineering
- Water Resources Engineering

All the laboratories are equipped with modern facilities to carry out state of the art research works in any micro specialization of Civil Engineering.

SCHOOL OF INFRASTRUCTURE

STATE OF THE ART FACILITIES

The Environmental Engineering Laboratory of the School are equipped with state of the art equipment like AAS, GC, Freeze Dryer, Radiometer, UV-Vis. Spectrophotometer, Zeta potential cum particle size analyzer, etc. for various sophisticated analysis of water and wastewater.

Water Resources Engineering Laboratory is capable of various experiments and simulations related to fluvial hydraulics, flow through submerged and emergent vegetation. The lab is equipped with state of the art equipment like down looking and side looking Acoustic Doppler Velocimeters, Acoustic Doppler Profilers, recirculating tilting flumes with wave generator and sensors like water depth recorder, digital flow meter, etc.

Geotechnical Engineering Laboratory houses many sophisticated instruments such as GPR, Auto triaxial setup, Laser profilometer, Flexible wall permeameter, etc. for carrying out the advanced research.

Concrete and Structural Engineering Laboratories are having the state of the art equipment such as Shake table, servo controlled compression testing machines, NDT equipment, corrosion analyser, etc.

Similarly, the Transportation Engineering Laboratory has the sophisticated instrumental facility such as Dynamic Shear Rheometer, Repeated Load Triaxial Test, etc.

RESEARCH PROJECTS

Various research projects are being carried out in each of the micro specializations of Civil Engineering. The projects that are being conducted at present, comprehend both the experimental as well as simulation oriented research works. These research projects are being funded by various Govt. Organizations as well as Industries such as DST, CSIR, NALCO Bhubaneswar, etc. Both fundamental and application oriented research projects have been undertaken by the faculty members of the School. In this connection, it is worth mentioning that relentless efforts are being made by the faculty members of the School to bring the projects to face and solve the recent challenges of our modern society. These projects not only solve the present challenges but also create human resources in the form of JRF, SRF and research scholars in the field of Civil Engineering.

CONSULTANCY PROJECTS

The School is actively providing technological support to various public and private sector units through industrial consultancy, which in turn serving the infrastructural development for the entire community. The school is providing technical support to the Rural Works Departments of the states of Odisha and Jharkhand for development of Roads under PMGSY. The school has been appointed as State Technical Agency (STA) by National Rural Roads Development Agency (NRRDA), Ministry of Rural Development, Govt. of India for technical scrutiny of PMGSY proposals. School of Infrastructure, IIT Bhubaneswar is the State Technical Agency (STA) for Rural Water Supply and Sanitation, RWSS, (Govt. of Odisha). The school has already undertaken several consultancy projects of national importance in each of the micro specializations of Civil Engineering.

UNIQUE RESEARCH CONTRIBUTIONS

1. Research works on the development of an integrated zero energy modular system for the treatment of rural domestic wastewater: emphasis on nutrient removal. The proposed hybrid system can successfully be installed to treat domestic wastewater for nutrient removal in decentralized way. It can operate in individual housing complex and at the neighborhood level also. Also the device can operate in combination with primary treatment facilities. One more striking feature is that the device can operate without any energy input. Hence the energy extensive, modular and integrated device can be emerged as the best decentralized and sustainable option for treating domestic wastewater in order to remove nutrient targeting rural mass.

2. Research works on the development of structural lightweight concrete using sintered fly ash aggregate. In this work, we have developed a new and reliable mix design methodology for the development of structural light weight aggregate concrete having compressive strength of 80 MPa and density was maintained well below 2000 kg/m3.

3. Research works on the flow through emergent and submerged vegetation have resulted in the formulation of drag and lift within a vegetative array and the flow characteristics around single submerged structure have been determined experimentally and validated numerically.

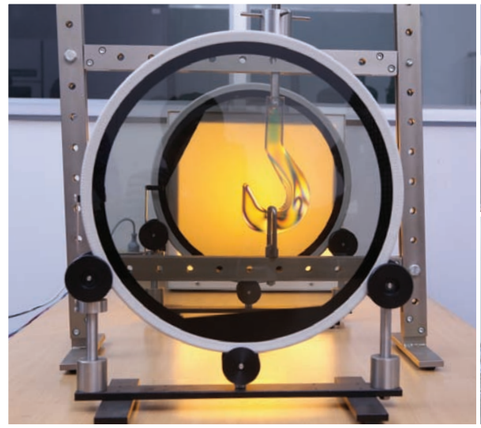
200
Number of Publications
(International Journals and Conferences)

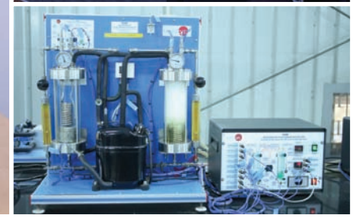
03
Number of Ph.D. Students Graduated

15
Number of
Ph.D. Students Enrolled at Present

11
Number of Masters Students Graduated

SCHOOL OF MECHANICAL SCIENCES





70
Number of Publications
(Int. Journals)

40
Conferences

08
Number of Patents (filed)

07
Number of Ph.D. Students Graduated

13
Number of
Ph.D. Students Enrolled at Present

STATE OF THE ART FACILITIES

The Advanced Product Development Laboratory houses a high end FORTUS 400 FDM based rapid prototyping machine and a high accuracy 3-D Optical Profilometer. The advanced manufacturing laboratory has various in-house developed equipment such as 400W Fiber laser micro workstation, Laser-Milling Hybrid processing and a Pulsed Micro Micro-Electroforming. Besides, the lab also houses CNC Router with Digitizer for Reverse Engineering, CNC Milling and Gear Hobbing Machine. The thermo-fluid laboratory has NEXA PEM Fuel Cell Training System, Flame propagation & stability unit and Mach-Zhender Interferometer for visualization of various heat transfer phenomena.

RESEARCH CONTRIBUTIONS

- High performance computing of flow past reflex shape aerofoils suitable for micro-aerial vehicles
- Design of optimized natural laminar flow aerofoil for transport aircrafts
- Development and analysis of the space-time optimized dispersion relation preserving (DRP) scheme suitable for high performance computing of fluid flows
- Underwater acoustic absorbers
- Development of phase change material based heat sinks
- Development of enhanced boiling surfaces
- Simulation of conjugate heat transfer phenomena in ultra-short laser-tissue interaction
- Motion planning and gait generation of Biped Robots
- Delamination studies of FRP composite structural components
- Supply chain issues of health care and mining sectors
- Disaster management

Stakeholders

Indian Navy and other Defence organizations, DST, Aerospace industry, Agro industries, Electronic and Automotive Industries, Biomedical Engineering, Mining industries, FMCG companies, Disaster Management agencies, Thermal power plants etc.

CONSULTANCY PROJECTS

Key Areas: Agricultural Automation, CFD Modelling of Naval Gun, Robotic Application in Boilers, Supply Chain Management and Weighbridge Design.

Funding Agencies: Department of Agriculture and Food Processing, Government of Odisha, DRDO, OMS Power Training and Research Institute, DS Systems and Amritesh Industries Pvt. Ltd.

ABOUT THE SCHOOL

The School of Mechanical Sciences at IIT Bhubaneswar endeavors to be both globally competent and locally relevant. The school offers B.Tech. (Mechanical Engineering), M.Tech. (Mechanical Systems Design and Thermal Science Engineering) and Ph.D. programs. Thrust areas of the School include Energy& Environment, Advanced Manufacturing, Autonomous Robotics, Product Design and Agricultural automation. 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 human capital, building of knowledge capital and building of wealth capital through creation of comprehensive idea-to-industry cycle.

LABORATORIES

School has well equipped laboratories along with a high-end computational laboratory with 30 workstations served by an 18 blade server. This laboratory also provides various software packages like ANSYS, SolidWorks, NASTRAN, HyperWorks, Pro-E, CATIA, ADAMS, COMSOL, MATLAB, LabVIEW, ASAP-PRO, Tecplot360etc. A well-equipped manufacturing laboratory has various machines such as Lathe, Milling, Drilling Machines, Surface Grinders, etc. The thermo-fluid laboratory has High Capacity Screw Type Compressor, Mini GPU Cluster - Dual Processor Tesla GPU Enabled Nodes, Axial Flow Gas Turbine Unit, Transparent DI Engine, Dual Fuel Variable Compression Ratio Engine, Shell and tube heat exchanger, Heat Pump plus Refrigeration Unit (2-evaporators and 2-condensers) with Cycle Inversion Valve. The Solid Mechanics laboratory of the school has Hardness testers, Impact testing Machine, Spring Compression testing machine, Erichsen cupping testing machine, Rotary bend fatigue testing machine and Photo-elastic bench.

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. Currently, the School is offering B.Tech. program in Metallurgical and Materials Engineering, Masters Program in Materials Science and Engineering and Ph.D. Program. The faculty members are engaged in wide range of research areas that include metal matrix composites to high entropy alloys, lithium ion batteries, solid oxide fuel cells, nanomaterials, MEMS, electronic materials and modelling of simulations of processes and materials.

LABORATORIES

The School is developing fourteen laboratories to cater to under graduate and post graduate teaching and well as various research activities of the School and the Institute. The School is in process of creating facilities for microstructural characterization of materials. Some of them include the microscopy facilities like Field Emission Scanning Electron Microscope with EDX and EBSD, Inverted Optical microscopes with image analysis facility, Melting and heat treatment facility, Metallography facility for sample preparation, Universal Hardness Testing Machine, Electrochemical workstation and Computer workstation. Many more equipments are in pipeline for procurement.

SCHOOL OF MINERALS, METALLURGICAL AND MATERIALS ENGINEERING

STATE OF THE ART FACILITIES

The School has procured a Field Emission Scanning Electron Microscope with EDX and EBSD facility which is under Central Instrumentation Facility.

RESEARCH PROJECTS

The School has been active in research with sponsored projects worth Rs. 1 crore being carried out. Also project proposals worth Rs. 4 crores has been submitted to various funding agencies.

CONSULTANCY PROJECTS

The School has consultancy projects worth Rs. 50 lakhs from various agencies like Tata Steel, Department of Agriculture and Food Processing (Odisha) and Ganesh Sponge Pvt. Ltd.

UNIQUE RESEARCH CONTRIBUTIONS

Book published by one of our faculty members:

Rajiv Sharan Mishra, Partha Sarathi De, Nilesh Kumar: Friction Stir Welding and Processing, Springer, 2014.

18
Number of Publications

12
Conference Presentations

01
Number of Patents

11
Number of
Ph.D. Students Enrolled at Present

06
Number of
Masters Students Graduated