ANNUAL REPORT
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Indian Institute of Technology
Bhubaneswar

2010-11
Annual Report

INDIAN INSTITUTE OF TECHNOLOGY BHUBANESWAR
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CONTENTS

FROM DIRECTOR'S DESK

Infrastructure

Temporary Campuses

The Institute started its journey in 2008 from the campus of IIT Kharagpur and commenced its operation from the city of Bhubaneswar from July 22, 2009. Currently, the Institute is operating from a number of campuses which include Extension Centre of IIT Kharagpur, Toshali Bhawan at Satyanagar, provided by Government of Odisha and renovated by the Institute; and Workshop cum laboratory complex (22000 sq. meters) near IIT Kharagpur extension Centre constructed on one (1) acre of land provided by the Government of Odisha. In addition, Dr. A. N. Khosla Hall of Residence with a capacity of 200 student accommodation constructed by IIT Kharagpur is being used to provide accommodation for the students of this Institute. The class rooms and the laboratories are situated in the above-mentioned campuses. The Institute is also being supported by sister institutes like IMMT (CSIR) and Central Tool Room and Training Centre. The institute has been able to equip the class rooms and laboratories for teaching and research with multimedia projectors, internet facilities and wireless connectivity. Besides the normal teaching 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 learning process. These rooms are equipped with high end and high resolution equipment to facilitate the real time interaction among the students and teachers of the campus and as well as off campus students and faculty members. These class rooms are connected to the NKN Network by means of a dedicated 1GBPS Leased Lines.

Housing facilities for accommodation of students and faculty have been augmented by 14 flats provided by the Government of Odisha, hiring of 60 HIG 3 bed-roomed flats and few MIG flats in a cooperative housing complex in SBI Colony Kesura. While the 3rd and 4th year male students have been allotted accommodation in the Dr. A. N. Khosla Hall of Residence, all others including the girl students and research scholars have been provided accommodation in SBI Colony Kesura, 10 KM away from our academic campus.

Permanent campus

The Foundation Stone of the Institute's own campus at Arugul was laid on February 12, 2009. The Government of Odisha has allotted 936 acres of land at Arugul (near Jatni) for developing this new IIT of which we already have taken advanced possession of 598 acres. The Government of Odisha has started construction of 4 lane access road to the campus from the National Highway No. 5.

The work on water supply and electric supply to the campus is also in progress. The power supply systems for construction are virtually ready. The Honourable Chief Minister himself as well as the Chief Secretary of the State are taking active interest in the developmental work and are addressing issues that need their constant attention. It may not be out of place to mention that the Government of Odisha has also agreed to provide us 75 acres of land on Puri–Konark coast to set up an Innovation Centre for Climate Change.

Out of total 19 KM, we have already completed construction of 8 Km of boundary wall. About 10 bore wells have been sunk to facilitate construction work. IIT Bhubaneswar has also taken up tree plantation programme for its new campus.

The master plan of the new campus at Arugul for 10,000 students, 1,000 faculty and 1,100 supporting staff has been approved and the total construction should be completed in 3 phases in next 12-15 years. While the Government of India has approved construction of 2,21,000 m^2 of covered area in the 1st phase, the consultant has already completed conceptual design of 1,30,000 m^2 of covered areas for various Schools, residential quarters, hostels and other service/administrative buildings based on the availability of fund in the initial phase.

Applications for clearance from statutory bodies (e.g. forest, Bhubaneswar Development Agency, environment) have been made and such clearance are expected shortly. We expect the tendering process to be over and hope that CPWD will be able to start the construction work by the end of 2011.

Academics

Academic Schools

The Institute promotes a borderless academic environment through the concept of Schools, rather than Departments to encourage academic staff and students to work together in an interdisciplinary environment. Initially, the following five (5) Schools have been set up:

- School of Basic Sciences (Physics, Chemistry, Bioscience, Mathematics)
- School of Humanities, Social Sciences and Management (Economics, English, Psychology)
- School of Mechanical Sciences (Mechanical, Manufacturing & Industrial Engineering, Aerospace Engineering, Naval Architecture)
- School of Infrastructure (Civil Engineering, Architecture, Urban Design, Town Planning, Traffic & Transportation Engineering)
- School of Electrical Sciences (Electrical Engineering, Electronics Communication Engineering, Computer Science and Engineering, Energy, Learning Sciences, Instrumentation)

The Institute has just set up the following two (2) new Schools:

- School of Mineral, Metallurgical and Materials Engineering - Materials, Metallurgy, Mining (Relevant to the Rich Resources of metals and minerals in the region)
- School of Earth Ocean and Climate Sciences (Relevant to the region keeping in view the vast Coast Line, Rich Biodiversity and mineral resources, need for Disaster Management and Mitigation arising out of Flood, Cyclone etc.) As a part of this School, the Institute will set up an Innovation Centre for Climate Change on the Puri-Konark coast line.

The following schools are proposed to be set up in the second phase of our expansion:

- School of Chemical and Biochemical Engineering
- School of Design and Creative Arts

Academic Activities

The academic activities began in 2008 with a total of 94 students in three (3) undergraduate programmes namely Civil, Electrical and Mechanical engineering with an intake capacity of 40 each. The Institute introduced Ph. D. programmes in various disciplines from 2009 and presently has 31 Research Scholars. Currently, the Institute has 359 students in Undergraduate, Doctoral and Preparatory courses, 50 full-time faculty members, 7 officers and 40 supporting staff.

Awards and Honours

Professor P. Rama Rao, the Chairman Board of Governors of this Institute has received the second highest civilian award the Padma Vibhushan from the Government of India this year.

Prof. S. C. Datta, School of Infrastructure was awarded Fulbright-Nehru Senior Research Fellowship and visited

the University of California at Davies, USA. He has also been awarded the prestigious Occasional Lecturer Fund by Council for International Exchange of Scholars, US Department of State for delivering two invited lectures at University of Massachusetts, Dartmouth, during his Fulbright Grant period in USA. Dr. Sumanta Haldar of the same School received the Professor Leonard's best Ph.D. thesis award from Indian Geotechnical Society. Dr. C.S. Bhende, School of Electrical Science received the best Ph.D. thesis award from Indian National Academy of Engineering. Mr. Pyari Mohan Pradhan, Mr. Satyasai Jagannath Nanda and Mr. Vikas Baghel, Research Scholars of the School Electrical Sciences were awarded the Department of Foreign Affairs and International Trade, Government of Canada, "Commonwealth Graduate Student Exchange Programme" fellowship. Dr. D. Sahoo of School of Humanities, Social Sciences and Management received the Best Paper Award at the International Workshop on Regional Competitiveness and International factors Mobility at Oriens France. Professor M. Chakraborty received the Best Technical Paper Award 2010 from the Indian Foundry Journal of the Institute of Indian Foundrymen. Mr. Raghav. R, 3rd Year Student of Mechanical Engineering won the All India essay competition for college students conducted by the NGO: Nandini Voice for the Deprived.

Publications

Within two years of our existence in the city of Bhubaneswar, the faculty members have already contributed to creating new knowledge. This year our publication record stands at 97 research papers in national and international Journals of repute, and 8 books/book chapters. Besides, 60 oral papers have been presented in various national and international conferences in India and abroad making our presence felt all over the world. Our doctoral and undergraduate students have made publications in journals of repute and made presentations in conferences.

Sponsored Projects and Consultancy and Endowment

The Institute received a number of sponsored projects from various funding agencies viz. DST, CSIR and DRDO and consultancy from industries worth more than Rs. 320.00 lakhs.

Industries have come forward in helping the development of this new IIT. M/s MGM Minerals Group has established a perpetual "MGM Chair Professor" for the School of Minerals, Metallurgical and Materials Engineering with an endowment of Rs. 300 lakhs.

International Collaborations

The Institute has started collaborative activities with a few universities abroad viz. University of Massachusetts at Dartmouth USA, and the University of Western Ontario Canada with signing of MOU for faculty exchange programmes. Professor Lord S. Kumar Bhattacharyya of the Warwick Manufacturing Group, of the University of Warwick has been appointed as Distinguished Visiting Professor while Professor Richard Dashwood of the same university spent two weeks as Visiting Professor in March 2011. Professor Asit K Biswas, President of the Third World Centre for Water Management, Winner of Stockholm Water Prize (2006) has also been appointed as Distinguished Visiting Professor.

Workshop/Conferences

The Institute organized workshops which include a one day workshop "An Academy – Industry Interface" with participation from the Warwick Manufacturing Group, the University of Warwick, UK, Tata Steel, Infosys, IBM, WIPRO, L&T and others on 17th September 2010; a workshop on "Multivariate Statistical Analysis" was organized by the School of Humanities, Social Science and Management on 24th March 2011. In addition, the Training and Placement Cell also organized a Panel Discussion on "Managing Generation Y in workplace - A

Challenge to the Indian Industry" on 12th March 2011. The Institute organized the annual "Research Scholars Day" on the National Science Day on 28th February 2011.

Events at the Institute

Celebrations

The 3rd Institute Day was celebrated on July 22, 2010. The 3rd Foundation Day was celebrated on February 12, 2011. The Institute also organized programmes to observe the International Womens' Day on March 8, 2011.

Distinguished Visitors

A number of distinguished personalities visited the Institute during the year and addressed our students and faculty. Such visitors included Dr. D. Subbarao, Governor Reserve Bank of India, Prof. Asit K Biswas, President of the Third World Centre for Water Management Mexico; Prof. Samir K. Brahmachari, Director General Council of Scientific & Industrial Research; a team of eight Professors from the University of Warwick led by Professor Koen Lamberts, Pro-Vice Chancellor of the University; Professor Alex J. Fowler, Vice Provost of Graduate Studies and three Professors from the University of Massachusetts at Dartmouth USA; Professor Farrokh Mistree, Director of Mechanical and Aerospace Engineering, Oklahoma University USA; Dr. B. B. Rath from Naval Research Laboratory, USA; Dr. Kamal Kant Dwivedi, National Council for Science and Technology Communication Department of Science and Technology, Government of India, Prof. Bhanoji Rao, National University of Singapore, Singapore; Shri S. K. Roongta, Former Chairman Steel Authority of India Ltd. and many others.

Student Activities

The student activities under the Students Gymkhana are quite vibrant in organizing various events. They have formed several societies like Robotics Society, Entrepreneurship Cell, Dramatic Society, Music Society to name a few. Annual fests, Alma Fiesta (cultural) and Wissenaire (techno-management) were organized successfully with support from various sponsors/industries drawing participations from colleges/institutions within the country.

BOARD OF GOVERNORS

Professor P. Rama Rao Chairman, Governing Council International Advanced Research Centre for Powder Metallurgy and New Material (ARPI) & Former Secretary to the Government of India (Department of Science & Technology) Balapur, Hyderabad	Chairman
Professor Madhusudan Chakraborty Director, IIT Bhubaneswar	Member (Ex-Officio)
Shri Bijay Kumar Patnaik, IAS Chief Secretary & Chief Development Commissioner Government of Odisha, Bhubaneswar	Member
Smt Vibha Puri Das, IAS Secretary, Department of Higher Education Ministry of HRD, Government of India	Member
Shri S. K. Roongta Former Chairman, Steel Authority of India Limited, New Delhi	Member
Professor Samir K. Brahmachari Director General, Council of Scientific & Industrial Research & Secretary, Department of Scientific & Industrial Research, Government of India, New Delhi	Member
Shri T. V. Mohan Das Pai Chairman, MEMG International India Pvt. Ltd #70, Grace Towers, 3rd Floor, Millers Road, Bangalore-560 052	Member
Professor Ganapati Panda Deputy Director, IIT Bhubaneswar	Member
Professor Sujit Roy Dean (Faculty & Planning), IIT Bhubaneswar	Member
Professor Damodar Acharya Director, IIT Kharagpur	Special Invitee
Shri B.K. Ray Registrar, IIT Bhubaneswar	Secretary

FINANCE COMMITTEE

Professor P. Rama Rao Chairman, Governing Council International Advanced Research Centre for Powder Metallurgy and New Material (ARPI) & Former Secretary to the Government of India (Department of Science & Technology) Balapur, Hyderabad	Chairman
Professor Madhusudan Chakraborty Director, IIT Bhubaneswar	Member
Shri Ashok Thakur , IAS Special Secretary, Department of Higher Education Ministry of Human Resource Development Government of India	Member
Shri Sanat Kumar Ray Additional Secretary & Financial Advisor Ministry of Human Resource Development Government of India	Member
Shri T.V. Mohan Das Pai Chairman MEMG International India Pvt. Ltd #70, Grace Towers, 3rd Floor, Millers Road, Bangalore-560 052	Member
Professor Sujit Roy Dean (Faculty and Planning) IIT Bhubaneswar	Member
Shri B. K. Ray Registrar, IIT Bhubaneswar	Secretary

BUILDING & WORKS COMMITTEE

Professor M. Chakraborty Director, IIT Bhubaneswar	Chairman
Dr. Dinakar Pasla Head, School of Infrastructure IIT Bhubaneswar	Member
Dr. P. K. Sahu Head, School of Electrical Sciences IIT Bhubaneswar	Member
Shri S. R. Sethy Chief Engineer, Buildings Public Works Department, Government of Orissa, Bhubaneswar	Member
Shri Adesh Kumar Chief Engineer (EZ-II) Central Public Works Department , Patna	Member
Shri R. C. Mishra Superintending Engineer BCC, Central Public Works Department A-17/3, Suryanagar, Bhubaneswar	Member
Shri B. K. Lenka Chief Engineer, CESU, Orissa	Member
Prof. G.C. Mitra, Professor-in-Charge IIT Kharagpur Extension Centre, Bhubaneswar	Special Invitee
Shri B. K. Ray, Registrar IIT Bhubaneswar	Member Secretary

THE SENATE

Chairman

Professor M. Chakraborty
Director

Members

Professor G. Panda
Professor, School of Electrical Sciences
& Deputy Director

Professor S. Roy
Professor, School of Basic Sciences
& Dean (Faculty)

Professor S. C. Dutta
Professor, School of Infrastructure
Dean, Student Affairs (till November 2010)

Professor S.C. De Sarkar
Professor, School of Electrical Sciences
& Technical Adviser to Director

Professor V. R. Pedireddi
Professor and Head, School of Basic Sciences
& Dean, Sponsored Research & Industrial Consultancy

Professor A.K. Mohanty
Visiting Professor (Economics), School of Humanities, Social Sciences & Management

Professor S.K. Mund
Visiting Professor (English), School of Humanities, Social Sciences & Management

Professor N. Barik
Visiting Professor (Physics), School of Basic Sciences

Professor V. R. Yerikalapudy
Visiting Professor (Mathematics), School of Humanities, Social Sciences & Management

Professor S. N. Behera
Visiting Professor, School of Electrical Sciences

Dr. S. K. Mahapatra
Head, School of Mechanical Sciences
Dean, Student Affairs (since December 2010)

Dr. D. Pasla
Head, School of Infrastructure

Dr. P. K. Sahu
Head, School of Electrical Sciences

Dr. D. Sahoo
Head, School of Humanities, Social Sciences & Management

Dr. S. Pani
Assistant Professor, School of Basic Sciences

Dr. P. Bhunia
Assistant Professor, School of Infrastructure

Dr. D. Ghosh
Assistant Professor, School of Electrical Sciences

Dr. S. N. Panigrahi
Assistant Professor, School of Mechanical Sciences

Dr. P. Rath
Assistant Professor, School of Mechanical Sciences

Dr. A. K. Ojha
Warden,
& Assistant Professor, School of Basic Sciences

External Members

Professor B. K. Mishra
Director, Institute of Minerals & Materials Technology, Bhubaneswar

Dr. M. P. Ravindra
Adviser, Education & Science Education
Research, Infosys Technologies Ltd., Bangalore

Professor B. Rath
Vice Chancellor
Utkal University

Special Invitee

Professor D. Acharya
Director, IIT Kharagpur

Professor S. K. Som
Dean (UGS), IIT Kharagpur

Professor P. K. J. Mahapatra
Dean (PGS & R), IIT Kharagpur

Professor Ajay Chakraborty
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Ranchi, Jharkhand

Professor G.C. Mitra
Professor-in-Charge
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Dr. Ashis Biswas
Chairman Library
Assistant Professor, School of Basic Sciences (Chemistry)

Dr. Shantanu Pal
Chairman JEE
Assistant Professor, School of Basic Sciences (Chemistry)

Dr. Rajan Jha
President Gymkhana
Assistant Professor, School of Basic Sciences (Physics)

Student Invitee

Mr. Nithin V. George
Student Representative (Research Scholar)

Mr. Pradosh Ku. Sahoo
Student Representative (Undergraduate)

Mr. Rai Awani Bhushan
Vice President, Students' Gymkhana

Secretary

Shri B. K. Ray
Registrar

ADMINISTRATION

Director
Professor Madhusudan Chakraborty

Deputy Director
Professor Ganapati Panda

Deans and Adviser

Professor G. Panda
Dean (Academic Affairs)

Professor S.C. De Sarkar
Technical Adviser
Dean (Faculty) [Up to 09.11.2010]

Professor S. Roy
Dean (Administration and Planning) [up to 09.11.2010]
Dean (Faculty) [From: 12.11.2010]

Professor S.C. Dutta
Dean Students Affair [Up to: 30.11.2010]

Dr. S. K. Mahapatra
Dean (Students' Affair) [From: 01.12.2010]

Professor V. R. Pedireddi
Dean (Sponsored Research and Industrial Consultancy)

Shri B. K. Ray
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ACADEMIA

Schools at IIT Bhubaneswar

School of Basic Sciences

Head of School
Dr. Snehasis Chowdhuri

Faculty Members

Professors

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The **School of Basic Sciences** at IIT Bhubaneswar is a cluster of disciplines of Bioscience, Chemistry, Mathematics and Physics with current faculty strength of 16, having expertise in the contemporary fields of research. Among the new IITs established, the School of Basic Science at IIT Bhubaneswar 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 15 research students have enrolled to pursue research in various disciplines. The school has also initiated postdoctoral program to motivate researchers and scientists to build their career in academics and industries and currently one Post-Doctoral Fellow is working in Physics.

The faculty members of the school seek to establish a leading platform in various research fronts, which will be bench-marked by high-quality publications, international patents, and close collaboration with other academia and industries. Presently the school is endowed with various research and consultancy projects funded by agencies like DST, CSIR, DBT, BRNS, as well as by various industries. Also, most of the faculty are bestowed with recognitions and awards of National and International stature like Fellows of academies, medal recipients and also serve as members of many of the prominent national bodies and research/academic boards of universities.

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, NMR, PPMS, etc., are being created. 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.

The School is supported with other central services of the institute, especially Central Library and Central Instrumentation Facility.

Research Activities

The school of Basic Sciences has research focus with the thrust in the disciplines of Biosciences, Chemistry, Mathematics and Physics in various frontier areas of contemporary research fields. Among those, the research carried out to understand the chemical transformations in orgnometallics, supramolecular chemistry, coordination chemistry, and organic synthetic chemistry and computation studies is directed towards synthesis and evaluation of materials of societal impact in the form of drugs, polymers, nanomaterials etc. The research work in the areas of biosciences is focussed on the structure and function of various proteins of eye lenses, leprosy, tuberculosis etc. In addition the projects in the areas of the plasmonics and photonics, ion-surface interactions, focus on the design and development of sensors, magnetomaterials, optoelectronic devices and nanomaterials towards preparation of advanced materials for the applications and development of energy storage devices, transportation materials, etc. In the areas of iteration of meromorphic functions on the planes, variational inequalities and complementarity problems, queueing problems, research is are being carried out by various faculty members to explore and apply for the basic understanding and development of design of telecommunication systems, various IT networks related computational theorems etc. The faculty members of the School of Basic Sciences also work in interdisciplinary areas, especially in the field of materials science towards generating nanomaterials for the development of devices based on the nanotechnology assembling and clustering.

Thrust areas

- Computational Mathematics
- Chemistry and Biology
- Materials
- Organic and Organometallics
- Supramolecular Chemistry
- Condensed Matter Physics
- Optics & Plasmonics
- Nanomaterials Technology
- Bio and chemoinformatics

New Acquisitions (Equipment)

FT-IR Spectrometer, UV-VIS Spectrophotometer, Glove Box, Potentiometer, HPC-Cluster, DFB Fibre Coupled Laser source, Terahertz, Spectrofluorometer, high precision Analytical balances etc.

SPONSORED RESEARCH PROJECTS

Project	Principal Investigator	Sponsoring Agency
Structure and Dynamics of Ionic and Molecular Solutes in Queous and Non Aqueous Solvents and in Their Binary Mixture at Different thermodynamic Conditions: A Molecular Dynamics Simulations Study.	Dr. S. Chowdhuri	CSIR
Catalytic activity of endothelial nitric synthase-a probe into the molecular basis of its electron transfer limitation.)	Dr. A. Biswas	DST
Development of Metal-Heteroscorpionate Ligands Motif and Their Potential Application	Dr. S. Patra	DST
Design and Development of Plasmonics based sensor for infrared region.	Dr. R. Jha	DST
Indigenous Development of Miniaturized top Surface Plasmon Resonance Based Fiber Optic Sensor.	Dr. R. Jha	DST
Asymmetric Synthesis of Embellished Carbocycles From Carbohydrates*via* Intramolecular 1,3 Dipolar Cycloaddition Reaction: Studies TowardsTotal Synthesis of Naplanosine F.	Dr. S. Pal	DST

VISITS ABROAD

Dr. S. Chatterjee	Presented paper at HCI 2010 Shanghai China 29.08.2010 to 03.09.2010
Dr. A. D. Banik	Collaborative Research under one year Post-Doctoral Fellowship in the Centre for Mathematics and its Applications (CEMAT) Lisbon, Portugal 08.05.2010 to 18.07.2010
Dr. R. Jha	Oral presentation at the Conference on Advance Photonics and Renewable Energy. Karlsruhe, Germany 21.06.2010 to 24.06.2010.
Dr. A. Biswas	Oral presentation at International Congress of Environmental Research (ICER-10). University of Mauritius, Reduit. 16.09.2010 to 18.09.2010. Presented Paper on "Effect of Zinc on the Structure and Chaperone Function of Crystalline" in Asia ARVO Meeting on Research in Vision and Ophthalmology, Resort World Sentosa, followed by SNEC 21st Anniversary Celebrations, Singapore.20.01.2011 to 23.01.2011.
Dr. T. Nayak	Presented paper on "Omitted values and Dynamics" on "Conformal structures and Dynamics Autumn in Warsaw (Poland).Warsaw, Poland 08.11.2010 to 19.11.2010.

JOURNALS

1. Pratihar, Sanjay; Roy, Sujit. Reactivity and selectivity of organotin reagents in allylation and arylation: Nucleophilicity parameter as a guide. Organometallics (2011), 30(12), 3257-3269.
2. Pratihar, Sanjay; Roy, Sujit. Nucleophilicity and Site Selectivity of Commonly Used Arenes and Heteroarenes Addition & Correction. Journal of Organic Chemistry (2011), 76(10), 4219.
3. Bera, Milan; Pratihar, Sanjay; Roy, Sujit. Ag(I)-Catalyzed Regioselective Ring-Opening of N-Tosylaziridine and N-Tosylazetidine with S-, O-, and N-Nucleophiles and Tethered Dinucleophiles. Journal of Organic Chemistry (2011), 76(5), 1475-1478.
4. Chatterjee, Paresh Nath; Roy, Sujit. Alkylation of 1, 3-dicarbonyl compounds with benzylic and propargylic alcohols using Ir-Sn bimetallic catalyst: synthesis of fully decorated furans and pyrroles. Tetrahedron (2011), 67(25), 4569-4577.
5. Pratihar, Sanjay; Marek, Jaromir; Roy, Sujit.Mono cationic palladium (II): Synthesis, characterization and catalytic activity in Suzuki coupling. Inorganica Chimica Acta (2011), 372(1), 362-366.
6. Hyun Ju Kang, Srikanta Patra, Jagotamoy Das, Md. Abdul Aziz, Jinkyung Jo, and Haesik Yang, Effect of Aging on the Electrocatalytic Activity of Gold Nanoparticles. Electrochemistry 12, 1245, (2010).
7. Subrat Kumar Pattanayak, Nidhi Prashar and Snehasis Chowdhuri, "Effect of temperature and pressure on the structure, dynamics and hydrogen bond properties of liquid N-methyl acetamide: A molecular dynamics study", J. Chem. Phys., (Accepted), (2011).
8. Tejero J, Biswas A, Haque MM, Wang ZQ, Hemann C, Varnado CL, Novince Z, Hille R, Goodwin DC and Stuehr DJ, Mesohaem substitution reveals how haem electronic properties can influence the kinetic and catalytic parameters of neuronal NO synthase, Biochem. J., 433, 163-174 (2010).
9. S. Chatterjee, A. Agnihotri, C. R. Stia, O. A. Foj´on, R. D. Rivarola and L. C. Tribedi , "Bethe binary-encounter peaks in the double differential cross sections for high-energy electron impact ionization of H2 and He", Phys. Rev. A, 82, 052709 (2010).
10. A. Kumar, A. N. Agnihotri , S. Chatterjee, S. Kasthurirangan, D. Misra, R. K. Choudhury, L. Sarkadi, and L. C. Tribedi , "L3 subshell alignment of Au and Bi in collisions with 12-55 MeV carbon ions", Phys. Rev. A 81 062709 (2010)
11. S. Chatterjee, D Misra, A H Kelkar, P D Fainstein and L C Tribedi, "Ionization of molecular hydrogen by 5 MeV/u bare fluorine ion and electron interference" J. Phys. B: At. Mol. Opt. Phys., 42 125201 (2010).
12. C. R. Stia, O. A. Fojón, S. Chatterjee, D. Misra, L. C. Tribedi and R. D. Rivarola, "Tracing fingerprints of Young type interferences in angular distributions of ejected electrons from molecular targets" Journal of Physics: Conf. Ser. 212 , 012019 (2010)
13. S. Rath, S. Nozaki, D. Palagin, V. Matulis, O. Ivashkevich, and S. Maki, Aqueous-based synthesis of atomic gold clusters: Geometry and optical properties, Applied Physics Letter 97, 053103 (2010)
14. Rajan Jha and Anuj K. Sharma, "Design considerations for plasmonic-excitation based optical detection of liquid and gas media in infrared", Sensors and Actuators A, 165(2), 271-275 (2011)
15. Triranjita Srivastava, Ritwick Das and Rajan Jha, "Highly Accurate and Sensitive Surface Plasmon Resonance Sensor based on Channel Photonic Crystal Waveguides", Sensors and Actuators B, 157 246-252, (2011).
16. Triranjita Srivastava, Ritwick Das and Rajan Jha, "Design considerations and propagation characteristics of channel Bragg-plasmon-coupled-waveguides", Applied Physics Letters 97, 213104 (2010).
17. A. D. Banik; Analysis of Single working vacation in a GI/M/1/N and GI/M/1/∞ queueing system; International Journal of Operational Research; 7; 314-333, (2010).
18. A. D. Banik; Analyzing state-dependent arrival in GI/BMSP/1/∞ queues; Mathematical and Computer Modelling; 53; 1229-1246, (2011).

19. T. Nayak and Z. J. Hua; Omitted values and dynamics of meromorphic functions; Journal London Math. Society; 83, 121-136, (2011).
20. T. Nayak and M. G. P. Prasad; Iteration of certain meromorphic functions with unbounded singular values; Ergodic Theory and Dynamical Systems;30; 877-891, (2010).
21. Y. S. Manjare and V. R. Pedireddi; Co-crystals of 1,3-Adamantane dicarboxylic Acid with an Azo, an N-oxide and Aza Compounds, Crystal Growth Des. (in press).

PAPERS PRESENTED AT SEMINARS/WORKSHOPS/CONFERENCES

1. Hyun Ju Kang, Srikanta Patra, Jagotamoy Das, Md. Abdul Aziz, Jinkyung Jo, and Haesik Yang: Effect of Aging on the Electrocatalytic Activity of Gold Nanoparticles; Frontiers of Inorganic Chemistry, IACS, Kolkata, India, December 9-11, 2010.
2. S. Chowdhuri "Dynamical properties of the soft sticky dipole-quadrupole-octupole water model: A molecular dynamics study" in MSM Golden Jubilee Chemistry conference at IIT, Kanpur during October 1-3, 2010.
3. S. Chowdhuri "Behavior of a model peptide in water-alcohol mixture: A molecular dynamics study" in 13th CRSI National Symposium in Chemistry at NISER, Bhubaneswar during February 4-6, 2011.
4. A. Biswas and K. P. Das - "Effect of Zinc on the Structure and Chaperone Function of Alpha-crystallin", Asia ARVO Meeting on Research in Vision and Ophthalmology, 20-22 January 2011, followed by SNEC 21st Anniversary Celebrations, 22-23 January 2011 (held at World Resort Santosa, Singapore).
5. Ashis Biswas and Dennis Stuehr, "Effect of Porphyrin Ring Structure on the Electron Transfer and Catalytic Activity of Neuronal Nitric Oxide Synthase", 3rd International Congress of Environmental Research (held at University of Mauritius, Reduit, Mauritius during September 16 - 18, 2010).
6. Ashis Biswas and Dennis Stuehr, "Mesoheme substitution reveals how heme electronic properties can influence the kinetic and catalytic parameters of neuronal NO synthase", International Conference on Frontiers in Biological Sciences (held at NIT Rourkela during October 1-3, 2010).
7. Faycal Touti, Akhilesh. K. Singh, Philippe Maurin, Laurence Canaple, Olivier Beuf, Jacques Samarut and Jens Hasserodt, Attended "An international Symposium on Frontiers in Inorganic Chemistry (FIC-2010)", December 11-13, 2010 held at IACS, Kolkata and presented a poster titled "An Iron-based Model Complex for Functional in Vivo Magnetic Resonance Imaging".
8. A. K. Singh Attended Chemical Research Society of India (CRSI-2011), February 4-6, 2011 held at NISER Bhubaneswar.
9. Rajan Jha and A. K. Sharma, "Highly Accurate Surface Plasmon Resonance Based Fiber Optic Sensor as a Human Blood Group Identifier", 2010 Sensors Topical Meeting, June 21-23,2010, Karlsruhe, Germany. (Top Download Paper).
10. Rajan Jha, SPR based liquid and gaseous detection in infrared with single silicon chip, Proc. of the 9th International Conference on Fiber Optics and Photonics- PHOTONICS 2010, Dec. 12-15, 2010, IIT Guwahati, India.
11. Rajan Jha, Channeled bragg-plasmon-coupled-waveguide, Proc. of the 9th International Conference on Fiber Optics and Photonics- PHOTONICS 2010, Dec. 12-15, 2010, IIT Guwahati, India.
12. Rajan Jha, Photonic Crystal Waveguide based SPR sensor, Proc. of the 9th International Conference on Fiber Optics and Photonics- PHOTONICS 2010, Dec. 12-15, 2010, IIT Guwahati, India.
13. S. Chatterjee, D. Misra, P. D. Fainstein and L. C. Tribedi, "Electron interference in fast ion collisions with H2 and frequency parameter" AC2-0228, 15th International Conference on the Physics of Highly Charged Ions (HCI2010), Fudan University, Shanghai, China, August 29-Sep 3, 2010.

School of Electrical Sciences

Head of School

Dr. Prasant Kumar Sahu

Faculty Members

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The mission of the School of Electrical Sciences is to shape graduates into hardcore professionals who would become effective leaders and noteworthy innovators in the technology areas of Electrical Engineering, Electronics and Communication Engineering, Instrumentation Engineering, Computer Science and Knowledge Engineering. The school is engaged in a wide spectrum of research in established and emerging technologies through nationally and internationally funded sponsored research and industrial consultancy as well as through various research collaborations.

The school, widely known for its multidisciplinary programs, currently focuses on five major research areas: Communications and Signal Processing, Power and Renewable Energy Systems, Control Systems, Power Electronics and Drives, Microelectronics and Semiconductor Devices, and Computing Techniques and Systems. In its role as research-oriented School, it will help solve the most challenging social, cultural, technical, and health- related problems through both basic and applied research. The school also aims to produce effective leaders and noteworthy innovators in the broad aspects of Electrical Sciences.

While producing competent professionals and responsible citizens, it is also the endeavour of the School to ensure that the graduates adhere to ethical values in life and be sensitive to environmental and social issues. It is also part of the mission to motivate and encourage the students to engage in lifelong learning which would help them keep abreast with contemporary developments in their fields of operation and enable them to leverage on the power of knowledge to become outstanding performers in whatever careers they choose.

Research Activities

Some of the major research areas of the school includes: Antenna Design, Smart Antenna Techniques For MIMO Systems, Radio Frequency Identification System Design And Application, Non-Destructive Testing Methods, Digital Signal Processing, Sensor Network, Intelligent Instrumentation, Opto-Electronics Device, Long-haul Optical Communication System Design, Optical Sensor, Communication And Wireless Communication System modeling and Design, Semiconductor Material & Device Characterization, Wide Bandgap Semiconductor Devices, MMICS, Decoupling Control, Robust Control, Periodic Feedback Control, Power Quality, Custom Power Devices, Renewable Energy Sources And Application Of Soft Computing Techniques To Power Systems, Intelligent Protection To Transmission Systems Including Facts, Microgrids, Microgrids With Distributed Generation And Dynamic Security Assessment In Large Power Network.

Thrust areas

- Signal processing, Renewable Energy
- Communication System Design
- RFID and Antenna
- Power Systems
- Intelligent Instrumentation
- Sensors

New Laboratory set up

- MEI Lab
- VLSI Lab
- Communication Lab
- Digital Circuits Lab
- PDS Lab
- EMPS Lab
- PED Lab

SPONSORED RESEARCH PROJECTS

Project	Principal Investigator	Sponsoring Agency
A biologically Inspired Approach to Distributed Sensor Signal Processing	Professor G.Panda	DST
Robust nonlinear channel equalization and identification using Bio-inspired techniques	Professor G.Panda	DST

VISITS ABROAD

Professor Ganapati Panda	Attended the **IEEE International Conference on Advanced engineering Computing and Applications in Sciences, Florence, Italy,** 25-30 Oct. 2010. Where he presented the paper on "Development and performance evaluation of PSO based single layer nonlinear ANN Classifiers of Indian Online Shoppers",

JOURNALS

1. Sudhansu Kumar Mishra, Ganapati Panda and Sukadev Meher, "Comparative Performance Study of Multiobjective Algorithms for Financial Portfolio Design", International Journal Computational Vision and Robotics, 1(2), pp: 236-247, 2010.
2. S. K. Mishra, G. Panda and D. P. Das, "A Novel Method of Extending the Linearity Range of LVDT Using Artificial Neural Network", IEEE Trans. on Instrumentation and Measurement, 59(4), pp: 947-953, 2010.
3. D. P. Acharya, G. Panda and Y.V.S.Lakshmi, "Effects of finite register length on fast ICA, bacterial foraging optimization based ICA and Constrained Genetic Algorithm based ICA Algorithms", Digital Signal Processing, 20(3), pp: 964-975, 2010.
4. S. J. Nanda, G. Panda and Babita Majhi, "Improved Identification of Hammerstein Plants using new CPSO and IPSO algorithms", Expert Systems with Applications, 37(10),pp: 6818-6831, 2010
5. S. J. Nanda, P.M. Pradhan, G. Panda, L. Mansinha and K. F. Tiampo, A Correlation Based Stochastic Partitional Algorithm for Accurate Cluster Analysis, International Journal of Signal and Imaging Systems Engineering, In press.
6. A. K. Sahoo and G. Panda, Sidelobe Reduction of LFM Signal Using Convolutional Windows, International Journal of Signal and Imaging Systems Engineering, In press.
7. S. S. Sahu and G. Panda, "A DSP Approach for Protein Coding Region Identification In DNA Sequence", International Journal of Signal and Image Processing, 1(2), pp: 75-79, 2010.
8. Babita Majhi and G. Panda, "Development of Efficient Identification scheme for Nonlinear Dynamic Systems using Swarm Intelligence Techniques", Expert Systems with Applications, 37(1), pp: 556-566, 2010.
9. T. Panigrahi, G. Panda, and B. Mulgrew, "The performance analysis of error saturation nonlinearity LMS in impulsive noise based on weighted-energy conservation," International Journal of Information and Communication Engineering,6(3), pp: 158-162, 2010.
10. Sitanshu Sekhar Sahu and Ganapati Panda" A Novel Feature Representation Method based Chou's Pseudo Amino Acid Composition for Protein Structural Class Prediction", Computational Biology and Chemistry, 34(5-6), pp: 320-327, 2010.
11. Babita Majhi and G. Panda, "Robust identification of nonlinear complex systems using low complexity ANN and particle swarm optimization technique", Expert Systems with Applications, 38(1), pp: 321-333, 2011.
12. S. S. Sahu and G. Panda, Identification of Protein Coding Regions In DNA Sequence Using a Time-Frequency Filtering Approach, Genomics, Proteomics and Bioinformatics,9(1-2),pp:45-55,2011.
13. S. S. Sahu and G. Panda, Efficient Localization of Hot Spot in Proteins Using A Novel S-Transform Based Filtering Approach, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 8 (5), pp: 1235-1246, 2011.

14. G. Panda, P. M. Pradhan, B. Majhi, IIR system identification using cat swarm optimization, Expert Systems with Applications,38(10), pp:12671-12683, 2011.

15. S. Chattopadhyay, D.K. Pratihar and S. C. De Sarkar; "Statistical Modeling of Psychosis Data", Computer Methods and Programs in Biomedicine; 100 (2010), pp 222-236.

16. Bijayananda Patnaik* and P.K. Sahu, "Design and study of high bit-rate free-space optical communication system employing QPSK modulation ,"Int. J. Signal and Imaging Systems Engineering Inderscience, In Press.

PAPERS PRESENTED AT SEMINARS/WORKSHOPS/CONFERENCES

1. T. Panigrahi, G. Panda, B. Mulgrew and Babita Majhi, "Robust Incremental LMS over Wireless Sensor Network in Impulsive Noise", IEEE International Conference on Computational Intelligence Communication Networks (CICN2010), Bhopal, 26-28 Nov. 2010.

2. R. Majhi, B. Panda, Babita Majhi and G. Panda, "Development and performance evaluation of PSO based single layer nonlinear ANN Classifiers of Indian Online Shoppers", IEEE International Conference on Advanced engineering Computing and Applications in Sciences, Florence, Italy, 25-30 Oct. 2010.

3. U. K. Sahoo, G. Panda and B. Mulgrew, "Sign-Regressor Wilcoxon and Sign-sign Wilcoxon", IEEE International Conference on advances in recent Technologies in Communication and Computing (ARTcom 2010), Kottayam ,15-16 Oct. 2010.

4. H. Pal Thethi, Babita Majhi and G. Panda, "Development of efficient robust inverse models using Bacterial foraging optimization", ACEEE International Conference on Control, Communication and Power Engineering(CCPE 2010), Chennai, 28-29 July 2010.

5. D. P. Das, N. K. Rout and G. Panda, "New partitioned block filtered-X LMS algorithm for active noise control", Proc. of IEEE 1st International conference on emerging trend in signal processing and VLSI Design, Hyderabad, 11-13 June 2010.

6. R. Majhi, S. Pandu, B. Panda, Babita Majhi and G. Panda, "Classification of consumer behavior using Functional Link Artificial Neural Network", Proc. of IEEE International Conference on Advances in Computer Engineering(ACE 2010), Bangalore, pp.323-325, 20-21 June 2010.

7. S. Mishra, M. Nayak, K. Shaw, Babita Majhi and G. Panda, "Classification of microarray gene expression data using single layer single neuron neural network", International Conference on Emerging trends in soft computing and ICT, GG Central University, Bilaspur, March 2011.

8. C. Bihari, Babita Majhi and G. Panda, "A critical review on offline handwritten odia character recognition techniques", International Conference on Emerging trends in soft computing and ICT, GG Central University, Bilaspur, March 2011.

9. M. Rout, Babita Majhi, R. Majhi and G. Panda, "Novel Stock Market Prediction using a Hybrid Model of Adaptive Linear Combiner and Differential Evolution", International Conference on Recent Trends in Information, Telecommunication and Computing, Bangalore, March 2011.

10. T. Panigrahi, D. Hanumant Rao, G. Panda and Babita Majhi, "ML DOA estimation using adaptive particle swarm optimization", ACM International Conference on Communication, Computing and Security, NIT Rourkela, February 2011.

11. T. Panigrahi, G. Panda, B. Mulgrew and Babita Majhi, "Maximum likelihood source localization in wireless sensor network using particle swarm optimization", International conference on electronics systems, NIT Rourkela, January 2011.

12. S.K. Mishra, Ganapati Panda, Sukadev Meher, Ritanjali Majhi, "A Study on Multiobjective Evolutionary Algorithms and its Application to Economics and Finance", International conference on electronics systems, NIT Rourkela, January 2011.
13. Sitanshu Sekhar Sahu, Ganapati panda and Ramchandra Barik, "Cancer Classification Using Microarray Gene Expression Data: Approached Using Wavelet Transform and F-score Method", International Conference on Electronic Systems, NIT, Rourkela, January 2011.
14. P. M. Pradhan, S. J. Nanda, L. Mansinha, K. Tiampo and G. Panda,"Missing Data Estimation with the S-Transform", International Conference on Electronic Systems, NIT, Rourkela, January 2011
15. P.K.Rout, B.P.Panda, D.P.Acharya and G.Panda, "Analysis and Design of a 1GHz PLL for Fast Phase and Frequency Acquisition", International Conference on Electronic Systems, NIT, Rourkela, January 2011
16. H Pal Thethi, Babita Majhi and G. Panda, "Identification of Nonlinear Systems in Presence of Outliers Using Robust Norm and Differential Evolution",IEEE International Conference on Computer Modeling and Simulation, Mumbai, January 2011.
17. Sitanshu Sekhar Sahu, Ganapati Panda, "A Hybrid Method of Feature Extraction for Tumor Classification using Microarray Gene expression Data", International Joint Conference on Information and Communication Technology, IIMT, Bhubaneswar, Jan 2011.
18. D. P. Das, N. K. Rout and G. Panda," Performance Evaluation of Particle Swarm Optimization Based Active Noise Control Algorithm", International Conference on Swarm, Evolutionary and Memetic Computing, Chennai, December 2010.
19. Meenakshi Panda, T. Panigrahi, P M Khilar, and G. Panda, "Learning With Distributed Data in Wireless Sensor Network",IEEE 1st International Conference on Parallel, Distributed and Grid Computing, Solan, HP, October 2010.
20. P.K.Rout, D.P.Acharya and G.Panda,"Digital Circuit Placement in FPGA based on Efficient Particle Swarm Optimization Techniques", Fifth International Conference on Industrial and Information Systems, Surathkal, August 2010.
21. Bijayananda Patnaik and P.K.Sahu , "Long-haul 64-channel 10-Gbps DWDM system design and simulation in presence of optical Kerr's effect", International Conference on Communication, Computing & Security (ICCCS-2011), ACM Proceeding, pp. 62-66, Feb. 2011.
22. Bijayananda Patnaik and P.K.Sahu, "Optimized 100 GBPS Free-space Optical Communication System Using QPSK Modulation," International Conference on Electronic System ICES-2011, Jan 2011.
23. Bijayananda Patnaik and P.K.Sahu, "Optimization of Four Wave Mixing Effect in Radio-over-Fiber for a 32-Channel 40-GBPS DWDM System," IEEE International Symposium on Electronic System Design (ISED 2010) IEEE pp-119-124, Dec 2010.

School of Humanities, Social Sciences and Management

Head of School

Dr. Dukhabandhu Sahoo

Faculty Members

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Visiting Faculty

Professor Subhendu Kumar Mund
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Professor Adwait Kumar Mohanty
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Research areas: International Accounts, Banking and Rural development
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The School of Humanities, Social Sciences and Management at Indian Institute of Technology Bhubaneswar is the cornerstone of education. It corroborates all the academic disciplines by shedding light on the underlying assumptions in teaching and research across language, culture, social policy, technological development, economic planning, psychological behaviors and public and private values. Study of the humanities provides students with a cultural perspective and an awareness besides the ability to express clearly and accurately, to evaluate critically both ideas and actions, and the courage to make choices on shared values and priorities. It's scope is international and approach is interdisciplinary. The school works at the intersections of Environmental Economics, Natural Resources Economics, Macroeconomics, Development, Economics & Rural Development, and Indian Writing in English, Post-Colonial Literature, Travel Writing, Business Communication, American Literature, Canadian Literature, ELT, Cross Cultural Communication, Autobiography, Consumer Behavior, Cyber Psychology, Clinical Psychology, Cognitive Psychology, Cognitive Neuroscience, Psycholinguistics, Psychology of Personality and Marketing. Students and faculty work together in the development of the human being. The school's aim is to help students develop the communicative, analytic, and cultural knowledge to thrive in all aspects of their future lives. Currently the School offers courses for B. Tech. program as well as runs doctoral programs in Economics, English and Psychology. Along with our diverse academic departments, the School is home to a wide variety of interdisciplinary collaborations, path-breaking research projects, and unique areas of study.

Research Activities

Presently, the School has seven faculty members working on diversified fields. The current research areas of the School includes Environmental Economics, Natural Resources Economics, Macroeconomics, Development, Economics & Rural Development, Indian Writing in English, Post-Colonial Literature, Travel Writing, Business Communication, American Literature, Canadian Literature, ELT, Cross Cultural Communication, Autobiography, Consumer Behavior, Cyber Psychology, Clinical Psychology, Cognitive Psychology, Cognitive Neuroscience, Psycholinguistics, Psychology of Personality, Marketing. Faculties of the School have projects on these issues. Faculties of the School have also applied for external funding to organizations like, ICSSR, UNDP and SANDEE. The School has four Research Scholars working on Social, Linguistics, Economics and Psychological issues. The faculty members and Research Scholars have been contributing to various national and international journals of repute.

Thrust areas

- Environmental Economics
- Natural Resource Economics
- Macroeconomics
- Rural Development
- Indian Writing in English
- Post-Colonial Literature
- Travel Writing
- Business Communication

- American Literature
- Canadian Literature
- ELT Cross Cultural Communication
- Autobiography
- Consumer Behaviour
- Cyber Psychology
- Clinical Psychology
- Cognitive Psychology
- Cognitive Neuroscience Psycholinguistics
- Psychology of Personality and Marketing

New Laboratory set up

- Language Laboratory
- Integrated Computational Lab with Data Bank

VISITS ABROAD

Dr. A Shukla	Attended the IEEE International Conference on Information and Financial Engineering; Chongqing, China, September, 2010 (Shukla, A., Sharma, N. K. and Swami, S.). Attended the 10th International Marketing Trends Conference, Paris, France, 2011 (Shukla, A., Sharma, N. K. and Swami, S.)
Dr. P Panda	Second Biennial International Conference on Race: Examining Race in the 21st Century at Monmouth University, West Long Branch, New Jersey, USA. November, 2010.
Dr. D Sahoo	Attended the International Conference of INFER, Orleans, France, March 17-18, 2011.
Dr. N C Sahu	Attended the 1st Asian Environmental Conference, Bangkok, 21-25 March, 2011, International Conference on E-Business, Attended the Management and Economics- ICEME 2010 in Hong Kong, 28-30 Dec.2010.

JOURNALS

1. A Basu, M Mermillod ,Affective Priming in Visual-Field Superiority, Review of European Studies, Vol 3, No.2, 2011, Canadian Center of Science and Education.
2. A Basu, M Mermillod, Emotional Intelligence and Social-Emotional Learning: An Overview, Journal of Psychology Research, Vol 1, No: 3, 2011, David Publishing Company, USA.
3. Satapathy, Amrita. The Nehruvian Idea of England in Nehru's Autobiography in SEARCH: A Journal of Arts, Humanities & Management, Vol II, Dec., 2009, Pg 67-79)
4. Satapathy, Amrita. Identity and Resistance: A Brown Man's Idea of England in Word, Image, Music (A Special Issue of SEARCH: A Journal of Arts, Humanities and Management, Vol. II, July 2010, Pg 86-99.
5. Sahoo, D. (2010): "Revisiting the Convergence Hypothesis in Indian Federation", Asian Profile, Vol. 38. No.5.
6. Bhattacharjee, A. and Sahoo, D. (2010): "An Environmental assessment of Coalmine of Assam", Indian Journal of Economics & Business, Vol. 9, No. 4.
7. Sahoo, D., B. Sahoo and K. Kunwar (2010): "A Case Study of the Health Condition of the Tea Garden Labourers of Assam", ICFAI Journal of Agricultural Economics, Vol. X, No.2.
8. Sahoo, D. and B. Sahoo (2010): "A Co-integration approach to Indo-Canadian Trade", ICFAI Journal of Applied Economics, Vol. IX, No. 3.
9. Shukla, A., Sharma, N. K. and Swami, S. Web site classification on information and entertainment profiles, Journal of Advances in Management Research, Vol. 8 (1), 148 – 157. 2011
10. Shukla, A., Swami, S. and Sharma, N. K. Website Satisfaction: Role of User and Website Characteristics, International Journal of Electronic Marketing and Retailing, Vol 3 (2), 114-131. 2010.

11. Shukla, A., Sharma N. K. and Swami, S. Website Characteristics, User Characteristics and Purchase Intention: Mediating Role of Website Satisfaction. International Journal of Internet Marketing and Advertising, Vol 6 (2), 142-167. 2010.

12. Srivastava K., Shukla A. and Sharma N.K. (2010). Online Flow Experiences: Role of Need for Cognition, Self-Efficacy, and Sensation Seeking Tendency, International Journal of Business Insights and Transformation. Vol 3 (2), 93-100. 2010.

13. Panda, Punyashree. 2010. Review of H. Srikanth, Indigenous Peoples in Liberal Democratic States: A Comparative Study of Conflict and Accommodation in Canada and India. Indigenous Peoples Issues & Resources. Boulder, Colorado.

14. Panda, Punyashree. "The Sacred Feminine: Women as Healers in Leslie Marmon Silko's Ceremony." Search 2 (2009): 34-40. (Back issue pub. 2010)

15. Sahu, N. C. and B. Rath (2010) " Impact of Joint Forest Management (JFM) on Stress Migration: An Empirical Investigation from Orissa, International Journal of Rural Management, Vol. 6 (1), pp. 63-78

16. Sahu, N. C. and G. Gupta (2010), "Intensity of Electricity in India: Application of Kuznet Curve" International of Journal of Business Management, Economics and Information Technology, Vol-2, No.1, Jan-June, pp. 127-132

17. Mund, S. 'A Tribute to P. Lal" Indian Journal of World Literature and Culture. Vol. 5-6: 2010-11. 126-129.

18. Mund, S. 'Meenakshi Mukherjee' IACLALS Newsletter. Jan 2011. 02.

19. Mund, S., 'Odia Songs of the Freedom Movement: A Study'. Word Image Music. Eds. S.P. Pani & P. P. Panigrahi. Bhubaneswar: DDCE, Utkal University, 2011. 226-37. Anthology of critical essays.

"Shabda and Artha: Raja Rao's Quest of Truth through Words and Silences". Littcrit. 36:2, Dec. 2010. 15-24.

20. Mund, S., 'Translation and (Post) Colonialities: Two Translations of Fakir Mohan Senapati's Autobiography'. Creative Forum (Special Issue on Autobiography, Edited by Rajkumar). Vol. 23, No. 1-2, Jan-Dec 2010. 77-86. Anthology of critical essays.

21. Mund, S., 'Translating Bhagabata of Jagannatha Das'. Muse India. 34: Nov-Dec. 2010. Available at: www.museindia.com.

22. Mund, S., 'A Journey in the Cultural Space: Fakir Mohan Senapati's Utkala Bhramanam (1892)'. Indian Travel Narratives. Ed. Somdutta Mandal. Jaipur: Rawat Publications, 2010. 228-38. Anthology of critical essays.

23. Mund, S., 'P. Lal (1929-2010): Critic and Scholar Extraordinary'. Parnassus. Vol. I: 1, Jan. 2011.

PAPERS PRESENTED AT SEMINARS/WORKSHOPS/CONFERENCES

1. Sahoo, D. Fiscal Deficit and Trade Deficit in India since 1970-71: Issues and Challenges (With Professor Maathai K M):At the International Conference of "EcoMod" held at Istanbul, Turkey, July 7-10, 2010 (http://www.ecomod.org/files/papers/1196.pdf).

2. Sahoo, D. Growth and Inequality across major Indian States: An Explorative Study: At the International Conference of INFER, Orleans, France, and March 17-18, 2011.

3. Sahoo, D. An ARDL Co-integration approach to the Twin Deficit Hypothesis in India: At the International Conference on "The Changing Structure of International Trade and Investment: Implications for Growth and Development", Department of Economics, Jamia Millia Islamia, New Delhi, March 3-4, 2011.

4. Shukla, A. IEEE International Conference on Information and Financial Engineering (ICIFE); Shukla, A., Sharma, N. K. and Swami, S. Chongqing, China, September, 2010.

5. Shukla, A. 10th International Marketing Trends Conference; Shukla, A., Sharma, N. K. and Swami, S.
6. Shukla, A. Role of Personality Variables in Virtual Behavior. XXth Annual Conference of National Academy of Psychology (NAoP) and International Conference on Mind, Culture and Human Activities: Psychological Sciences in Twenty First Century, JNU, New Delhi, Jan 12-15, 2010.
7. Pragyan P.P. Das and Shukla A. Psychological and Emotional Need of Displaced Women. International Conference on Displacement and Rehabilitation: Solutions for the Future, NIT Rourkela, November 13-14, 2010.
8. Panda, P. Second Biennial International Conference on Race: Examining Race in the 21stCentury at Monmouth University, West Long Branch, New Jersey, USA. November, 2010.
9. Panda, P. " The Punjab of Bollywood vs. the Punjab of Newspapers: Taking Stock of Contemporary Image of Punjab in Different Media" in the National Seminar on "Modernity and Changing Social Fabric of Punjab and Haryana" held at Indian Institute of Advanced Study, Shimla from 27-29 September 2010.
10. Satapathy, A. Presented paper titled, 'Identity and Resistance: A Brown Man's Idea of England' at the annual conference of the Indian Association for Commonwealth Literature and Language Studies (IACLALS) on Word, Image and Music in the Age of New Media: Postcolonial Readings (Utkal University, Bhubaneswar from 4-6 January 2010).
11. Satapathy, A. Presented paper titled 'Understanding the Fabled Land in Indian Writing in English (With Special Reference to Nehru's Autobiography' at the annual conference of the Indian Association for Commonwealth Literature and Language Studies (IACLALS) on Comparative Cultural Studies: Towards New Postcolonial Paradigms held in collaboration with The Centre for Comparative Literature, University of Kerala, Thiruvananthapuram from 27-29 January 2011.
12. Sahu, N C, International Conference on E-Business, Management and Economics- ICEME 2010 in Hong Kong, 28-30 Dec.2010.
13. Sahu, N C. Ist Asian Environmental Conference, Bangkok, 21-25 March, 2011

BOOK PUBLISHED

Name of the Author(s)	Title	Publisher	Year
Panda, P.	Contemporary Native Fiction of the U.S. and Canada: A Postcolonial Study.	Colorado: Bäuu Press.	2011
Satapathy, A.	Shifting Images: England in Indian Writing in English	Lambert Academic Publishing, Germany	2011
Sahoo, D.	An Economic Analysis of the impact of FDI on the Indian Economy: A Macro level and Sectoral Level Analysis	VDM Publisher, Germany	2010
Singh, P and Sahoo, D	India's Experience with Different Currency Regime: An Explorative Study since 1970-71	VDM Publisher, Germany	2010
Bhattacharjee, A and Sahoo, D.	Environmental impact of Coal Mines on the Local Inhabitants: A Case Study of North Eastern Coalfields, Margherita, Assam	VDM Publisher, Germany	2010
Sahu, N. C.	Impact of Joint Forest Management on Participants and Environment : A Case Study from Orissa, India,	VDMVerlag MullerAktieng-esellschaft & Co.KG	2010
Sahu, N. C.	Power Sector in India After Independence: Power Sector Reforms, Electricity Intensity, Kuznet Curve	VDMVerlag MullerAktieng-esellschaft & Co.KG	2010

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At the backdrop of worldwide infrastructural escalation, **School of Infrastructure** at IIT Bhubaneswar has come up to dedicated 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. School of infrastructure aims to have an academic space for interaction between all disciplines of engineering related to Infrastructural development, namely, Civil Engineering, Architecture, Urban and Town Planning, Traffic and Transportation Engineering. Presently, it is offering B. Tech. and Ph.D. programs in Civil Engineering. The School proposes to offer a broad based M. Tech. programme in Civil Engineering. The School promotes students to engage in extra-curricular activities and research oriented assignments to nurture their organizational skills and innovation. The school has established seven state-of-the-art laboratories to cater the needs of UG and PG students as well as Sponsored Research and Consultancy works related to Civil Engineering. The School has seven faculty members and they continue to strive loftier by exploring new frontiers of knowledge, imparting the latest technical knowledge to the students and conducting high quality of research. The faculty also renders technical advice on live engineering problems to various Government and Private Sector companies.

Research Activities

The School of Infrastructure with its multifaceted faculty continues to maintain and cultivate its strong links with the infrastructural industry and academic and research institutions both within and outside the country. The School has set up facilities for carrying out teaching, research and consultancy activities in various disciplines of Civil Engineering. The research areas in which the faculty members of the department currently involved include: Structural and Earthquake Engineering, Construction Materials and Durability, Environmental Engineering, Geotechnical Engineering, Transportation Engineering and Water Resources Engineering. The School is extensively working on emerging topics like inelastic seismic behavior of structures, performance based design, behavior of asymmetric buildings, structures subjected to blast loading and dynamic soil-structure interaction. Other work includes decolourisation and COD reduction of textile wastewater by using sequential pre-treatment with the help of either ultrasonication or coagulation followed by biological anaerobic treatment, Sand Filtration as a post treatment option for biologically treated wastewater, Water purification through natural sand beds on riverbanks, beam response on spatially random elastic foundation, local scour caused by jets downstream of hydraulic structures, local scour around partially and fully submerged hydraulic structures etc.

Thrust areas

- Concrete Technology
- Earthquake Engineering
- Traffic Flow Modeling
- Energy geotechnics
- Fluvial Hydraulics
- Waste Water Engineering

New Acquisitions (Equipment)

Shake Table, Advantest 9, Ground Penetrating Radar, Wind Tunnel, UTM, Galvapulse, GWT Water Permeability, LOK and Capo, Tilting recirculating flume, Vibration Analyser, NDT for Concrete, Atomic Absorption Spectrophotometer, Gas Chromatograph, Dry Freezer, UV-Visible Spectrophotometer

New Laboratory set up

Structural Engineering, Concrete Technology, Soil Mechanics, Environmental Engineering

SPONSORED RESEARCH PROJECTS

Project	Principal Investigator	Sponsoring Agency
Hydraulics of submerged structures subject to shallow submergence	Dr. Arindam Sarkar	DST

CONSULTANCY PROJECTS

Title	Name of the investigator (s):	Sponsors
Remedial measures for horizontal and vertical cracks developed in ESI Hospital at J.K.Pur.	Dr. Dinakar Pasla, Dr. S. Haldar, Dr. R.R. Dash, Dr. P.Bhunia, Dr. P.P. Dey, Professor S.C. Dutta	ESIC

ACHIEVEMENTS

Professor Sekhar Chandra Dutta, professor, School of Infrastructure selected as visiting "Fulbright Nehru Senior Research Fellow", Department of Civil and Environmental Engineering, University of California, Davis, and completed the grant period since December, 2010 - June, 2011.

JOURNALS

1. R. R. Dash, C. Balomajumdar & A. Kumar; Biodegradation of metal cyanides from cyanide bearing simulated wastewaters by suspended cultures of Stemphylium loti (MTCC 2542), Int. J. Geotechnics and Environment; Vol. 2; No. 1; Page No. 45-54; 2010.
2. Nandi, N., Dutta, S. C., and Roy chowdhury, A., (2010), "Explanation of seismic failure possibilities through dynamic and response analysis of earthen dams", Dam Engineering, International Water Power and Dam Construction, UK, Vol. 21, Issue: 1, pp. 45-68.
3. Halder, L., and Dutta, S.C., (2010), "Wind Effects on Multi storied Buildings: A Critical Review of Indian Codal Provisions with Special Reference to American Standard", Asian Journal of Civil Engineering, Vol.11, No.3, pp 345-370.
4. Roy, R. and Dutta, S.C., (2010) "Inelastic Seismic Demand of Low-rise Buildings with Soil-flexibility", International Journal of Nonlinear Mechanics, Vol.45, Issue4, May, pp 419-432.
5. Dutta, S.C., (2010), "P-Δ Effect in Inelastic Seismic Demands", Structural Engineering International, Vol.20, No.2, May, pp 185-194.
6. Banerjee, R. and Dutta, S.C., (2011), "Inelastic seismic behavior of elevated tanks incorporating P-Δ effect," The IUP Journal of Structural Engineering, Vol.4, No.2, pp 7-19.
7. Mukhopadhyay, P., Goswami, K., Chatterjee, P., Mandal, U., Bala, S., and Dutta, S. C., (2010), "An Attempt towards Modeling the Behaviour of Masonry Element under Lateral Loading with Limited Experimental Verification", The Bridge Structural and Engineer, ING-IABSE, Vol. 40, No.1, March 2010, pp 1-23.
8. Das, S., and Dutta, S. C., (2010), "Pushover Analysis of MDOF Systems: Explanation, Demonstration and Performance Study", Journal of the Institution of Engineers (India), Civil Engineering Division, Vol. 91, pp 37-46.

9. Haldar, S. and G. L.S., Babu (2010). Failure mechanisms of pile foundations in liquefiable soil: A parametric study. International Journal of Geomechanics, ASCE, Vol. 10, No. 2, 74-84.

10. Srivastava, A., G.L.S. Babu, and Haldar, S. (2010). Influence of spatial variability of permeability property on steady state seepage flow and slope stability analysis. Engineering Geology, Vol. 110, Issues 3-4, 93-101.

11. Pilli, Sridhar; Bhunia, Puspendu; Yan, Song; LeBlanc, R. J.; Tyagi, R. D.; Surampalli, R. Y. Ultrasonic pretreatment of sludge: a review. Ultrasonics sonochemistry, 18(1), 1-18, 2011

12. Bhunia, P., Yan, S., LeBlanc, R. J., Tyagi, R. D., Surampalli, R. Y., Zhang, T. C. Insight into Nitrous Oxide Emissions from Biological Wastewater Treatment and Biosolids Disposal. Pract. Periodical of Haz., Toxic, and Radioactive Waste Mgmt. (ASCE), 14 (3), 158-169, 2010

13. Dinakar, P (2011) "High reactive metakaolin for high strength and high performance concrete", Indian Concrete Journal. Vol. 85, No. 4, pp. 28-34.

14. Dinakar, P., (2011) "Design of Self Compacting Concrete with Fly Ash" Accepted for Publication in Magazine of Concrete Research. Thomas Telford Publishers (In press)

PAPERS PRESENTED AT SEMINARS/WORKSHOPS/CONFERENCES

1. Saha, R., Haldar, S., and Dutta, S. C., (2010), "Seismic response of soil-pile foundation structure system", Proceedings of Indian Geotechnical Conference- 2010 (Geotrendz), held on December 16th -18th, 2010, IIT Bombay.

2. Haldar, S. (2010). Reliability Based Design of Slopes under Seismic Load: Load Resistance Factor Design (LRFD) Approach. In Proc. of Indian Geotechnical Conference, Geotrendz, Bombay, India. 1049-1052 (CD ROM).

3. Saha, R., Haldar, S. and Dutta, S.C. (2010). Seismic Response of Soil-Pile Foundation-Structure System. In Proc. of Indian Geotechnical Conference, Geotrendz, Bombay, India, 143-146 (CD ROM).

4. Haldar, S. and G. L.S., Babu. (2010). Analysis of Failure Mechanisms of Piles in Liquefied Soil. In joint Proc. of the International Symposium on Forensic Approach to Analysis of Geohazard Problems, Bombay, India (CD ROM).

5. Dinakar, P (2011) "Green Concrete: The concrete for the future" National Seminar on Emerging Trends in Technology - A need for Infrastructure Development, pp. 1-7, Bhubaneswar, Odisha India.

6. Dinakar, P (2010) "Effect of Ultra-fine slag on the fresh and hardened properties of Ultra high strength concrete" 3rd Asian Conference on Ecstasy in Concrete, ACECON 2010, pp. 527- 532, December, Chennai, India.

BOOK PUBLISHED

Name of the Author(s)	Title	Publisher	Year
R. R. Dash, R. R. Dash, C. Balomajumdar, A. Kumar	Effect of Process Parameters on Adsorptive and Bio-removal of Cyanide Compounds from Contaminated Water, Chapter 2 Industrial Wastewater in Southeast Asian Water Environment, Vol. 4, pp. 73-78.	IWA, London, UK	2010

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The School of Mechanical Sciences at Indian Institute of Technology Bhubaneswar will be a premier learning centre for education and will be internationally recognized in a variety of areas of mechanical sciences research and scholarly work. The unique intellectual fusion within School of Mechanical Sciences creates new opportunities for students and will lead to a richer experience both in the classroom and the laboratory. The mission of the School of Mechanical Sciences is to provide an excellent educational experience for its students. This experience includes an emphasis on the technical, communication, teamwork and life-long learning skills in which graduate engineers need to excel at the workplace and in the society in general. The curriculum aims to emphasize a rigorous treatment of the mathematical and scientific approach to the solution of engineering problems. The program endorses the design across the curriculum and is capped with an integrated design experience in the form of a senior project. Presently, the school has seven faculty members. Faculty members are involved in a broad range of research areas. Some of the specific areas include Computer-Aided Design and Manufacturing, Rapid Prototyping, Robotics and Controls, Turbomachinery, IC Engines, Multi-Phase flow, Nano-mechanics, Composite Materials, Material Science, Green Supply Chain Management, Computational Fluid Dynamics and Acoustics.

The upcoming Master's Program of the School aims to integrate faculty members and post-baccalaureate students into a society of intellects with a common goal in creativity, innovation and advanced professional study. It shall strive to provide the widest possible opportunity for advanced study and research and for intimate association among researchers whose common objective will be to extend the horizon of their knowledge.

The school is presently working in collaboration with international research groups such as Warwick Manufacturing Group (WMG), UK, and University of Massachusetts, USA. Our students have the unique opportunity to get associated with organizations like CTTC, CIPET and IMMT for doing their laboratory, research, development, and project related works. The school's academic vision is presently being driven by the vast experience and knowledge of a group of eminent personalities of international repute who constitute the Academic Advisory Committee of the school.

Research Activities

The school is equipped with equipment/facilities like Rapid Prototyping Machine, Fuel Cell Performance Trainer, Universal Vibration Apparatus, Hardness Testing Machines, Impact Testing Machine, Spring Compression Testing Machine, MIG and TIG Welding Machine, CAD/CAM lab, having a 16 blade server and 30 high end graphics intensive workstation (augmented with software like TECHPLOT and BRG LifeMod etc.). Faculty members are involved in a broad range of research areas. Some of the specific areas include Computer-Aided Design and Manufacturing, Rapid Prototyping, Robotics and Controls, Turbomachinery, IC Engines, Multi-Phase flow, Nano-mechanics, Composite Materials, Material Science, Green Supply Chain Management, Computational Fluid Dynamics and Acoustics.

Thrust areas

- Thermoacoustic Refrigeration
- Active Noise Control
- Laser-Tissue Interaction
- Ultrafast Phase Change Process
- PCM based Heat Sink

Softwares

ANSYS, CATIA, SOLIDWORKS, TECPLOT 360, VI RAILS, MD ADAMS, DELMIA, PBS-PRO, ENOVIA, MD-NASTRAN, MATLAB, PATRAN, MARC, DYTRAN, SOFY, SINDA, EASY V, BRG-LIFE MOD

New Acquisitions (Equipment)

Rapid Prototyping Machine, Optical Profilometer, Flame Propagation Unit, Axial Flow Gas Turbine Unit, Transparent IC Engine, Fuel Cell Training System

New Laboratory

CAD/CAM LAB, ADVANCED PRODUCT DEVELOPMENT LAB, MATERIAL TESTING LAB

SPONSORED RESEARCH PROJECTS

Project	Principal Investigator	Sponsoring Agency
Simulation of Conjugate Heat Transfer in Laser-Tissue Interaction	Dr. S.K.Mohapatra	DST-SERC
Modification of Low Modulus Titanium Alloys by Addition of Interstitial Solutes and/or Ceramic Materials for Biomedical Applications	Professor M.Chakraborty	DRDO

ACHIEVEMENTS

Professor M.Chakraborty was conferred the Fellow of the West Bengal Academy of Science and Technology
Professor M.Chakraborty received the Best Technical Paper Award from the Institute of Indian Foundrymen

VISITS ABROAD

Professor M. Chakraborty	Visited the Warwick Manufacturing Group, University of Warwick UK as Visiting Professor during 8 May – 4 June 2010.
Dr. Akhilesh Barve	Attended the International Conf. on e-Business, Management and Economics (ICEME 2010), Hongkong, Dec 27-30, 2010

JOURNALS

1. Nand Kishor, Mihir Kr. Das, Anirudha Narain, Vibhaw Prakash Ranjan, "Fuzzy Model Representation of Thermosyphon Solar Water Heating System", Solar Energy, Vol. 84, pp. 948-955, 2010.
2. Mihir K. Das, S.C. Gupta, V. K. Agarwal, "Dimensionless Local and Average Boiling Heat Transfer Correlation for Saturated Liquids", Heat Transfer Research, Vol. 41 (5), pp. 531-558, 2010.
3. Das, M. K., Kishor, N., "Soft Computing Techniques for Prediction of Boiling Heat Transfer Coefficient of Liquids on Copper Coated Tubes" Applied Artificial Intelligence: An International Journal, 24 : 3, 210 – 232, 2010.
4. Mihir K. Das, Kishor, N., "Determination of Heat Transfer Coefficient in Pool Boiling of Organic Liquids Using Fuzzy Modeling Approach" Heat Transfer Engineering, 31 : 1, 45 – 58, 2010.
5. M. K. Pandit, A. H. Sheikh, and B. N. Singh."Analysis of laminated sandwich plates based on an improved higher order zigzag theory", Journal of Sandwich Structures and Materials, 12(3): pp.307-326, 2010.
6. M. K. Pandit, B. N. Singh, and A. H. Sheikh, "Vibration of sandwich plates with random material properties using improved higher-order zigzag theory" Mechanics of Advanced Materials and Structures, 17(7): pp. 561-572, 2010.
7. M.D.V. H., Kishore, B.N. Singh, and M. K. Pandit, "Nonlinear static analysis of smart laminated composite plate" Journal of Aerospace Sciences and Technology, 15(3): pp. 224–235, 2010.
8. S. Mantry, S. Mohapatra, S. Mohapatra, S.K.Singh, A. Mandal and A. Satapathy "Erosion behaviour of Glass-epoxy composites filled with SiC from bamboo leaf," International Polymer Processing; 26; 164-172, 2011.
9. K. Jayasankar, A. Mandal, A. Pany and P.S. Mukherjee "Synthesis of Fe-TiC in-situ Composites by Plasma Smelting of Ilmenite," Materials and Manufacturing Processes; 26; 1-5; 2011.
10. K. Jayasankar, P.K. Ray, A. Mandal, A.K. Chaubey and P.S. Mukherjee, "Utilization of red mud waste fines

for iron making by thermal plasma technology," Minerals and Metallurgical Processing; 2011.

11. A. Mandal and M.M. Makhlouf, "Chemical Modification of Morphology of Mg2Si Phase in Hypereutectic Aluminum-Silicon-Magnesium Alloys," International Journal of Cast Metals Research; 23; 303-309; 2010.
12. Siddhalingeshwar I.G, D. Deepthi, M. Chakraborty, R. Mitra, "Sliding wear behavior of in situ Al-4.5Cu-5TiB2 composite processed by single and multiple roll passes in mushy state", Wear (in press).
13. B Geetha Priyadarshini, Shampa Aich, Madhusudan Chakraborty, "Structural and morphological investigations on DC-magnetron sputtered nickel films deposited on Si (100)", Journal of Materials Science, J. Mat. Sci. 46, 2860 (2011).
14. P. Majumdar, S.B. Singh and M. Chakraborty, "The Role of Heat Treatment on the Microstructure and Mechanical Properties of Ti-13Zr-13Nb Alloy for Biomedical Load Bearing Applications", Journal of the Mechanical Behavior of Biomedical Materials, DOI: 10.1016/j.jmbbm.2011.03.023
15. G. S. Vinod Kumar1, M. Chakraborty, F. Garcia-Moreno, J. Banhart Foamability of MgAl2O4 (spinel)-reinforced aluminium alloy composites, Metallurgical and Materials Transactions A (in press).
16. B. Geetha Priyadarshini, S. Aich and M. Chakraborty, Structural and morphological investigations on DC-magnetron sputtered nickel films deposited on Si (100), Journal of Materials Science, J. Mat. Sci. 46, 2860 (2011).
17. I. G. Siddhalingeshwar, R. Mitra and M. Chakraborty, "Effect of mushy state rolling on age-hardening and tensile behaviour of ASl-4.5Cu alloy and in-situ Al-4.5Cu-5TiB2 composite", Materials Science & Engineering A 528 (2011) 1787-1798.
18. Mervin A. Herbert, G. Das, R. Maiti, M. Chakraborty, and R. Mitra, "Tensile properties of cast and mushy state rolled Alâ€"4.5Cu alloy and in situ Al-4.5Cu-5TiB2 composite", International Journal of Cast Metals Research, Vol. 23, No. 4, (2010), Pages 216-224.
19. G.S. Vinod Kumar, B.S. Murty and M. Chakraborty, "Effect of TiAl3 Particle size and distribution on their settling and dissolution behaviour in Al", Journal of Materials Science, 45 (2010), Pages 2921-2929.
20. G.S. Vinod Kumar, B.S. Murty, M. Chakraborty, "Settling Behaviour of TiAl3, TiB2, TiC and AlB2 Particles in Liquid Al during Grain Refinement", International Journal of Cast metals, Vol. 23, No. 4, (2010), Pages 193-204.
21. P. Majumdar, S. B. Singh, M. Chakraborty, "Wear properties of Ti-13Zr-13Nb (wt%) near Î² titanium alloy containing 0.5 wt% boron in dry condition, Hank's solution and bovine serum", Materials Science and Engineering C, 30 (2010) Pages 1065-1075.
22. P. Majumdar, S. B. Singh, M. Chakraborty, "Fatigue behaviour of in-situ TiB reinforced Î² titanium alloy composite", Materials Letter, 64 (2010), 2748-2751.
23. P. Majumdar, S. B. Singh, M. Chakraborty, "Fatigue behaviour of boron free and boron containing heat treated Ti-13Zr-13Nb alloy for biomedical applications", Materials Characterization 61 (2010) 1394-1399.
24. P. Majumdar, S.B. Singh, U.K. Chatterjee and M. Chakraborty, "Corrosion Behaviour of Heat Treated Boron Free and Boron Containing Ti-13Zr-13Nb (wt%) Alloy in Simulated Body Fluid", Journal of Materials Science: Materials in Medicine, DOI: 10.1007/s10 Published online, 2010.

PAPERS PRESENTED AT SEMINARS/WORKSHOPS/CONFERENCES

1. Barve A.; International Conference on E-business, Management and Economics, ICEME2010; "Impact of Supply Chain Agility on Customer Satisfaction"; Hong Kong, Dec 27-30, 2010.
2. Muduli K., Barve A.; National Conference on Industrial Engineering, NCIE-2011, WBUT, Kolkatta,; "Drivers of Green Supply Chain Management: A Literature Survey"; Feb 17-18; 2011
3. Barve A., Muduli K.; International Conference on Mathematical Modelling and Applications to Industrial Problems, MMIP-2011,NIT Calicut; "Green Aspects of Supply Chain Management: A Graph Theoretic Approach"; March 28-31; 2011.
4. Pandit, M. K., Sheikh, A. H., and Singh, B. N. ; 5th International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM), IIT Kharagpur, India; Response of laminated sandwich plates using an improved higher order zigzag plate model; December 27-29, 2010
5. Das M. K., 37th International and 4th National Conference on Fluid Mechanics and Fluid Power; "Study of local boiling heat transfer of saturated liquid"; IIT Chennai; Dec 16-18, 2010.

Central Library

Soon after the formal beginning of the institute, planning was made to start the Central Library in order to supplement and compliment the knowledge seekers academic and research related information need. It being one of the vital organs of the education, immediate emphasis was given for a good collection building of "Text Books and Reference Books" to meet the academic need of the students and the faculty members. It also started subscribing to some popular magazines and newspapers in order to provide a means for leisurely reading and keep themselves updated with the information on current events, innovations and day to day happenings all around the world. Central Library has acquired the library software package VTLS (Visionary Technology in Library Solutions) and a high capacity Computer Server from SUN Microsystems (Model: FIRE X4270) having 1200GB Hard Disk with 12GB RAM and RHEL-64 as OS, automated its routine activities by developing computerized library database system. All documents are bar-coded and by retro conversion all collections acquired prior to automation are also included in the Central Library book database. Since April 1, 2011 the Central Library is functioning from its sister campus at Toshali Bhawan.

Library collection to date:

- Books Procured During 2009-10: 2584 Nos. at a gross value of Rs.18,08,763.00
- Books Procured During 2010-11: 2566 Nos at a gross value of Rs. 22,16,905.00
- Journals and Magazines: 14 Nos.
- Daily Newspapers: 12 Nos.
- E-database (Off-line CD Version of Cambridge Structural Database): 04 user license

Services Offered:

- Fully automated Circulation
- Online Book Reservation, Information search, Patron's library book loan status check
- OPAC (Online Public Access Catalogue)
- Reserve collection development for student's in-house reading
- New Arrival Book Section
- Off-line (CD Version) CSD (Cambridge Structural Database)

New Services expected soon:

- Digital Library Services
- Soft copy printing facilities
- Selected E-Resources Subscription for Central Library

Training and Placement Cell

Internship

IIT Bhubaneswar scaled another dimension in its path of growth with the students of its first batch undertaking summer internships. The Training and Placement Cell enabled internships for the students in various industrial domains across different locations all over India. Besides the industrial internships, as many as 26 of the total 94 students undertook research internships outside India, University of Warwick (Warwick Manufacturing Group) and University of Massachusetts Dartmouth accounting for half of the foreign internships. GMR, Gammon India and Scott Wilson were the major recruiters in the School of Infrastructure. Texas Instruments, National Instruments, Tata CRL and TCS R&D were the prominent companies recruiting from the School of Electrical Sciences, while the School of Mechanical Sciences had Hindustan Motors, All Cargo Logistics, Tata Motors and Zeus Numerix amongst others. In addition, few students also had their research stint at IIT Delhi and IISc Bangalore.

Panel Discussion

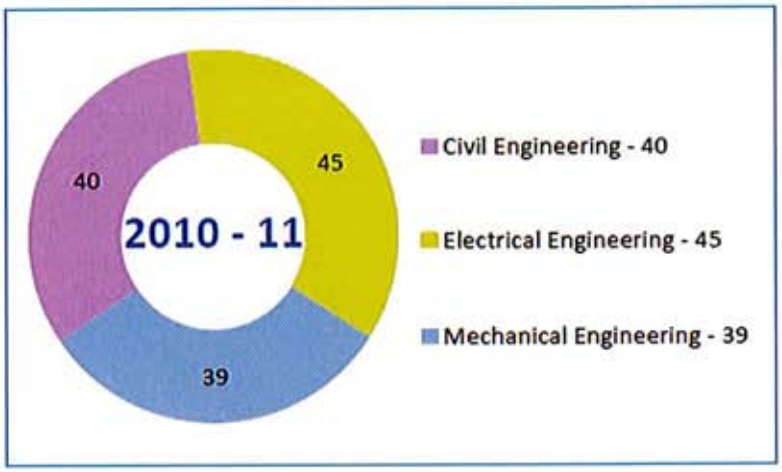
Training and Placement Cell, IIT Bhubaneswar conducted Panel Discussion on "Managing Generation Y in the work place- a challenge to Indian Industries" on March 12, 2011. Moderated by Professor Bhaskaran, former Head, Training and Placement Cell, IIT Kharagpur, the event had Mr. Ranjan Bandyopadhyay, Global HR Head, TCS-BPO, Mr. Prasanjeet Pati, Founder, Afixi Technologies and an IIT Kharagapur alumnus, Ms. Bobby Patnaik, Manager, Employee Relations, Infosys, Mr. Dev Kumar, GM, HR, BSNL Orissa circle, Retd. Major General S. D. Mahanti, AVSM and Mr. Devasis Sarangi, Mentor and Senior Consultant, Little Minds as the panelists. The event had HR executives from various companies including the Tata Group, HP, Cisco, Essar Steel and Mahindra Satyam. Overall, it was an excellent platform for the industry front and the academic arena to brainstorm on a topic of high relevance to the student community, for the students to understand the expectations of the industry and for the company executives to gauge the potential at IIT Bhubaneswar.

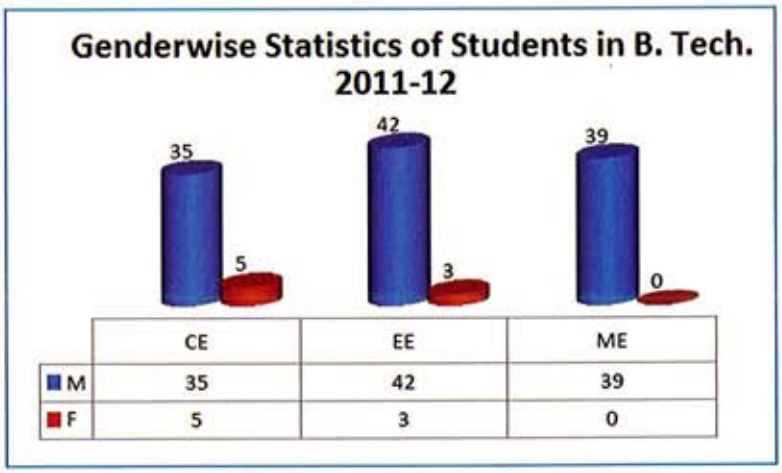
ACADEMIC INFORMATION

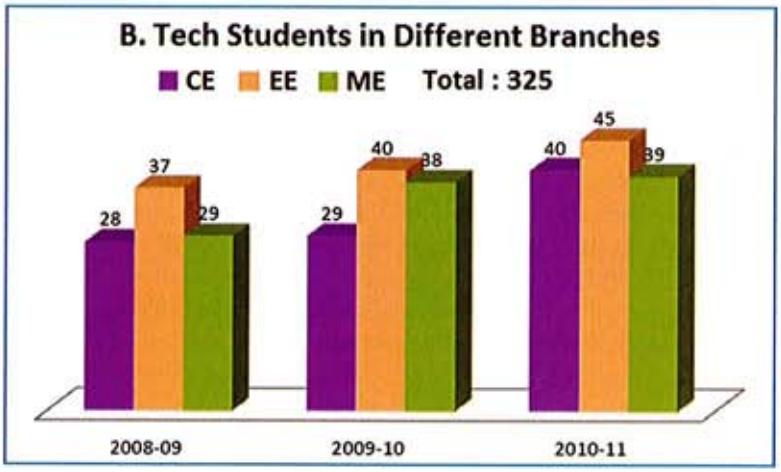
Programmes Offered:

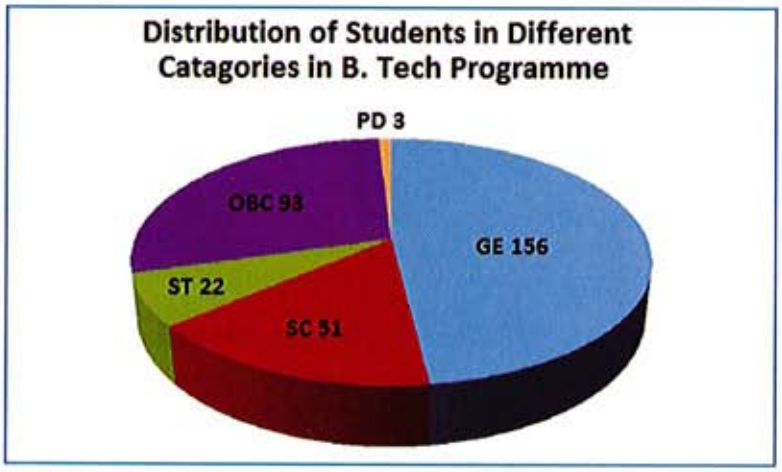
School of Basic Sciences: Ph.D.
School of Earth, Ocean and Climate Sciences: Ph.D.
School of Electrical Sciences: B.Tech. in Electrical Engineering and Ph.D.
School Infrastructure: B.Tech. in Civil Engineering and Ph.D.
School of Mechanical Sciences: B.Tech. in Mechanical Engineering and Ph.D.
School of Humanities, Social Sciences and Management: Ph.D.

B.Tech Programme

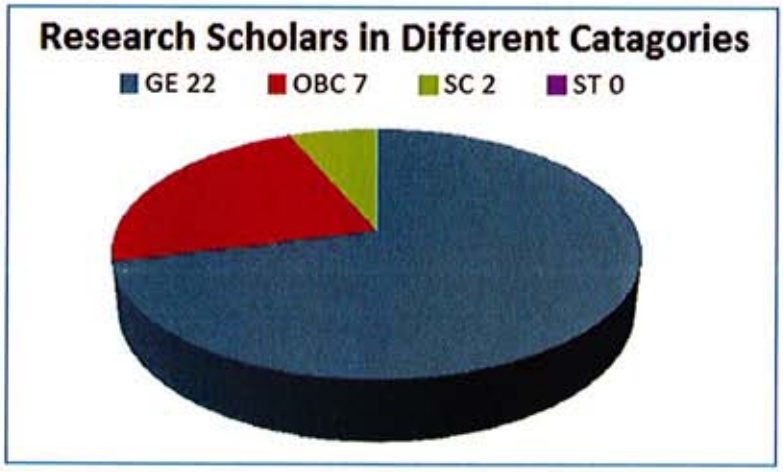


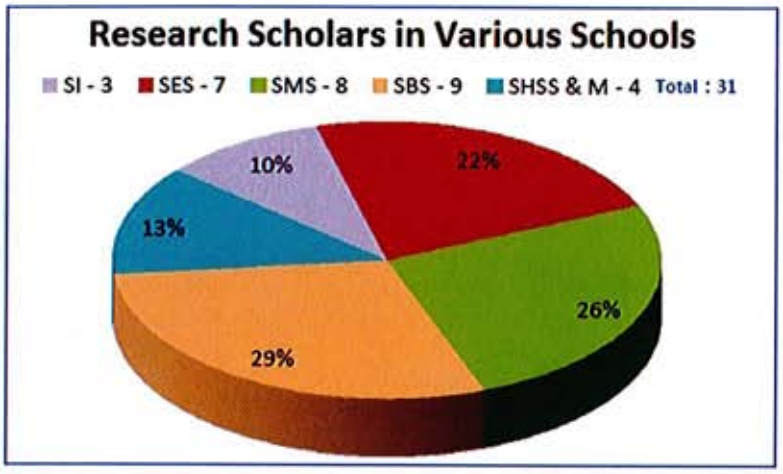




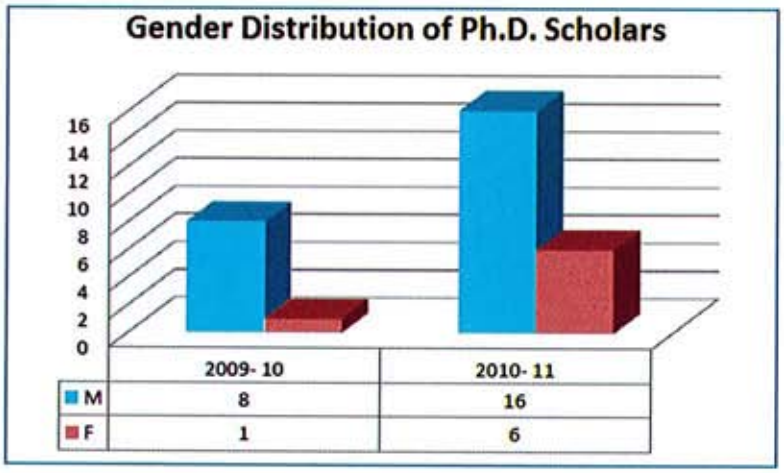


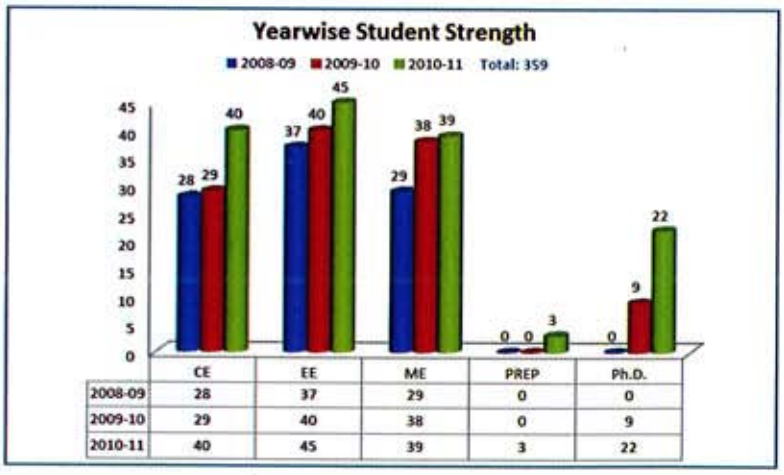
Ph. D. Programme





SI : School of Infrastructure , SES: School of Electrical Sciences, SMS : School of Mechanical Sciences, SHSS & M: School of Humanities , Social Sciences & Management





Scholarships

During 2010 -11, 83 students have been awarded Merit-cum-Means (MCM) scholarships, along with tuition fee waiver. A sum of Rs. 1000/- per month is given as scholarship while the amount of free studentship is Rs. 5000/- per month subject to a maximum of Rs. 25000/-. 32 other students have been awarded tuition fee waiver.

Name of Scholarship	2010- 11 (Batch)	2009- 10 (Batch)	2008- 09 (Batch)
MCM Scholarship 2009-10	32	27	24
MCM Scholarship 2009-10 (Free Studentship)	13	10	9
CSSS for Top Class Education (SC Students)	4	7	1
Financial and other assistance for ST students	3	1	0
NCERT	0	2	0
Post Matriculation	1	0	0
A.P. - CSSS for college and University for the year 2010-11	8	2	3
Merit Scholarship from Central Warehousing Corporation	0	0	1
Scholarship (MECON Ltd.)	0	1	
Rajashree Shahu Mararaj Merit Scholarship to 100 Scheduled Caste Students for higher education in the renowned educational Institution in the country	1	0	0
Scheduled Caste Development-Educational Concessions for Post Matric Studies	1	0	0
Education-Technical-Merit cum Means Scholarship 2010-11	1	0	0
Rajasthan Scholarship	1	0	0
Total	**65**	**50**	**38**

VISITS

An 8-member delegation from the University of Warwick visited IIT Bhubaneswar during September 16-19, 2010. IIT Bhubaneswar held an Academy-Industry Interface – An Interactive Session where the faculty members of WMG and IITBBS held in-depth discussions with the representatives from major Industries on designing strategies for developing functional relationship between industry and academia. Senior representatives from reputed industries and institutes like Tata Steel, Infosys, MGM, IBM, Wipro, Visa-Steel, and LV Prasad Eye Institute and others joined the strategy-building sessions. The program was inaugurated by His Excellency Sanjay Wadvani, OBE, British Deputy High Commissioner Eastern India. Mr. Wadvani highlighted the major ongoing collaborations between India and UK in the field of science and technology and extended his support and good wishes to the WMG-IITBBS initiative.

Prof. Asit. K. Biswas, Founder, Third World Centre for Water Management, Mexico visited IIT Bhubaneswar from December 26-27, 2010. An academic at heart and an enterprising entrepreneur by practice he delivered a lecture on **Water and Economic and Social Development for India: Opportunities and Constraints**, where he emphasized that we should all develop a new working ethos by collaborating with industries.

Dr. D. Subba Rao, Governor, Reserve Bank of India visited the Institute on 26th February, 2011 in which he delivered a talk on various socio-economical issues. He emphasized on the need for stepping up agricultural productivity to fight food scarcity and rising food prices. He also highlighted the need for young engineers to focus on developing infrastructure and manufacturing sectors for growth of India.

Prof. Damodar Acharya, Director IIT Kharagpur inaugurated the new Workshop Building of the School of Civil and Infrastructure of IIT Bhubaneswar on March 1, 2011.

INVITED LECTURES

Name of the Speaker	Topic	Date
Dr. Amitav Rath Director, Policy Research International, Ottawa, Canada	Entrepreneurship	02.07.2010
Dr. Kamal Kant Dwivedi Advisor and Head, National Council for Science and Technology Communication (NCSTC), DST, Govt. of India	Funding Possibilities from DST, Govt. of India	14.07.2010
Dr. Suman Sanyal Department of Mathematics, Marshall University Huntington, West Virginia, USA.	The Stochastic Dynamic Exponential and its relation with Geometric Brownian Motion	15.07.2010
Mr. Vamsi Velidandla VP, Marketing, Zeta Instruments Concourse Drive, San Jose, CA, USA	Advantages of Zeta 3D Optical profiler Vs Stylus profiler, AFM & SEM	23.07.2010
Dr. Bishnu Prasad Das Member, Expert Appraisal Committee of MoEF, Govt. of India	Water, Availability and Need in Global Perspective with Particular Reference to India	13.08.2010
Professor B. S. Murty Head Nanotechnology Laboratory and Electron Microscopy Laboratory, Dept. of MME, IIT Madras	Nanomaterials	05.10.2010

Professor T. Venkatesan Founding Director Nano Institute (NUSNNI-Nano Core) NUS Singapore	A sample of Research at the Nano Institute at National University of Singapore	16.12.2010
Professor Asit Biswas Founder, Third World Centre for Water Management, Mexico	Water and Economic and Social Development for India: Opportunities and Constraints	27.12.2010
Professor Chitta Baral Professor, Department of Computer Science and Engineering, Arizona State University, USA	Building Computer Programs that Can Read and Understand English	07.01.2011
Dr. A. R. Upadhaya Director, CSIR-NAL, Bangalore	R&D and Aircraft R&D activities of NAL	20.01.2011
Professor Rudra Pratap Professor, Dept. of Mechanical Engg, IISc. Bangalore	Understanding the dynamics of MEMS/NEMS	21.01.2011
Dr. Anup Biswas Centre for Applicable Mathematics, TIFR Bangalore	Small noise asymptotics for invariant densities for a class of diffusions: A control theoretic view	28.01.2011
Professor R. Padhi Dept. of Aerospace Engg., IISc Bangalore	Innovative Applications of Modern Control for Autonomous Guidance of Aerospace Vehicles	02.02.2011
Dr. Bhanoji Rao Visiting Professor, Lee Kuan Yew School of Public Policy, National University of Singapore, Singapore	Success Formula Made in India	28.02.2011
Professor Richard Dashwood Academic Director, Head of Materials & Sustainability, WMG, University of Warwick, UK	Application of the FFC Cambridge Process for the Production of Titanium Alloys	28.02.2011
Mr. S. K. Roongta President, Institute of Steel Development & Growth (INSDAG), Former Chairman Steel Authority of India Ltd and Member, BoG, IIT Bhubaneswar	Entrepreneurship	05.03.2011
Mr. Ramnath S. Mani Chairman & CEO Energys Software Pvt. Ltd., Chennai	India's Future Automation Excellence & Knowledge Exchange	06.03.2011
Professor Narendra K. Sharma Dept. of Industrial and Management Engg., IIT Kanpur	The Scientific Study of the Mind	25.03.2011
Professor Ram H. Nagaraj Carl F. Asseff, M.D. Professor of Ophthalmology, Department of Ophthalmology and Visual Sciences, Case Western Reserve University School of Medicine, Cleveland, OH, USA	Small Heat Shock Proteins: Cellular Gatekeepers against protein damage and apoptosis	30.03.2011

STUDENT ACTIVITIES

GYMKHANA

The Students Gymkhana is the nucleus of the numerous extra-curricular and co-curricular activities spanning activities like sports to socio-cultural events like dance and drama. It plays a pivotal role in the cultivating and nurturing IITians here by encouraging participation in a number of contrasting events.

The Students Gymkhana functions mainly through the Students representative: the Vice President, General Secretary Socio-Cultural Council, General Secretary Science and Technology Council, General Secretary Sports Council. The Senate lays down the general guideline for the functions of the executives and their associated councils.

General Elections are held every year during spring for various offices. The elections are presided over by an election commissioner. The Gymkhana Elections and its healthy functioning are done in accordance to the Gymkhana Constitution.

SOCIETIES

THE DANCE SOCIETY

The dance society of IIT Bhubaneswar aims at improving the dancing skills of students. Be it Hip-Hop or Salsa, Break Dance or Classical, the society helps students to give vent to their dancing abilities. The society holds the responsibility of participation at the time of institute festivals. In event "Get Served", a street dance solo event, Nifal Adam took part and eventually emerged as 2nd prize winner at Spring Fest 2011, the socio-cultural fest of IIT Kharagpur held from Jan 21-24, 2011. This event too witnessed huge participation from various colleges and amidst of all extra-talented competitors, he procured a respectable position and won laurels for IIT Bhubaneswar.

THE DRAMATICS SOCIETY

The work of the society starts right from an interesting selections ceremony to participation in nationwide theatre plays and street plays by reputed institutes. To enhance stage presentation, vocal presentation and on-spot acting this is a right flow that you must be caught in. The Dramatics society of IIT Bhubaneswar, took part in Spring Fest 2011, the socio-cultural fest of IIT Kharagpur (which was held from 21st Jan to 24th Jan 2011) with the same enthusiasm as last year. They participated in *Rangmanch* the inter-college stage play competition where they performed the play *Sita Apharan* Case. They received a pretty good response for the performance and reached finals (Top 5) on clearing the preliminary round, in which around 25 engineering colleges mostly different IITs across various parts of the country took part and were ranked 5th as the final score was announced. Dramatics society-IIT Bhubaneswar has really improved its standards in the recent past. They stood 4th in the *Nukkad* competition organized during the Spring Fest, 2010 and this year they proved their progress by reaching the finals of the event Rangmanch. Also, IIT Bhubaneswar team won a notable second prize in *"Lights, camera, SF"* at Spring Fest 2011 at IIT Kharagpur.

PANACEA: THE LITERARY SOCIETY

Panacea aims to provide students with ample opportunities to voice their underlying opinions as well as nurturing and honing their creative skills- with a vision to eventually transform them into a wholesome individual ready to take on this world in a stride. The society has been instrumental in setting up of a reading club-cum-library, having a diverse inventory of academic and non-academic books and journals- to quench the thirst of avid readers. The students' newsletter *"WISTAZ"* is yet another initiative of the society which serves as a wreath binding together all the students of the institute.

FINE ARTS SOCIETY

In this world, we are circumscribed by art - be it natural or manmade. Fine Arts society (FAS) IIT Bhubaneswar aims to arouse interest in the areas of art, culture and tradition among students and to widen their horizon of thoughts so that they can understand the colourful world around them in a better manner. This society proposes to conduct workshops on different areas of fine arts such as clay modeling, computer designing, photography etc. This society also holds the responsibility for various cultural events - *Rangoli* and *Illumination* at the time of festivals to name a few.

THE MUSIC SOCIETY

This society is for all the music lovers. The basic aim of this society is to promote the spirit of music amongst the students of IIT Bhubaneswar. The music society has been regularly putting up performances to improve the musical skills of the students. The Music Society in collaboration with Spic Macay organized musical extravaganzas to promote Indian Classical Music.

ENTREPRENEURSHIP CELL

Entrepreneurship Cell of IIT Bhubaneswar aims to foster the spirit of entrepreneurship amongst college students in India. The events organized include an entrepreneur talk by Mr. Bijon Naag of IFB; a contest to pool in creative ideas from students; a biz-quiz and a workshop on patenting. Yet another striking implementation of the cell has been the E Corner- a portal on the student bulletin board - featuring news from the entrepreneurial world, startup stories, and trivia amongst others.

CYBER GAMING CLUB

The addiction of adrenaline rushes while gaming led a group of insane gamers to form the CYBER GAMING CLUB. This society is for all the pros, knobs and first timers who want to experience the excitement of cyber battle. The society promotes competitions and exposes the gamers of IIT Bhubaneswar to college and national level gaming with the basic motive of imbibing a sense of tactical knowledge and skills in upcoming gamers. Various intra and inter college cyber gaming events were held under this society.

SPORTS CLUB

This club focuses on the overall development of various sports activities at IIT Bhubaneswar including – providing ample opportunities for the students to learn or improve their skills in any sport. Organizing intra and inter college, inter department sports extravaganzas feature amongst the future plans.

ROBOTICS CLUB

An exhilarating experience in its own, the Robotics Club gives you a chance to learn new skills in the highly advancing field of robotics and gives first hand off experience at building robots. The society conducts regular workshops on robotics where each segment of robot-building is analysed and explained separately. It also helps and prepares students to participate in robotics competitions at various Institutions all over the country.

COUNSELLING SERVICE TEAM

The CS-team is coordinated by Dr. Asmita Shukla of School of HSS&M, a student coordinator, assistant coordinators and adequate number of student guides. The teams' activities are wide-ranging spanning from one-to-one sessions, group activities to positive-thinking workshops.

EVENTS

ALMA FIESTA

Alma Fiesta 2011, the second edition of socio-cultural fest of IIT Bhubaneswar, came to a grand conclusion on the night of 16th January with performance by singer Krishna Beura being the signing off event.
The fest was inaugurated on January 14, 2011 by Professor P. Rama Rao, Chairman, Board of Governors, IIT Bhubaneswar.
The inaugural ceremony was also attended by Dr. Shruti Mohapatra, Founder and Chief Executive, Swabhiman Group and was marked by mesmerising performances by the differently-abled children of the Swabhiman Group. The dance and music societies of IIT Bhubaneswar also chipped in with equally exhilarating performances.
January 15 and 16 saw a plethora of events being organised which encompassed all the spheres of youth interest, including dance, drama, music, literature, fine arts etc. All the events witnessed a healthy participation with colleges from Orissa, Andhra Pradesh, and West Bengal taking part in the fest.

Alma Fiesta 2011 also defied the quintessence of cultural fests by adopting a social stance. The endangered Olive Ridley Turtle was adopted as the mascot of the fest. Events such as Youth Marathon, Perspective, and Trashcan Novelties etc. focussed on the need to bring about a change in our society and environment. Alma Fiesta 2011, under the chairmanship of Dr. Rajan Jha was a huge success, both in terms of participation. Apart from being a celebration of the youthful spirit, it also did its social bit and contributed in the effort of making the world a better place to live in.

WISSENAIRE

This year IIT BBS proudly celebrated its maiden techno-management fest, coined with the name of Wissenaire during March 4-6, 2011. The fest was inaugurated by Mr. S. K. Roongta, the President of Institute for Steel Development & Growth who delivered a lecture entitled "Entrepreneurship". Being a first of its kind, the fest was a perfect blend of innovative technology and immaculate management features, iced on top by the profound expertise and leadership of the dedicated faculty and students of IIT BBS. Among the most highlighted features were, flooding participation from the various prestigious colleges of the country, revolutionary ideas and events and highly enlightening lectures by some of the eminent personalities in the field of diverse technologies. Owing to the able leadership of Dr. N. C. Sahu and the hard work of the participants, the concept was an immediate success and glistens as a milestone in the history of IITBBS.

RESEARCH SCHOLARS' DAY

IIT Bhubaneswar celebrated its first Research Scholars' Day on February 28, 2011 on the occasion of the National Science Day. Prof. Madhusudhan Chakraborty, Director inaugurated the celebrations in the presence of Prof. Richard Dashwood (University of Warwick), Prof. Omkar Mohanty (Former Vice Chancellor, BPUT Odisha), Prof. S.C. Panigrahi (IIT Kharagpur), Prof. A.K. Behera (Retd. Professor NIT Rourkela). The brief informal inaugural ceremony was also attended by Dy. Director, Deans and Heads of Schools.

3rd FOUNDATION DAY

The Foundation Day of the institute was commemorated on February 11, 2011. The introductory remarks by the director was followed by a debate competition on the "The superiority of man versus technology". The aura of competition was overwhelming. The other notable events of the day include an enthralling performance by the music society.

INTERNATIONAL WOMENS' DAY

Women are the soul of "The circle of life". Their journey from daughter to wife to mother is worth ovation. As a token of love, respect and reverence we celebrate International Women's Day with sincere enthusiasm. With the intonation of women who have committed a gamut of efforts to change the face of the world, as we see today, in the field of science, politics, literature, sports and numerous other, students recited the glory of women of yore and the courage of the empowered women. The meter matched the semblance of the day. A sketching and poster competition had been held earlier in the day, and the art work bordered on the cause of education for women. The house sprung on open discussion on the issue of male dominance in the society.

UTKAL DIVAS

Expressing the greatest of our interest and immense respect towards the heritage and culture of this esteemed state of Odisha, the Institute gleefully celebrated the auspicious occasion of Utkal Divas on April 1, 2010 with various quiz programmes and competitions solely dedicated to the history and culture of the state.

FINANCIAL INFORMATION

Sl No.	RECEIPTS	Current Year (2010-11)	Previous year (2009-10)	PAYMENTS	Current Year (2010-11)	Previous year (2009-10)
I.	**Opening Balance**			**EXPENSES**		
	a) Cash in Hand	-		a) Establishment Expenses	48,183,874.00	138,279.00
	b) Bank Balances			b) Administrative Expenses	41,868,878.00	13,245,317.00
	i) In Current accounts			c) Prior Period Expenses	257,322.00	-
	ii In deposit accounts			d) Project Expenses	12,400,000.00	-
	iii) In Savings accounts	129,747,840.27	48,698,172.00	d) Hostel Expenses	7,774,524.00	
				Payments made against funds for various projects		
				Investments and Deposits made		
II.	**Grants Received**					
	a) From Govt. of India	453,800,000.00	376,061,920.00	a) Out of Earmarked/ Endowment Fund		
	b) From State Government			b) Out of Own Funds		
	c)From Other Sources(Details)					
	(Grants from Capital and Revenue expenses to be Shown Separately)			**Expenditure on Fixed Assets & Capital Work-in-progress**		
				a) Purchase of Fixed Assets		7,137,430.00
III.	**Endowment Fund :**			b) Expenditure on Capital Work-in-Progress		

	a)Earmarked/Endowment Fund	30,000,000.00		**Refund of Surplus money/Loans**		
	c)Own Funds (other Investment)	-	-	a) To the Government of India		
				b) To the State Government		
IV.	**Interest Received :**			c) To other providers of funds		
	a) On Bank Deposits	3,533,853.27	4,480,523.06			
	b) Loans, Advances etc			**Finance Charges (Interest)**		
				Other Payments		
V.	**Other Income**	31,544,513.23	4,914,592.00			
				Loans (Liability)		
				Advance From Ranjan Banerjee		7,750.00
VI.	**Amount Borrowed**			Atul Prakash Trivedi		254.00
				Ratul Bandhyopadhyaya		7,074.00
				Current Liabilities		
VII.	**Other Receipts**			Sundry Creditors	136,891,501.86	86,630,354.20
				SALARY PAYABLE		12,169,752.90
	Encashment of Investment	-	-	Car Advance(M. Chakraborty)	35,400.00	29,500.00
				EMD	8,492,791.00	100,000.00
	Rectification Entries relating to Expenditures			Expenses Payable	74,660.00	
	- Administrative Expenses			G I S Payable	3,000.00	1,320.00
				G P F Payable	1,109,822.00	466,211.00

	Refund of Travelling and Conveyance	-	2,441.06	L I C		301.00
	Bank Charges	-	240.50	New Pension Scheme	5,335,540.00	631,382.00
	Misc Expenses	-	2,777,481.00	Performance Security	3,777,562.00	871,887.00
	Scholarship for Student	-	187,000.00	P.Tax	176,825.00	60,735.00
				Rent Payable		4,250,513.00
VIII	**Current Liabilities**			TDS	6,323,770.00	2,507,413.00
	Sundry Creditors	4,840,491.00	251,957.00	Tech Coop Credit Society	1,200.00	1,000.00
	EMD	14,147,402.00	5,956,868.00	T F S	312.00	260.00
	Performance Security	2,740,693.00	3,507,775.25	Project Grant	3,225,450.00	
	Project Grant	2,779,735.00		Other Current Liabilities	1,496,520.00	
	G P F Payable	1,049,648.00		Hostel A/c	751,613.00	
	Car Advance(M. Chakraborty)	35,400.00		**Current Assets**		
	IIT Hostel	69,000.00		Loans & Advances (Asset)	157,017,174.50	98,574,300.50
	Tech Coop Credit Society	1,200.00		Sundry Debtors		3,100.00
	T F S	312.00		Prepaid Telephone Charges		47,450.00
	Rent Payable	-	192,125.00	Rent Advance		3,000,000.00
	TDS Payable	4,769,342.00	760,925.00	Security Deposit	2,539,404.00	29,000.00
	G I S Payable	2,505.00		Term Deposit	2,915,000.00	170,000,000.00
	P.Tax	168,655.00		Term Deposit (Endowment Fund)	45,000,000.00	
	New Pension Scheme	5,713,406.00		TDS Deposit	309.00	
	Security Deposit receipt	5,985.00		Hostel A/c	145,000.00	
	Stale Cheque	6,150.00				
	Hostel A/c	118,489.00				
IX	**Current Assets**			**Fixed Assets**		

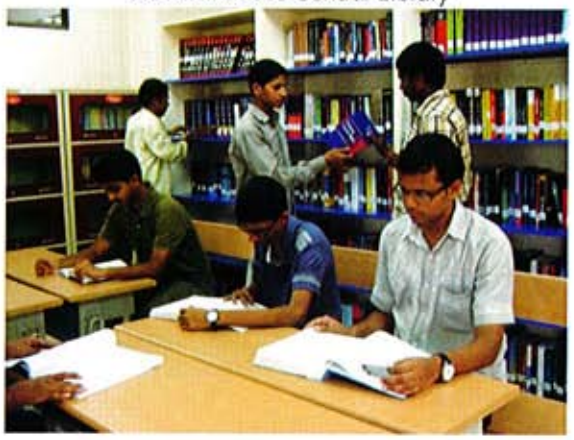
	Loans & Advances (Asset)	3,663,767.00	20,948,384.00	Assets in Transit - Equipment	57,905,251.00	
	Sundry Debtors	-	16,984,645.00	Computer Networking	2,189,020.00	
	DD Collected	-	356,000.00	Consultancy Fee(Master Plan IIT BBSR Campus)	1,746,574.00	
	Grant-in Aid(Claims Receivable)	-	40,000,000.00	Land & Land Development	86,957.00	
	Tuition Fees and Subscription Receivable	-	3,577,375.00	Library Books	911,338.00	
	Security Deposit	68,000.00		COMPUTER/ PERIPHERALS	30,121,053.42	
	Term Deposit	84,602,300.00		Electrical Equipment & Installation	4,330,409.00	
	Term Deposit (Endowment Fund)	15,000,000.00		EQUIPMENTS	32,205,704.47	
	Hostel A/c	130,078.00		Furniture & Fixture	767,355.00	
X	SRIC Fund	29,141,575.09		Office Equipments	382,609.00	
				OTHER FIXED ASSETS	15,167.00	
				Renovation Work	214,113.00	
				Hostel A/c	11,400.00	
				SRIC Fund	12,431,680.00	
				Closing Balances		
				a) Cash in Hand		
				b) Bank Balances		
				i) In Current accounts		
				ii In deposit accounts		
				iii) In Savings accounts	188,564,256.61	129,747,840.27
	TOTAL	**817,680,339.86**	**529,658,423.87**	**TOTAL**	**817,680,339.86**	**529,658,423.87**

R&D INCOME AND EXPENDITURE

PARTICULARS	AMOUNT(RS)	AMOUNT (RS)
OPENING BALANCE		1,219,091.46
ADD: RECEIPT DURING THE YEAR		
CSIR Grant received	3,893.54	**16,034,810.54**
DRDO Grant	582,000.00	
DST Grant received	3,080,835.00	
NKN Grant received	11,933,685.00	
Consultancy Receipts	434,397.00	
Service Tax Collected	44,743.00	
Interest received from bank	26,756.00	71,499.00
	511653.55	511653.55
MSA Workshop Registration fee	15,000.00	15,000.00
PBG	108,612.00	108,612.00
TOTAL RECEIPT		**17,960,666.55**
LESS: PAYMENT DURING THE YEAR		
FOR REVENUE EXPENSES		
Salary to JRF/SRF and P roject Assistant	872905.00	1,163,729.00
Contingency expenses	111,581.00	
Consumables	96,358.00	
Travelling	30418.00	
Accessories	30850.00	
Bank charges	200.00	
Refund of PBG	21417.00	
Honorarium to Resource person	10,000.00	10,000.00
Remuneration/Distribution	32638.00	32638.00
TOTAL PAYMENT		**1206367.00**
CLOSING BALANCE (A)-(B)		**16,754,299.55**

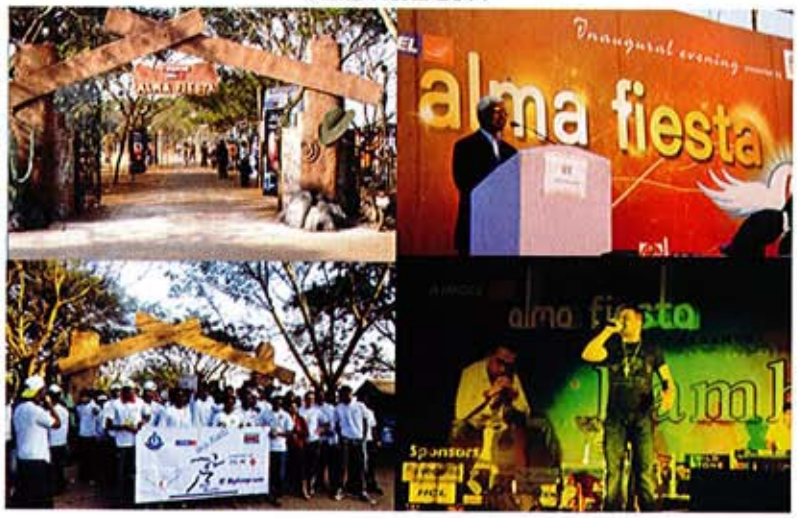
2010-11: THE YEAR AT A GLANCE

Students at the Central Library



Training & Placement Cell organizes a Panel Discussion

Alma Fiesta 2011



Wissenaire 2011

Research Scholars' Day

Felicitation of Dr. D. Subbarao, Governor RBI

International Womens' Day

Academy Industry Meeting

The 3rd Foundation Day Celebration

Teejan Bai performing the celebrated Pandavani at IIT Bhubaneswar at a Spic Macay Evening

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