Indian Institute of Technology Jodhpur

Annual Report 2011-2012

Contents

From the Director's Desk

Four years since its inception, with its first batch of undergraduate students having completed their programs, Indian Institute of Technology Jodhpur continues to make its signatory mark in the academia worthy of a premier educational institute in India. At present, the institute offers B.Tech programs in Computer Science and Engineering, Electrical Engineering, Mechanical Engineering, and System Science. In the academic year 2011-2012, he institute has designed a B. Tech. program and a minor program in Biologically-inspired Systems Science and in Art, Culture, and Heritage respectively, programs which are scheduled to commence from July 2013. IIT Jodhpur offers M.Tech and PhD programs at the Center of Excellence in Energy, Centre of Excellence in Information and Communication Technology (ICT), and the Centre of Excellence in Systems Science (SS). In addition, the institute is looking forward to offering a PhD program from July 2013 in Biologically-inspired Systems Science.

In order to promote inter-disciplinary culture in each and every academic activity, IIT Jodhpur does not adopt the structure of academic departments based on the individual disciplines. Accordingly, IIT Jodhpur is committed to developing state of the art, research-led and multidisciplinary centres of excellence where scholars from different disciplines carry out productive research on emerging and technological, scientific, and social issues that characterize the challenges faced by the contemporary world. The CoEs create a distinctive interdisciplinary and collaborative learning environment, giving our students a global outlook and holistic problem-solving approach. We aim to produce students who are highly innovative and entrepreneurial, and are proud that last year our students were hired by some of the best national and international companies. Now IIT Jodhpur has five Centers of Excellence—in Energy, Information and Communication Technology, Systems Science, Biologically-inspired Systems Science, and Art, Culture, and Heritage—the last two of these centers were initiated in the academic year 2011-12.

The institute remains a locus of vibrant academic activities. Academic seminars, workshops, and lectures from experts belonging to various fields contribute substantially to the intellectual vigour prevailing in the campus. The research at IIT Jodhpur is focused on solving socio-economic problems and creating cost-effective technological solutions. With the help of our collaborators, the vision of our faculty, and a team of highly motivated students we aim to make IIT Jodhpur one of the premier institutes in the world. We are very proud of our students, faculty, and visiting faculty from around the country and the world.

IIT Jodhpur is committed to environmentally-friendly practices. Almost our entire campus is powered by solar energy and our permanent campus has been planned as a "net zero energy campus", generating all the energy that it requires, and with net zero waste generation and carbon emissions.

Presently, the institute is functioning from a temporary campus in MBM Engineering College, Ratanada, Jodhpur. In the forthcoming years, the institute will be shifted to its own residential campus near Nagaur in Jodhpur. The government has acquired 872 acres of land for the institute and the construction of the boundary wall is being completed, and so is an 33 KV electric substation. An MoU has been signed with Arid Forest Research Institute for designing and developing an urban forestry model for the institute. The institute has successfully completed the selection of the campus master planner. It is envisioned that the new campus of IIT Jodhpur would stand as a symbol of academic excellence while creating a

multi-cultural ethos with centers such as an Eco Village, an Arts and Culture Centre and an International Inter-Cultural Activity Centre, all of which would contribute to the holistic development of its community.

Organization

The Board of Governors

The Finance Committee

The Building and Works Committee

Institute Committees

Student Council

List of Members of the Board of Governors

Chairman

Prof. Goverdhan Mehta (FNA, FRS)
University of Hyderabad
Department of Organic Chemistry,
Central University PO,
Hyderabad - 500 046,
Andhra Pradesh

Director (Ex-officio)

Prof. Prem K. Kalra
Director, IIT Rajasthan
Old Residency Road, Ratanada,
Jodhpur – 342011

Member-Nominees of the IIT Council

Mr. Ashok Thakur
Additional Secretary,
Department of Higher Education,
Ministry of Human Resource Development,
Shastri Bhawan, New Delhi- 110 001

Mr. K P Singh
Chairman, DLF Limited
DLF Center, Sansad Marg
New Delhi 110 001

Mr. Ashank Desai
Chairman, Mastek
Mastek Limited, #106/107
SDF-IV, Seepz, Andheri(E)
Mumbai 400096

Mr. Mukul Kasliwal
Chairman
MW Corp. pvt. Ltd.
99, Niranjan

Marine Drive
Mumbai 400 002

State Government Nominee

Mr. Vipin Chand Sharma
Principal Secretary,
Technical Education,
Government of Rajasthan
Jaipur, Rajasthan

Special Invitee

Prof. S G Dhande
Director, IIT Kanpur
208016

List of Members of the Finance Committee

Chairman

Prof. Goverdhan Mehta (FNA, FRS)
University of Hyderabad
Department of Organic Chemistry,
Central University PO,
Hyderabad - 500 046,
Andhra Pradesh

Members

Prof. Prem K. Kalra
Director, IIT Rajasthan
Old Residency Road, Ratanada,
Jodhpur - 342011

Mr. Ashok Thakur
Additional Secretary,
Department of Higher Education,

Ministry of Human Resource Development,
Shastri Bhawan, New Delhi- 110 001

Mr. G S Sood
CMD National Scheduled Tribe,
NBCC Tower, Finance & Development
Hall No 1, 5th Floor, 15 Bhikaji Cama Place
New Delhi 110 066

Mr. Umesh Kumar (IAS)
N-1, Ghandinagar
Bajaj Nagar Road,
Jaipur 302015

Mr. S K Ray
Additional Secretary & Financial Advisor
Department of Higher Education
Ministry of HRD, Shastri Bhawan
New Delhi - 110001

List of Members of the Building and Works Committee

Chairman

Prof. Prem K. Kalra
Director, IIT Rajasthan
Old Residency Road, Ratanada,
Jodhpur – 342011

Members

Ms. Pratima Dikshit
Director,
Department of Technical Education,
Ministry of Human Resource Development,
Shastri Bhawan,
New Delhi 110 001

Mr. N.M.D. Jain
ADG, CPWD (Retd.),
170, 1st Floor, Jagriti Enclave,
Delhi

Ms. Usha Kasana
Chief Architect,
Public Works Department
Government of Rajasthan
Jacob Road
Jaipur

Prof. Neeraj Gupta
Visiting Faculty
IIT Rajasthan,
Jodhpur

Institute Committees

Academic Committee: The committee co-ordinates all UG programs with representatives from each discipline and PG programs through the respective CoEs. Library matters also fall under this purview.

Members:

Dr. Venkata Ramana (Coordinator)

Dr. Deepak Fulwani (Coordinator, PG Programs)

Dr. Barun Pratihar (CoE Energy)

Dr. Ambesh Dixit (CoE Energy)

Mr. Anupam Gupta (CoE ICT)

Dr. Arnab Datta (CoE ICT)

Dr. Satyabrata Adhikari (CoE SS)

Dr. Subhashish Banerjee (CoE SS)

Dr. Meenu Chhabra (CoE BISS)

Dr. Sushmita Jha (CoE BISS)

Dr. Laltu Chandra (Coordinator, Library)

Dr. Anand Plapally (International Student Exchange)

Dr. Gourishankar Hiremath

Two Student Represetatives

Student Affairs:

Dr. Rahul Chhibber (Coordinator)

Dr. Amit Mishra (WAVES)

Dr. Pradeep (NUTS)

Dr. Vidya Sarveshwaran and Dr. Sushmita Jha (Counselling Service)

Dr. S. P. Tiwari and Dr. S Harinipriya (SAGE)

Dr. Chandramouli (PROM)

Two Student Representatives

Council of Wardens: Hostels, House Allotment and Guesthouse:

Dr. Akhilesh Mohan (Chairman)

Dr. Satyabrata Adhikari

Dr. Meenu Chhabra

Dr. Sushmita Jha

Dr. Anand Plapally

Dr. Gourishankar Hiremath

Dr. Rahul Chhiber

Dr. V. Narayan

Dr. Harinarayan

Dr. Atul Kumar

Dr. K. J. George

Dr. Ashutosh Alok

Dr. S. P. Tiwari

Placement: Student Placement and Internships

Dr. Gaurav Harit (Coordinator)

Dr. Pradeep

Dr. Mainak Mazumdar

Dr. Anand Plapally

Two Student Representatives

Administration: This committee deals with media and public relations, non-academic staff recruitment, RTI, Hindi Cell, Health/Medical, space allocation, security, legal cell, finance, stores and purchases, institute functions, outreach activities, facility management.

Members:

Dr. Rajiv Shekhar (Coordinator)

Dr. K. J. George (Security)

Dr. Anil Tiwari (Health)

Dr. Rahul Singhal (Non-academic staff recruitment)

Dr. Atul Kumar (Facility management)

Dr. Atul Dubey (Legal Cell)

Dr. M. Nagaraja (RTI)

Dr. Ashutosh Alok (Outreach)

Dr. Vivek Vijay (Media and Public)

Dr. Bibhas Adhikari (Institute Functions)

Dr. Puneet Sharma (Hindi Cell)

Dr. Tanmay Paul

Research and Development: All project management (consultancy, sponsored, testing services, IPR, MoUs, Enterpreneurship, incubation and innovation, workshops and conferences, continuing education, tech transfer.

Members:

Dr. B. Ravinda (Coordinator)

Dr. V. Narayan (Sponsored workshops)

Dr. Ravindra Arora (Policy issues)

Dr. Rakesh Sharma (Recruitment and Automation)

Dr. Sonam Melhotra (IP, MoUs, Corporate Communications)

Dr. Rakesh Saxena (Stores and Purchases)

Drs. Harinipriya and Sandeep Yadav (Incubation and Innovation)

Faculty Affairs: Faculty recruitment, probation and regularization, students feedback, CPDA approvals, LTC and Leave, faculty meetings

Members:

Dr. Vivek Vijay (Coordinator)

Dr. Harinarayanan (CPDA)

Dr. Shalingram Tiwari (LTC and Leave)

Dr. Manish Srimali (Faculty Meetings and Students Feedback)

Dr. Ansu Louis (Faculty Exchange)

Coordinators of each CoE

Lab Development: UG and PG Labs

Dr. Sandeep Yadav (Coordinator)

Dr. Ashutosh Alok (CoE SS)

Dr. Deepak Fulwani (CoE SS)

Dr. Amit Mishra (CoE BiSS)

Dr. Meenu Chhabra (CoE BiSS)

Dr. C. M. Nagaraja (CoE Energy)

Dr. P. Pradeep (CoE Energy)

Dr. Anil Tiwari (CoE ICT)

Mr. Anupam Gupta (CoE ICT)

Automation

Dr. Rakesh Sharma (Coordinator)

Dr. C. M. Nagaraja

Dr. Atul Dubey

Dr, Ambesh Dixit

Dr. Kiran Hiremath

Dr. P. Joglekar

Dr. Gaurav Harit

Student Council

President, SCHoD	Ranjan Kumar
General Executive, SAGE	Sachin Kumar Singh
General Executive, NUTS	Shashank kumar
General Executive, MAD	Syed faizul hai
General Executive, WAWES	Akshay Hari Kumar
General Executive, PROM	Rishi Ayyer
Fourth Year Senators	Krishna Sudhama and Rohit Maitri
Third Year Senators	Vaibhav Gundre and Shobhit Mandloi
Second Year Senator	Mayur Ghatge
First Year Senator	Ashish Kumar
Girls Senator	Geervani Soni
PG senator	Durgesh Kumar

Academics

Academic Programs

Centers of Excellence

International Relations

R & D Projects

Undergraduate Research & Innovation Program (UGRI)

High School Summer Camp

Conferences and Workshops

Innovation & Incubation

Short-Term Courses

Weekly Academic Seminars

Scholarship for Students

Foreign Language Training

Internship for Students

Academic Programs

Indian Institute of Technology Jodhpur offers B.Tech. programs in the following disciplines:

1) Computer Science and Engineering
2) Electrical Engineering
3) Mechanical Engineering
4) Systems Science

The institute has also decided to start a B. Tech. program and a minor program from July 2013 in Biologically-inspired Systems Science and in Art, Culture, and Heritage respectively.

IIT Jodhpur offers two-year M.Tech. programs in the following centers:

- Centre of Excellence in Energy
- Centre of Excellence in Information and Communication Technology (ICT)
- Centre of Excellence in Systems Science (SS)

PhD Program is offered in the following three centers of excellence in IIT Rajasthan:

- Centre of Excellence in Energy
- Centre of Excellence in Information and Communication Technology (ICT)
- Centre of Excellence in Systems Science (SS)

In addition, the institute is looking forward to offering a PhD program from July 2013 in Biologically-inspired Systems Science.

Centers of Excellence

IIT Jodhpur is committed to developing state of the art, research-led and multidisciplinary centres of excellence where scholars from different disciplines carry out productive research on emerging and technological, scientific, and social issues that characterize the challenges faced by the contemporary world. In order to promote the inter-disciplinary culture in each and every academic activity, IIT Jodhpur does not adopt the structure of establishing the academic departments based on the individual disciplines. Only undergraduate programs are offered in the individual disciplines. Presently, IIT Jodhpur has five Centers of Excellence—in Energy, Information and Communication Technology, Systems Science, Biologically-inspired Systems Science, and Art, Culture, and Heritage—the last two of these centers were initiated in the academic year 2011-12.

Center of Excellence in Energy

Introduction

Developing economical and environmentally sustainable energy sources is imperative for India's long-term growth. To achieve such objectives, IIT Jodhpur has developed an inter-disciplinary academic curriculum that will generate experts in different facets of energy generation and utilization with a holistic, systems-based approach for solving real-life problems. The post-graduate program in Energy admits students from all branches of engineering and sciences.

Academic Curriculum

The academic curriculum has compulsory and elective components. Compulsory courses expose students to (i) different mechanical and electrical processes related to power generation and transmission, (ii) physics of semiconductor devices associated with solar photovoltaics, and (iii) concepts of systems engineering for designing complex projects by integrating knowledge from different sub-systems. Extensive laboratory experiments and projects supplement the compulsory courses. The electives allow students to choose from a variety of courses based on their interests: solar and nuclear power, bioenergy systems, electrochemical power sources, power electronics, energy materials, structural dynamics, two-phase flow, and solar refrigeration and air-conditioning. Summer bridge courses are offered to students immediately after their admission to prepare them for the multi-disciplinary compulsory courses offered in the first semester.

Research and Development

Research and development efforts focus on the development of low-cost technology initiatives to implement renewable energy generation and usage through extensive industry-academia collaboration. Being located in Jodhpur, the sun city of India, harnessing solar energy for power generation and cooling/heating has been the primary focus of the R&D efforts under the auspices of the Centre for Solar Energy Technologies (CSET).

CSET has been designated as a Centre of Excellence in Solar Thermal Energy by the Ministry of New and Renewable Energy (MNRE), Govt. of India. IIT Jodhpur has earmarked a 200 acre land on its permanent campus for creating a solar park, comprising various technologies under one roof. The CSET will consist of (i) Solar thermal and solar PV Technology Demonstration Units (TDUs), (ii) facilities for R&D for developing value-added applications of solar energy technologies, (iii) facilities for testing, calibration and benchmarking for both solar thermal and solar PV technologies, and (iv) HRD and knowledge services. CSET is geared to giving its students a vibrant, laboratory-to-plant scale research experience. Major grants to CSET have been received from MNRE and the Asian Development Bank.

The institute has Memoranda of Understanding (MoU) with AREVA, CEA France, Indian Oil Limited, BHEL, Thermax, NFTDC-Hyderabad for collaboration in R&D in energy. Further, the center has Academic and Research collaboration agreements with the University of Waterloo, University of California, Merced, University of Western Ontario, URV Tarragona, Spain.

Major Research Themes and Goals

1. Solar absorber coatings and thermic fluids
2. Volumetric air receivers for heat and power generation
3. Thermal storage
4. DC smart micro-grid
5. Characterization of crystalline and amorphous silicon based photovoltaic power systems.
6. Electrochemical power sources and storage focussing on lithium ion batteries and fuel cells
7. Hydrogen generation by water splitting
8. Solar cooling

Associated Faculty as on 31 July 2012:

S. Harinipriya, Laltu Chandra, Pradeep Kumar P, V. Narayanan, B. Ravindra, Rahul Chhibber, Meenu Chhabra, Shaligram Tiwari, Rakesh K. Sharma, Ambesh Dixit, B. Pratihar, Vidya Sarveshwaran, Gourishankar Hiremath, Anand Plapally, Mainak Mazumdar, Rajiv Shekhar.

The International Centre for Application of Solar Energy Technologies (ICASET) is a joint initiative of the Asian Development Bank (ADB) and the Indian Institute of Technology Jodhpur, Jodhpur (IITJ). Funding for ICASET has been provided by ADB.

Center of Excellence in Information and Communication Technology (ICT)

Education, knowledge, information, and communication are at the core of human progress, endeavour, and well-being. Information and Communication Technology (ICT) has an immense impact on virtually all aspects of our lives. The rapid progress of ICT opens up completely new opportunities to attain higher levels of development. For the first time in history, the capacity of these technologies to reduce many traditional obstacles, especially those of time and distance, has been recognized in such a way that millions of people in all corners of the world would benefit. Yet this Center of Excellence holds the view that ICT should be regarded as a tool and not as an end in itself. Under favourable conditions, the technology can be a powerful instrument, increasing productivity, generating economic growth, job creation and employability, and also improving the quality of life of all.

The CoE in ICT strives for "Functionality and Cost-Driven" Research and Development. Here, capturing the requirements and specifying the functionality of the devices/technologies is the starting point of any problem statement. The primary focus is on carrying out research on low-cost device design and developing technology to fulfil the increasing social requirements. From a technological standpoint, we lay emphasis on Embedded Design, System Integration and Hardware Benchmarking. The above mentioned theme sets the following set of research areas and goals for us.

Major Goals of the Center

- to harness the potential of recent technological advances to solve the existing socio-economic and environmental problems.
- to turn the digital divide into a digital opportunity for all by means of functionality driven low-cost hardware design.
- to develop a breeding ground for learners, developers, contributors, entrepreneurs and decision-makers.
- to work in the direction of building an inclusive society with the participation of government, private sector, and international organizations.

Research Themes

- Developing low-cost networking solutions - cheaper internet everywhere.
- Developing low-cost access devices.
- Developing low-cost e-Healthcare solutions.
    - Computer Vision/ Signal Processing/ Medical Imaging
- Hardware Design and Benchmarking.
    - Embedded Systems
        - Low cost Access Devices for Education/Health Monitoring
    - Micro/ Nano-Electronics
        - System-on-Chip
        - EDA tools

    - Instrumentation and Testing
    - Robotics and Automation
    - Biomimetics
- Sustaining environment through ICT.
- Networks/ Sensor Networks

The CoE-ICT is an inter-disciplinary venture. It hosts the top-notch scientists with a background ranging from Mathematical Sciences, Natural Sciences to applied fields of Systems Engineering, and other disciplines of Engineering. It works to solve social problems, and these problems are highly inter-disciplinary in nature.

The center started M. Tech. Program in ICT in the academic year 2011-12. Twenty-six students were admitted to the program. Thirteen PhD students also joined the center in this academic year. The center also initiated two laboratories—Networking Technologies Lab and SOC Lab. The center's achievements include providing the right hardware and software tools for many industry consultancy projects, including the development of DRM/DRM+ IP for digital radio standards.

Associated Faculty as on 31 July 2012:

Akhilesh Mohan, Anil Kumar Tiwari, Arnab Datta, Gaurav Harit, Sandeep Kumar Yadav, Shanmuganathan Raman, Shree Prakash Tiwari, VenkataRamana Badarla

Center of Excellence in Systems Science

The Center of Excellence in Systems Science (SS) at IIT Jodhpur was initiated in the year 2010 after the institute's arrival in Jodhpur. It was after almost one year of brain-storming that the CoE formally established in May 2011 to promote interdisciplinary academic programs and research with a holistic *Systems Thinking* approach. The methodologies of the Systems Science provide ways to address complex problems that are specific and local in nature, while taking into account the broad context of such problems. These methods enable investigators to examine the dynamic interrelationship of variables at multiple levels of analysis simultaneously, while also studying the impact on the behavior of the system as a whole over time. They are also useful for understanding certain properties of complex phenomena, which may not be apparent from studying the individual parts of the phenomenon. Specific examples of systems science methodologies include, but are not limited to: systems dynamics modeling, agent based modeling, discrete event simulation, network analysis, dynamic micro simulation modeling, Markov modeling, behavioral approach to systems etc. Such tools have proven heuristic power, typically integrating data from multiple prior studies and surveillance systems, and can offer innovative solutions to seemingly intractable problems. Many system modeling methodologies are not new and are now used routinely in fields such as corporate management, economics, engineering, physics, energy, ecology, biology, and many others precisely because these methods add more value than alternative techniques or unaided decision-making.

Given the wide scope and applicability of System Science, the center has identified certain key focal areas in its research agenda:

1) Evaluate the cost effectiveness of the engineered systems and manufacturing processes that are becoming increasingly complex
2) Develop rigorous mathematical frameworks that give a deeper insight into a lot of interesting and complex problems in natural sciences
3) Investigate the isomorphy of ideas, laws, and models in various fields of science and engineering
4) Develop new methods for the forecasting and quantification of uncertainties in lieu of societal concerns that have led to regulatory actions for more stringent requirements for the safety and reliability of products demand
5) Process large scale data in order to extract better information and knowledge.

However, keeping in mind factors such as the emerging challenges for the Indian economy due to globalization, the growing concern for sustainable development because of the limited availability of resources, and the increasing sensitivity to anthropogenic effects on the environment, the CoE would also continually analyze and evaluate its activities in a broader social context, over and above the basic concerns presented above.

The major Research Theme of SS at present include

1) Signals, Systems and Control Theory
2) Linear and Non-Linear Dynamical System
3) Systems Reliability, Security and Risk Management
4) Social and Economic System and its Dynamics
5) Complex Networks
6) System Application in Business and Industry
7) Mathematical Physics and Cosmology
8) Quantum Physics and Quantum Information
9) Mechatronics, Systems integration and Design
10) Financial Systems and Econometrics
11) Computational Finance

Academic Programs

Since one of the principal objectives of the CoE is to undertake cutting-edge research, the center has developed curriculum in System Science to provide high quality academic training to students and make them distinguished scholars in the field of SS. To fulfill this objective the center offers BTech, MTech, and PhD program in Systems Science. The curriculum of B. Tech. program has been developed after conducting several brain-storming sessions or 'discussions hours' organized regularly in the year 2011. After few rounds of discussions the present curriculum for B. Tech. was finalized in the brain-storming session organized during December 9 to 10^{th} 2011. Several Experts from reputed industries and distinguished scholars from various academics institutes in India were invited in these sessions to develop a coherent and balanced curriculum for B. Tech. and M. Tech. programs keeping in view the requirement of the industry and what is state-of-the-art in SS discipline. Additionally, the core members of SS, Dr. Bibhas Adhikari, Dr. Vivek Vijay, Dr B. Ravindra and Mr. Anupam Gupta, visited various reputed Universities of Canada including the University of Western Ontario, the University of Concordia, the University of Waterloo, the University of Manitoba and the University of British Columbia to get expert opinion on the curriculum developed for

SS and to fine tune it with the international standard. Further, in the workshop on **Systems Science: Complex Networks & Applications**, conducted from May 7 – 9, 2012 the course curriculum of M. Tech. and PhD Program was further debated and discussed before it was finalized and launched. Given the inter-disciplinary nature of the subject, the SS center of IIT Jodhpur has an agglomeration of faculty members from various disciplines such as Mathematics, Physics, Chemistry, Economics, System & Control, Mechanical Engineering etc.

Associated Faculty Members as on 31 July 2012

Ashutosh Kumar Alok, Atul Kumar, Bibhas Adhikari, Kirankumar Rajshekhar Hiremath, Mainak Mazumdar, Puneet Sharma, Pushkar Shripad Joglekar, Rakesh Kumar Sharma Satyabrata Adhikari, Subhashish Banerjee, Vivek Vijayvargiya, and V.V.M. Sarma Chandramouli

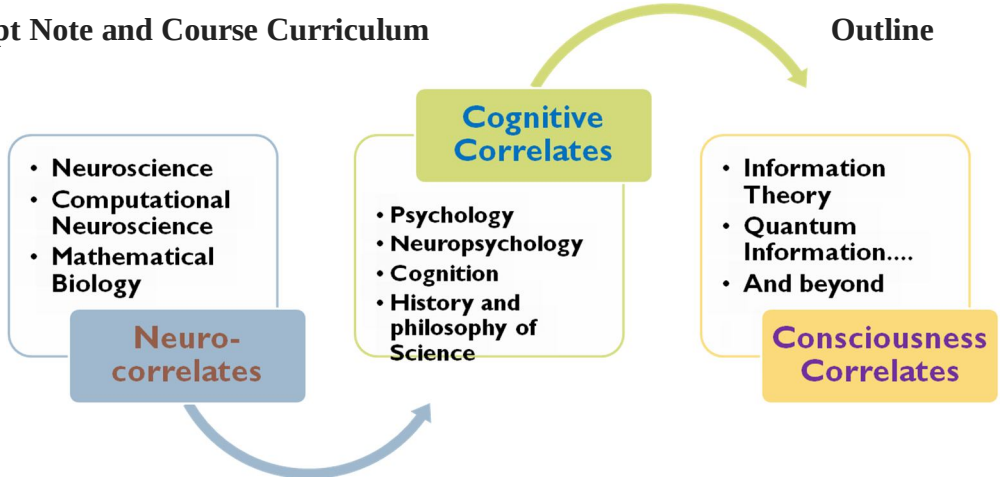
Center of Excellence in Biologically-inspired Systems Science (BiSS)

The Board of Governors of IIT Jodhpur in its 5th meeting held on 13th September, 2011 has approved B. Tech, M. Tech, and PhD programs in Biologically-inspired Systems Science (BiSS). This unique Center of Excellence initiated during the academic year 2011-2012 with the broad objective to design novel, adaptive and sustainable technological solutions inspired by biological systems and processes. Nature is the most efficient engineer and biological organisms are the best engineered systems. Understanding biological systems helps an engineer design adaptive intelligent systems for the ever changing environmental conditions. Graduates of the center will interface different disciplines such as humanities, and physical, engineering and life sciences. Such interdisciplinary approach aims to promote innovation and a holistic approach toward developing technological solutions.

The center aspires to create 21st century creative thinkers equipped with core strengths in engineering, biology, and humanities for the exploration of the ever fascinating phenomenon of cognition and consciousness considered unique to living organisms. Unravelling the mystery behind the phenomenon of cognition and consciousness would help develop Intelligent Systems capable of interfacing with humans.

Keeping in view the vision and mission of IIT Jodhpur, the center invited educationalists and researchers from all over the world to give suggestions for designing the most compatible undergraduate and postgraduate course modules for BISS during the academic year 2011-12. Brainstorming sessions were organized in the forms of an international workshop in **Biologically Inspired Systems Science** (March 1-3, 2012) and individual lectures from experts in the area. The course curriculum was designed based on the feedback received from the experts.

Concept Note and Course Curriculum Outline



Major Research Themes and Initiatives

1. information processing in the brain
2. cognitive processes
3. emergent phenomenon of consciousness
4. bio-inspired modelling and designing, algorithms, mechanics, real world applications
5. BiSS spans many levels of analysis, from low-level learning and decision mechanisms to high-level logic and planning, from neural circuitry to modular brain organization
6. Bio-signal Processing
7. Cellular and Molecular Neuroscience and Computational Neuroscience.

The CoE BiSS is looking forward to offering a four year bachelor (B. Tech.) program and a doctoral program starting from July 2013.

Associated Members as on 31 July 2012

Manish Srimali, Meenu Chhabra, Hari Narayan V., K. J. George, Sushmita Jha, Amit Mishra, Sonam Malhotra, Ansu Louis

Center of Art, Culture, and Heritage (COACH)

IIT Jodhpur has begun preparation for a Center of Art, Culture, and Heritage in the academic year 2011-2012. This is a calculated move to decipher and advance the world of the art, culture, and heritage, especially of those belonging to indigenous traditions. On this score, an ambitious but cautious plan is being chalked out in the form of programs, educational courses and workshops that can educate the global public at this proposed center.

Objectives

a. To offer a minor in art, culture and heritage including 8 inter-disciplinary courses. This will become a platform for establishing the center of art, culture, and heritage with various academic programs
b. To improve understanding of and intervene (from an appropriate interdisciplinary perspective) in the dynamics of the fields of art, culture, and heritage
c. To ensure the sustainability of Indian art culture and heritage by identification, conservation and promotion of required research and its

economic value nationally and globally through mutually beneficial collaborations

d. To bridge, in an unconventional manner, the perennial gap between the arts and the sciences

Mission

1. To evolve novel strategies in order to offer artistic and technologically integrated educational platforms in the field of art, culture and heritage utilizing inter-disciplinary approaches.

2. To establish training facilities and impart knowledge in the field of music, literature, archeology and visual arts to all, irrespective of social, national and continental boundaries.

3. To establish state-of-the-art performance and research facilities in preservation with special reference to traditional art forms, rare human vocal and performing skills and architecture blending it with scientific technology and perform research and development.

4. To develop policies and resources for reliable re-engineering of traditional devices and methods. The center will basically aim to rehabilitate as well as encourage societies performing art of any kind.

7. To improve the communication between art, cultural aspects and technology.

Among the challenges are establishing revival practices, sustainable space for imaginations in art and technology synergy, creating novel minds who can assimilate this synergy, increasing literacy of art, and encouraging artists to present and popularize art using the state of art technology. By bridging the gap between arts and science, COACH supports experimental projects and interacts with established national and international institutions of art and science to collaborate on education and research. The outline of the proposed COACH can be illustrated as follows.

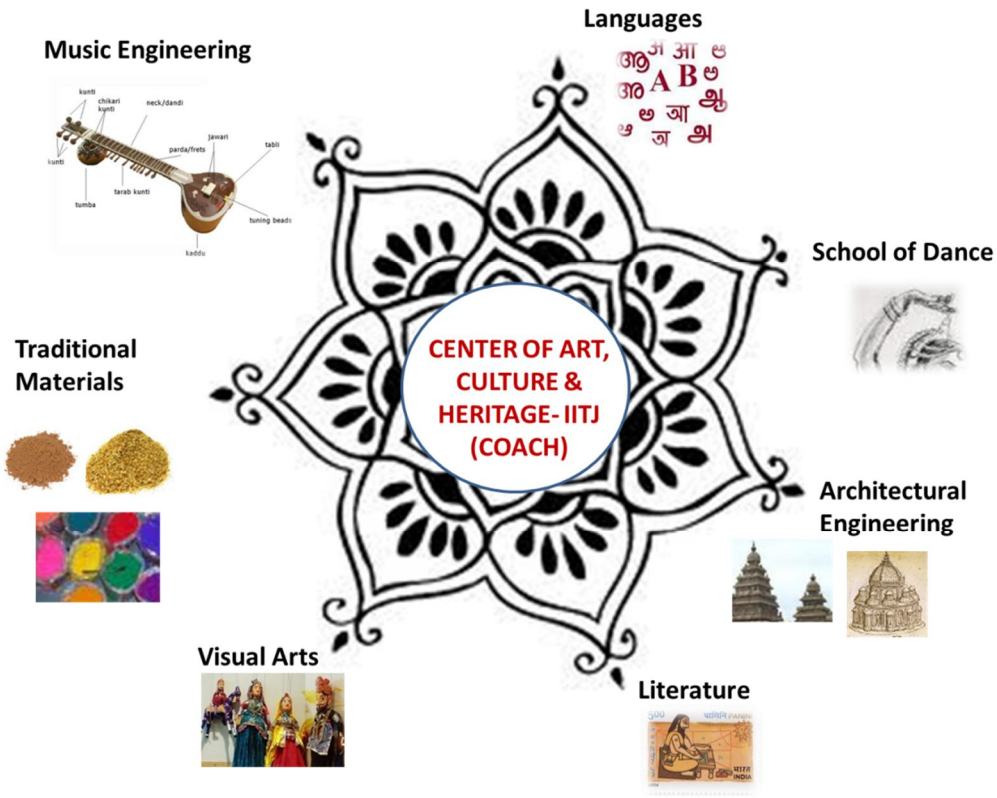


Figure 1: Representation of various aspects to be covered under COACH.

International Relations

MoUs between IIT Rajasthan and International and National Institutions and Agencies

1. **University of Western Ontario, Canada (09/08/2010)**
   To explore the possibilities for cooperation in education, training, and research and also to encourage direct contact and mutual cooperation between faculty members, departments, and research centers
2. **Universitat Rovira I Virgili, Tarrgona, Spain (29/08/2010)**
   Development of mutually beneficial academic program and courses; coordination of academic staff travel for the purposes of teaching, research, and training; cooperation of student mobility program for study, research, and for joint academic activities such as research publications, conferences and symposia; exchange of documentation and research materials in the field of mutual interest provided that there are no legal barriers against exchange and collaboration in international master's and doctoral programs between both the institutions

3. **The Commissariat a I'Energie Atomique et aux Energies Alternatives France (22/11/10)**
   Cooperation in the areas of solar energy research, such as Concentrated Solar Power (CSP) and Concentrated Photovoltic (CPV), water production by using solar energy, renewable energy storage and smart management, integration of solar energies and energy efficiency in buildings
4. **University of Waterloo, Canada (25/11/2010)**
   Collaborative measures to foster international experience and advancement of knowledge on the basis of reciprocity, mutual benefit, interaction and exchange of students in graduate programs
5. **University of Manitoba, Canada (09/12/2010)**
   Development of mutually beneficial programs for student internships and graduate study in order to provide students opportunities for advancement of knowledge and international experience
6. **Embassy of France in India (28/03/2011)**
   For exploring prospective domains for students and scholars to learn French language effectively
7. **University of California, Merced (26/04/2011)**
   Development of mutually beneficial relationships for promoting academic exchange, scholarly cooperation, and collaborations under mutually agreeable terms and conditions: the exchange of faculty members, scientists and students and scientific material, access to library resources, pursuit of joint meetings, symposia and/or conferences and access to laboratories as may be appropriate and feasible in the two institutes
8. **Arid Forest Research Institute, Jodhpur, India (15-08-2011)**
   Development of sheltering belt plantation as urban forestry model for at a selected site at IIT Jodhpur
9. **Institute of Science and Technology, Nara, Japan (28/02/2012)**
   To promote academic exchanges in fields where each party needs to enhance its educational and academic programs: the academic exchanges will include, implementation of collaborative research, joint symposia, lectures and education and exchange of scholars, researchers, and administrative staff; exchange of information in fields which are of interest to both parties and exchange of graduate students in fields of interest to both parties

MoUs with Industries

1. **National Instruments (NI) Systems (India) Pvt. Ltd. Bangalore (dated 25/11/2010)**
   National Instruments and IIT Jodhpur work together through research and development to develop the Institute as well-recognized center of excellence in the fields of wireless communication and physical layer technologies. Furthermore,

National Instruments, being the supplier of computer-based instrumentation hardware and software product developed by its affiliated both from the academia and industry, expressed its desire to establish a graphical system design center for students and professionals across the nation.

2. **Areva Renouvelable, France (dated 06/12/2010)**
   Cooperation in R&D area, such as characterization of reflector, dirtying rates and soiling materials in relationship with local air quality; development of a DNI measurement survey laboratory and techniques for assaying the date to predict and optimize CSP performance; clouds detection and anticipation methods and techniques to adapt CSP process control operating conditions for maximizing energy production; development of a testing and bench marking laboratory for solar systems with due attention to Areva Renouvelable technology in the Indian context
3. **C-Wet and SRRA (dated 10/05/2011)**
   Collaboration in establishing a solar radiation resource assessment station
4. **Bharat Heavy Electricals Limites (BHEL), Indian Oil Corporation Limited (IOC) (dated 17/10/2011)**
   Collaborate for the promotion of research, innovation, and education and providing a model for industry-academia partnership in the following broad objectives: Basic research in solar energy and up-scaling performance validation of solar technologies
5. **ITI Limited (dated 16/12/2011)**
   To introduce co-operative development and research in areas such as Optical Communication including free space Optical communication, Encryption technologies, embedded systems, SCADA and NMS system, and radio and microwave communications
6. **Amaitha Wireless Technologies (dated 02/02/2012)**
   Cooperation in the conceptualization, design and development of computing, communication, and converged devices associated software and required functionality affordable in optimum cost
7. **Quad Electronics Private Limited (dated 14/01/2012)**
   Cooperation in research and development computing and communication devices that can be of interest to the entire population and can serve to bridge digital divide of India
8. **Steag Energy Services (SESI) (dated 23-04-2012)**
   Mutual agreement for the development of a dynamic solar thermal simulator and collaboration for research and training on the solar thermal simulator

International Collaborations

During the academic year 2011-2012, representatives of several leading academic institutions have visited IIT Jodhpur seeking collaboration in matters related to teaching and research. The visitors included:

Prof. Vipin Kumar (Oct. 27-29, 2011)

Department of Mechanical Engineering

University of Washington.

Prof. Vimal Chaitanya (Nov. 17, 2011)

Vice President of Research

New Mexico State University.

Prof. Jonathan, B. and Prof. J. P. Burak (Feb. 20-23, 2012)

Dean of Faculty of Engineering

University of Manitoba.

Prof. S. Shariq (Feb 07, 2012)

Director, Project on Knowledge, Beliefs, and Institutions

School of Human. and Sciences

Stanford University.

List of R&D Projects

Project Title	Sponsoring Agency	Principal Investigator	Sanctioned Amount (Rs.)	Duration / Expiry Date
Creation of Virtual Class-Rooms at IITs over National Knowledge Network	National Informatics Centre	Dr. Gaurav Harit	1,51,79,860/-	1 Year
Low Cost Access-cum-Computing Devices	MHRD	Dr. Sandeep Yadav	47,72,00,000/-	19-Mar-12
The Village Community Network: Technology Development and Pilot Roll out Plan for Low Cost Opportunistic Communication Networks for Rural Areas of India	MHRD	Prof. P K Kalra, Dr. K S Daya (DEI)	6,00,00,000/-	31-Dec-12
E-Books on Introduction to High Energy Physics, Introduction to Astroparticle Physics and Instrumentation Methods in Astroparticle Physics	MHRD	Prof. P K Kalra, Dr. S Bhatnagar (DEI)	14,00,000/-	31-Dec-12
Development of Low Cost Mobile Robots - Robotics for Education	MHRD	Dr. Swagat Kumar	1,55,80,000/-	31-Dec-12
Development of Analysis and Indexing Tools for Harnessing Educational Videos	MHRD	Dr. Gaurav Harit	32,45,000/-	31-Dec-12
NI-SENSOR & NETWORKS LAB	NI Systems (I) Pvt. Ltd., Bangalore	Dr. Sandeep Yadav	5,00,000/-	1 year

Cross MAC & PHY Layer Research	NI Systems (I) Pvt. Ltd., Bangalore	Dr. Sandeep Yadav	5,00,000/-	6 months
Language, Cognition & the Human Mind	Indian Council of Philosophical Research, MHRD	Dr. Hari Narayanan V.	50,000/-	3 years
Conceptualization and Design Study for Freespace Material Characterization Facility	Defence Research & Development Organisation, Jodhpur	Dr. Akhilesh Mohan	5,69,000/-	1 Year
One Stop Educational Portal	Chhattisgarh Infotech & Biotech Promotion Society	Prof. P K Kalra	40,85,934/-	2 years
Identification, assessment and Characterization of E3 Ubiquitin Ligases and Molecular Chaperones Implicated in Neurogenerative Diseases	Department of Science & Technology	Dr. Amit Mishra	5,56,000/-	2 years
Establishment of the Centre of Excellence in Solar Thermal Research and Education	Ministry of New & Renewable Energy	Prof. Rajiv Shekhar	40,00,00,000/-	5 years
Study of Aligned CNT/Polymer Nanocomposites for Hydrogen Storage	Science and Engineering Research Board, DST	Dr. Balram Tripathi	25,92,000/-	3 years
Development of Intelligent Instrumentation and Cellular Communication Courses	NI Systems (I) Pvt. Ltd., Bangalore	Dr. Sandeep Yadav	5,00,000/-	6 months

Development of DRM/DRM+ Standards	NI Systems (I) Pvt. Ltd., Bangalore	Dr. Sandeep Yadav	25,00,000/-	6 months
Generation, Storage and Distribution of Solar Hydrogen	Department of Science & Technology	Dr. Rakesh Sharma	39,63,600/-	2 years
Advancement in Nuclear Reactor Design Pertaining to NRFCC	Department of Atomic Energy	Dr. Vivek Vijay	4,30,000/-	1 year
Reproductive Child Health	UNICEF, Jaipur Branch	Dr. Sandeep Yadav	20,86,500/-	2 years 3 months
Molecular Sensors: Synthesis and Anion Recognition Studies	Science and Engineering Research Board, DST	Dr. Rakesh Sharma	27,69,000/-	3 years
Concentrated Solar Power Plant	Indian Oil Corpn. Ltd.	Prof. Rajiv Shekhar	60,00,000/-	3 years
Development of Programmable Emulator for Photovoltaic Plant to Facilitate Complex Testing Requirements	Science and Engineering Research Board, DST	Dr. Deepak Fulwani	9,48,000/-	3 years
Innovation and Incubation Centre	Rajasthan State Government with IIT Rajasthan	Dr. Sandeep Yadav	2,50,00,000/-	1 year
Asymmetric Hydrogenation on Carbon Nanotube Surface	Department of Science & Technology	Dr. Rakesh Sharma	34,02,360/-	2 Years

Undergraduate Research & Innovation Program (UGRI- 2012)

Indian Institute of Technology Jodhpur started the Undergraduate Research and Innovation (UGRI) program in 2011 with the objective to promote research and innovation among a diverse group of undergraduate students. This programme continued in summer of 2012 to help selected students improve their professional knowledge and skills. Students across the country were encouraged to utilize the UGRI program for their academic and professional developments. This year the institute received nearly 730 applications, four times more than those received in the previous year. Best 29 students had been selected from this large pool of applications for the UGRI 2012. Students were selected purely on the basis of academic achievements and the merit of the proposal submitted, whether it be a theoretical (system design, algorithm development etc.) or an experimental one.

This year's UGRI program began on May 8, 2012 and end on July 20, 2012 (for the duration of 10 weeks). Selected students were provided accommodation at student hostel in IITJ. During this period, a remuneration of Rs. 8000 per month was offered as Financial Assistance. Furthermore, the students received an additional Rs. 2000 for preparing posters and interim reports. The students worked on projects related to Energy, Health, Environment, and ICT (Information, Communication and Technologies).

High School Summer Camp

During summer IIT Jodhpur invites applications from senior secondary students (Class XI or XII) from schools in Jodhpur with an intention to nurture their curiosity to know the unknown. In so doing, the faculty members of the institute answer their queries and expose them to state-of-the-art technologies. The students having marksheet of class X are eligible to apply and a certificate of completion is awarded to each participating candidate.

In the summer of 2012, twenty one students were selected through a screening process based mainly on their X class academic records. The selected students spent almost one month at IIT Jodhpur— from 2 to 30 June—participating in lectures, workshops, lab sessions, group works and field visits. At the end of the program, all these students participated in a poster presentation which displayed the learning they have received during their stay here at IIT Jodhpur.

Conferences and Workshops

International Workshop in Biologically-inspired System Science

1-3 March 2012

The new Center of Excellence Biologically-inspired Systems Science (BiSS) conducted this international workshop to get international feedback on the proposed academic programs of the center and to design an appropriate curriculum based on the response. The center sought to offer B. Tech. (4 year), M. Tech. (two year), and PhD courses in areas such as information processing in brain and its translation into real-world challenges, utilization of the knowledge of evolutionary adaptations for the improvement of already existing systems, and related areas.
The following were the broad areas of discussion at the workshop:

- Artificial Intelligence and Biologically-inspired Systems
- Basic Sciences
- Bio-devices and Diagnostics

- Body-Brain-Mind and Society
- Language understanding and Language evolution
- Natural Computation
- Neural Engineering
- Neurobiology
- Philosophical and theological perspectives of Biologically-inspired Systems
- Psychology and Biologically Inspired Systems
- Quantum Physics towards understanding of Biologically-inspired Systems

The participants included Prof. Theodore W. Berger, Prof. Christopher James Davia, Jean-Pierre Jourdan, and Dr. Anirban Bandyopadhyay.

All participants appreciated the unique approach of the center to integrate different disciplines of engineering, science, and humanities. Based on the expert feedback the proposed curriculum was modified.

Workshop on Systems Science: Complex Networks and Applications

07-09 May 2012

IIT Jodhpur organized this workshop to explore recent trends in complex network and to make a bridge between academia and industry. The workshop provided a broad overview of the area with illustrative applications from various fields.

Major Topics of Discussion were the following:

- Complex Networks: Theory and Applications
- Random Graphs and Complex Networks
- Topology and Dynamics of Complex Networks
- Evolutionary Dynamics on Complex Networks
- Information and Communication Networks
- Social Networks, Biological Networks, etc

Delegates from Industries and R&D organizations and Researchers/Academicians from all over the India participated in the workshop. Through lectures, presentation of case studies and interactive sessions, participants were be exposed to the emerging field of complex networks.

Innovation and Incubation Center

Established in August 2011, the Innovation and Incubation Center, under the name I.D.E.A.S. (Innovators Destination for Entrepreneurship and Amelioration of Society), of IIT Jodhpur seeks to provide a continuous momentum towards promoting innovation in entrepreneurship. I.D.E.A.S. has entered into collaboration with the State Government of Rajasthan for the next ten years.

The Innovation and Incubation Center of IIT Jodhpur seeks to provide continuous momentum toward promoting innovation in entrepreneurship. IIT Jodhpur seeks to be an academic incubator and provides support to students in developing business ideas that address the unattended issues prevalent in our society. It aims to provide young talented students with a platform where they can bring forward their ideas in the field of science and engineering and showcase the same to industry experts to get their assistance in developing a model. The center intends to nurture young minds and help their ideas gain ground through channelized guidance and mentorship by industry experts. We wish to give engineering students and industry practitioners an opportunity to interact and build a community of innovative potential.

Short-Term Courses

"Analog MOS Design using EDA Tools"

This 3-Credit Lab-oriented winter course for 2nd/3rd year EE students of IIT Jodhpur was floated by CEERI Scientists from 7 to 20 December 2011. The course deals with the analysis and design of analog MOS circuits and aims to expose the students to the Cadence Analog CAD Tools environment. Starting with an introduction to MOS transistor simulation models, through a detailed treatment including physical design of various amplifier configurations, current sources/mirrors and output stages; the course leads to the physical layout design of MOS Operational Amplifiers using Cadence EDA Tools. Participating experts included Dr. S. C. Bose, Dr. A. Karmakar, Mr. Anil K. Saini, Mr. G. Rajahari, Mr. M. Santosh and Mr. Kanu C. Behera.

Water, Sustainability and Sensor Networks

The winter course was open to Electrical Engineering and Computer Science students in their 5th or 7th semester of B.Tech and students in the first semester of M.Tech in Information and Communication Technology. Course modules included Wireless Sensor Networks and NI platform and Water sustainability issues with Wireless sensor networks. Instructors were Dr. Venkata Ramana, Dr. Sandeep Yadav, Mr. Abhay Samant (NI), Mr. Bandan Jot (NI), and Dr. Tom Harmon and Mr. Michael from UC Merced. The course had accompanying field activities involving actively work with several types of soil and water sensors in a convenient

location outside of the classroom, learning the techniques for launching, installing the sensors as well as acquiring and interpreting the data.

Designing and Operating a Sustainable Campus

The objective of this winter course was to introduce the concept of sustainability to students so that they could integrate these principles in their designs and careers. This course introduced the class to the relevance of sustainability and to several campus sustainability models. These models were highlighted by three case studies. The students were asked to apply the models and case studies in planning the IIT Jodhpur sustainable campus. The students were then introduced to the principles of facility layout, buildings and systems, energy and utilities, and landscaping from a sustainability perspective. The students could utilize this material to design the IIT Jodhpur campus in terms of facility layout, facilities and systems, energy and utilities, and landscaping. Finally the students presented their IIT Jodhpur sustainable campus designs. The course instructors were Herb Debban (Associate Laboratory Director, Oak Ridge National Laboratory) and Anil Dewan (Professor, School of Planning and Architecture, IP Estate, New Delhi).

Cognitive Semantics

The objective of this summer course (2012) was to equip the students appreciate how linguistic capacity can be treated as arising out of overall cognitive capacity. This involves challenging many of the ingrained notions concerning meaning, reason, imagination, understanding etc. This can help students realize how the capacities that human beings are endowed with are continuous with the capacities found in the natural world. Such an understanding can help in developing a new orientation towards some fundamental issues concerning self, life and nature. The course addressed the problem of meaning, cognitive semantics versus truth conditional semantics, understanding categories, gestalt structure as a constraint on meaning, Metaphorical projection of image schemata, imagination and reason, the emergence of meaning through schematic structures, the role of the Unconscious in cognitive processing, and Embodied Realism. Course instructor was Dr. Hari Narayanan V.

English and Basic Language Skills

This twenty hour course was offered in the summer of 2012 by Dr. Ansu Louis. The course focused on the four language skills: speaking, listening, reading, and writing. The objectives of the course were to help students gain confidence in using English, develop ability to speak with greater confidence, fluency, and precision, increase active vocabulary, write clearly, concisely, and correctly in English, improve listening and comprehension skills, attain mastery over the basics of English pronunciation. To improve the basic language skills of the

students, especially for improving their vocabulary and pronunciation, the language lab of the institute was made extensive use of during the course.

Bioethics

The summer course offered by Dr. K. J. George sought to unveil major ethical issues concerning life. To be precise, the course addressed itself to the ethical, social and political problems that arise out of recent advancements in the life sciences and technology. Four overlapping areas, namely, i) life-saving technologies at the beginning and end of life, ii) life-enhancing technologies to improve the quality of life, iii) reproductive technologies, and iv) technologies that deal with genetic engineering, were ethically analyzed. In addition to the issues that are related to human life, due attention was given to the bioethical concerns over animal life and other forms of life that exist in the biosphere/ecosphere.

Weekly Academic Seminars

The Indian Institute of Technology Jodhpur nurtures a distinct vision of achieving conglomeration among diverse academic spaces resulting in congruity between technology, society, and humanity. Beyond the constrained frame of the graduate curriculum, the institute envisions the holistic development of students along with their attaining of a deeper insight into manifold academic disciplines. From the academic year 2011-2012, the institute has been conducting three kinds of weekly academic seminars. To provide students exposure to cutting edge research, recent developments in industrial and business sectors, social work, arts and culture, the institute conducts Institute Seminars by renowned professionals and experts in different fields. To promote interdisciplinary research and interaction between and among faculty members and students, the faculty members present and discuss their research interests at weekly faculty seminars. And to provide students and faculty a platform to present their insights and recent academic activities, each CoE has its own weekly seminars.

Scholarship for Students

IIT Jodhpur awards Merit-Cum-Means (MCM) scholarship to the undergraduate students belonging to General and OBC categories. The selection is based on both merit and parental income. Any student with a parental income of less than Rs. 4.5 lakhs per annum may be eligible for the scholarship. MCM scholarship involves full tuition fee waiver and an additional amount of Rs 1000/-per month. In the academic year 2011-2012

Students belonging to SC/ST categories are given, in addition to tuition fee waiver, exemption from hostel dues (both mess and room charges) and a pocket allowance of Rs. 250/-per month. In the academic year 2011-2012, 30 MCM scholarships were awarded in the GEN/OBC category, and 8 in the SC/ST category. And 24 free tuitionships were also awarded.

Foreign Language Training

With support from the French Embassy, IIT Jodhpur offers a zero credit compulsory course in French language for first year students. Furthermore, the state-of-the-art language lab of the institute could now help students in learning major foreign languages.

Internships of Students

Students do an eight-week summer training in reputed organizations, in India or abroad. In the previous academic year more than half of our students were placed for summer internships in several reputed companies. And some have been participating in research projects at universities in USA, Canada, Switzerland, Japan and Ireland. We had students participating in research projects in other IITs as well.

Name	**Institute / Organization**	**Project Done**
Tanmay Sethi	The Energy & Resources Institute, New Delhi	Solar Biomass Hybrid Cooling Cum Power Generation
Gaurav Kumar	ESCORTS AGRI MACHINERY, Knowledge Management centre	Fatigue testing of components and strain measurement during loading, Noise & vibration testing of engine and tractor
Manu Agarwal	IIT Delhi	Clustering on data points satisfying (c,e) approximation stability
Vivek Dubey	Nuclear Power Corporation Rawatbhata(Raj.)	Inplant training
Snehlata Joshi	IIT Bombay	Bubble Size Measurement
Hemant Verma	IIT Roorkee	Design and Development of Single Phase SPWM Inverter

Sachin Gupta	Eicher Engines Alwar Rajasthan	Reduction in Tool Inventory
Rajat Jain	North Central Railways, Agra	
Rishi Kumar	Patratu Thermal Power Plant, Ramgarh, Jharkhand	Power Generation Techniques
Abhinav Panwar	Escorts Agri Machinery	Fatigue testing of components and strain measurement during loading, Noise & vibration testing of engine and tractor
Abhinav Panwar	Hindustan Aeronautics Limited, Bengaluru	Engine Components Manufacturing Systems
Ravi Kiran Godgu	CAIR, Bangalore	Spatio Temporal Datamining
Vinith Vemana	CAIR, Bangalore	Spatio-Temporal Data Mining
Trivikram Chaudhary	CAIR, Bangalore	Spatio-Temporal Data Mining
Vasu Goenka	Tata Motors	Wheel Alignment
Prince Gupta	Electronics For You	Designing Low-Cost AVR Development Board Sun-Tracker with Angle Display using MCU
Saurabh Santosh	Bokaro Thermal Power Plant	Power Generation Training

Facilities

Present Campus

Residential Area

Permanent Campus

Computer Center

Library

Laboratories

Health Center

Sports Facilities

SC/ST and OBC Cell

Hindi Cell

Office Automation

Present Campus

Presently, the institute functions from a temporary campus at Ratanada, in Jodhpur, Rajasthan. The campus has three blocks, Administrative Block, Academic Block-I, and Academic Block-II. In addition to the major administrative offices of the institute, a few laboratories are situated in the Administrative Block. In Academic Block-I are located several laboratories, computer center, and central library. Academic Block-II has several halls for lectures, tutorial rooms, language laboratory, and cabins for PhD students. The campus also has mess facilities for students. The institute has already procured all the basic facilities required for its effective functioning and is consistently in the course of further development.

Residential Area

The residential area of IIT Jodhpur is situated by the New Pali Road in the outskirts of Jodhpur city. The area is divided into several student hostels, residential apartments of the Director, faculty, and staff, VVIP guest house, visitors' hostels etc. Round the clock security services keep the residential area safe and secure. A well-equipped health center also functions here. In addition, the students enjoy facilities for both indoor and outdoor games at this area.

The residential area has a computer center and all hostels are Wi-Fi enabled. And there is also a library, television rooms, and student activity center to hosts several events. Moreover, the residential complex also houses several students-run clubs which nurture the creativity of students and initiate the celebration of several festivals. Also, one of the two student messes of IIT Jodhpur function here (the other one in the academic area). The mess offers good quality food at very affordable rates. The messes are regularly monitored by wardens to ensure hygiene and nutritional value.

The residential campus has a fully equipped visitors' hostel which provides boarding and lodging facilities for all the institute's guests, parents and guardians of students, and newly appointed faculty members. All rooms are air conditioned. The residential area has a branch of State Bank of India with an ATM counter. The institute has a bus service running between the Residential and Academic areas at regular intervals, exclusively for the students, faculty, and staff of the institute. And shops catering to various needs of the students, two general stores, one medical store, stationery, and a mobile phone accessories store operate in front of the residential area.

Permanent Campus

In the forthcoming years, the institute will be shifted to its own residential campus near Nagaur in Jodhpur. The government has acquired 872 acres of land for the institute and the construction of the boundary wall is being completed, and so is the 33 KV electric substation. An MoU has been signed with Arid Forest Research Institute for designing and developing an urban forestry model for the institute. The institute has successfully completed the selection of the campus master planner. It is envisioned that the new campus of IIT Jodhpur would stand as a symbol of academic excellence while creating a multi-cultural ethos with centers such as an Eco Village, an Arts and Culture Centre and an International Inter-Cultural Activity Centre, all of which would contribute to a holistic development of its community.

Computer Center

The institute has a state-of-the-art computer center, presently running on a gigabit LAN with 1Gbps internet bandwidth. It provides all computing facilities for students and staff. There are several terminals running on Windows and GNU/Linux operating systems. The computer center provides access to several licensed softwares like Matlab, Mathematica, Cadence, Mentor Graphic, Ansys, PSCAD, Solidworks etc. 802.11/b/g/n Wi-Fi is enabled in both the academic area and residential area, the computer centre hosts a high performance computing cluster for scientific research.

Computing Facilities

- Windows Lab - 36 Terminals
- Linux Lab - 70 Terminals
- Computer Centre for Residential Complex
- 6 TF, 520 Core High Performance Computing (HPC) Cluster from Fujitsu
- Dell Power-Edge R810/R910 Servers – 6

Networking Facilities

- 802.11 b/g/n Wireless and 1 Gbps wired LAN intranet and 1 Gbps Internet connectivity at Residential Complex for all residents.
- 802.11 b/g/n Wireless and 1 GBPS wired LAN at Institute’s Academic and Admin Complex with 1 GBPS Internet bandwidth

- WPA-2 Enterprise Wireless Network.

Library

The library supports all teaching and research activities of the institute by facilitating-acquisition, organization, and dissemination of knowledge resources, and also providing library and information services to IIT Jodhpur community at large. It is located on the ground floor in room nos. 1001 and 1011, Academic Block I of the academic campus of IIT Jodhpur. The Library works under the guidance of the Institute's Library Committee. The library operations are completely computerized. Online catalogues and recourses can be accessed in both academic and residential campuses.

Library Collection

Books: The library has a collection of more than 8000 volumes of books. These include the textbooks, reference & research materials and a book bank. E-books can be accessed through the library- website and catalogue.

Number of books added during 2011-12	
Central Library	1175
Book Bank	594

Residential Area Library	250
Total no. of books added during 2011-12	2019

Journals & Databases: The library subscribes to a wide range of scholarly journals/databases from various sources.

The library also subscribes to some of the popular magazines and newspapers.

Digital Library Facility: The library extension in room no. 1011 serves as the digital library with computer terminals facilitating access to various academic resources, viz., journals, databases etc.

Book Bank Facility: The library has a special collection of textbooks for students belonging to SC/ST category, as per Government of India rules. They are issued to the students, who can apply as per the announced schedule by the Book Bank student volunteers.

E-Journal resources and scientific databases available in the campus include ACM Digital Library**,** American Chemical Society**,** American Institute of Physics**,** American Physical Society**,** Annual Reviews**,** ASME Digital Library**,** Elsevier's Science Direct**,** IEL Online**,** IMechE**,** Institute of Physics**,** Nature**,** Nature Online Journals**,** Optical Society of America**,** Project MUSE**,** Royal Society of Chemistry**,** Science Online**,** Society for Industrial & Applied Mathematics**,** Springer Link**,** Taylor & Francis**,** Wiley Online Library**,** miscellaneous titles from Cambridge University Press, Begell House, Rinton Press, SAE, University of Manchester Press, Jstor**,** EBSCO Academic Search**,** Mathscinet**,** Scopus**,** Scifinder.

Laboratories

Right from its inception, IIT Jodhpur has been striving to achieve an ideal synthesis of teaching and research. This spirit reflects most clearly in the variety and scope of the laboratories the institute has established so far. Now the institute has a number of state-of-the-art laboratories and research centers trying to elevate students from minimalist academic concerns to the inquisitive world of scientific arena. These labs and research centers help well-trained faculty members and students work for s better future by supplementing and improving existing technologies and bodies of knowledge, using competence, creativity, and imagination. To accomplish such goals, IIT Jodhpur has already made collaborations with several leading academic and research centers across the world.

Advanced Manufacturing Laboratory

CAD Laboratory

The CAD Lab of the institute provides facilities for undergraduate students and faculty members to work with 2-D & 3-D design and analysis software for their academic and research work. The 3-D Modeling Software and FE Analysis softwares available in the CAD lab include:

- CATIA
- SolidWorks
- ANSYS

CAM Laboratory

In the CAM Lab undergraduate students learns to control machine tools and related machinery in the manufacturing of work pieces with help of computer programing and software. The CAD model of object is prepared in 3D modelling software and then its FE analysis is done with help of Analysis software and then manufactured using CNC programing and CNC machines. With help of CNC machines the object is manufactured with lesser time with higher dimensional accuracy with optimum uses of material, energy and cost. The CAM lab of the institute is equipped with following machines:

- EMCO Concept Mill 250
- EMCO Concept Mill 105
- EMCO Concept Turn 105

In addition, a rapid prototyping machine based on the Fused Deposition Modelling was acquired for the CAD/CAM lab from Stratasys Inc., USA. It works seamlessly with STL files generated from a number of CAD software programs. First year students of all engineering branches have been taught to create STL files of the product designed such that 3D model in ABS material can be printed for purposes of visualization and design communication. It is proposed to conduct workshops and training programs for external industry participants using this technology in the next academic year.

Central Workshop

Central workshop is a facility where the students are trained to convert raw material into finished products. Here, the students learn about various manufacturing processes such as metal cutting, metal forming, metal casting, and metal joining. The central workshop is equipped with different types of welding machines which aid students in understanding the basic welding processes and in utilising the facilities for fabrication works for academic purposes.

The following are the machines and equipments available in central workshop:

1. Welding fume extraction down draft table
2. Multi process welding equipment
3. Portable single phase MIG/MAG
4. AC/DC welding equipment
5. MIG/MAG welding equipment
6. Treadle operated shearing Machine
7. Hand operated Folding Machine
8. Kaizen Muffle Furnace
9. Hand operated Jeeny or Burying Machine
10. Motorized Circle cutting Machine
11. Hand operated Circle cutting Machine
12. Hydraulic shearing Machine
13. Portable Heating Plant
14. Portable hardening plant
15. Forging Heating Plant
16. Aluminium Melting Plant
17. Fitting Table
18. Mould Making Facility
19. Portable Tool Grinder

Chemical Biology Laboratory

The laboratory deploys cellular and molecular biology approaches to explore the pathogenesis of cancer and other neurodegenerative diseases. Given the interest in neuronal death, it is no wonder that this lab team is interested in E3 ubiquitin ligases essential for quality control events in neuronal survival. Protein ubiquitylation is highly versatile, ordered, the multistep post translation modification enzymatic process that regulates numerous aspects of cell physiology. This lab team has been studying the role of such E3 ligases to find out the role of quality control E3 ubiquitin ligases in maintenance of proteostasis and hence playing a

role in cellular survival and death; such important biochemical findings may contribute to innovative therapeutic approaches for the diseases associated with misfolded proteins.

The laboratory has collaboration with Riken Brain Science Institution, Japan; International Centre for Genetic Engineering and Biotechnology, India; National Brain Research Centre, India; National Centre for Cell Sciences, India.

Research themes:

Organisms at the cellular level possess a well-established protein quality control mechanism which the lab team is trying to understand at present. The role of E3 ubiquitin ligases was reported in such mechanisms so far. Our laboratory is dedicated to a qualitative research in the field of protein quality control mechanisms. We have recently found that a HECT domain containing E3 ubiquitin ligase E6-AP helps in Amyotrophic Lateral Sclerosis diseases suppression through its association with the misfolded protein aggregates formed by SOD1 mutants. Such findings support that an E3 ligase can have a capability to clear the misfolded protein aggregation. However, while appreciating the incredible efficiency of cellular systems, we must recognize the crucial role of chaperones which are supposed to work preferentially compared to E3 ubiquitin ligases in order to refold the misfolded proteins, and hence conserving the energy utilized during the translation of those proteins. Various examples made us think that we could explore the role of both the chaperones and E3 ubiquitin ligases in the clearance of misfolded proteins. Therefore, now we are working not only with E3 ubiquitin ligases but also with the chaperones and even in their functional association to confer an efficient quality control mechanism to the cell.

Chemistry Laboratory

The core objective of the chemistry laboratory of IIT Jodhpur is to train students in scientific methods that would solve real problems at the frontier of our understanding of the matter. This is a multi-use laboratory and provides a number of resources to assist undergraduate,

graduate and PhD students in planning their professional careers after completing their academic program at IIT Jodhpur.

This laboratory maintains a broad spectrum of state-of-the-art instrumentation including basic laboratory set up (for organic, inorganic, organometallic and material synthesis), Nitrogen, Oxygen and LPG gas line, Inert atmosphere boxes, vacuum line work, fume hood pH, conductivity, BOD, COD, meters, Rotary evaporator, Vacuum pumps, centrifuges, High pressure reactor system, chiller, heaters Microbalances, Orbital Shaker, GC, HPLC and Radleys ready reactor. In the academic year 2011-2012, the lab procured equipments such as Polarimeter, Melting Point Instrument, Solar Simulator, and Digital Titrator.

Control / DSP / Microprocessor Laboratory

The lab provides software and hardware infrastructure for carrying out experiments in the field of Control Systems, Microprocessor and DSP. Broadly, the lab includes the following experimental setups:

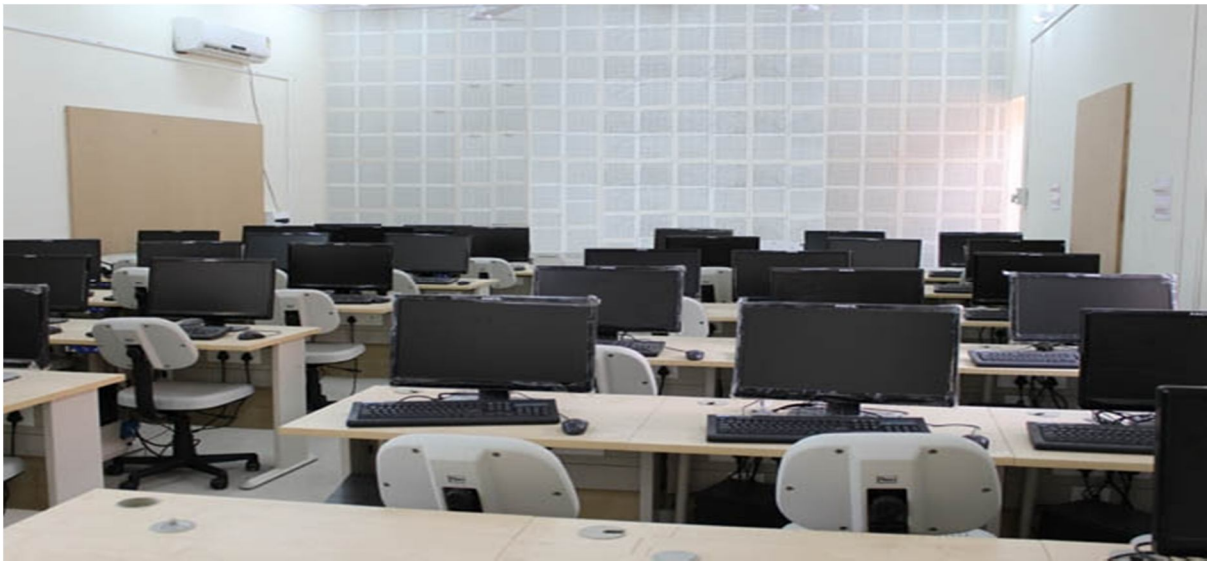
a. Control Systems

1. Ball & Beam System from Quanser
2. Magnetic Levitation System from Quanser
3. Inverted Pendulum System from Quanser
4. Softwares include Scilab / Matlab

b. DSP Lab Equipments

c. Microprocessor Labs

Digital Language Laboratory



The Digital Language Laboratory provides resources, facility, and support for foreign language instruction and learning to the entire student community of IIT Jodhpur. The lab is the multilingual computing and assessment center of the institute. The lab team explores and implements methods through which multimedia technology renders learning a foreign language a more authentic experience. Here, for language learning purposes one could seek recourse to most advanced technologies including the Internet and interactive video, audiovisual techniques, multi-modal iconic approach, and speech recognition. Some other exercises include listening and comprehension, grammar-based exercises, placement

solutions, and mastery tests. The main features of this state-of-the-art facility include top-rated Smart Class Symposium LL from Robotel and New Dynamic English Learning Program from Dyned International. All the facilities at the Digital Language Laboratory are proficiency-oriented and standard-based, and nurture the students' enthusiasm for gaining global exposure and proficiency in a foreign language.

Electronic Circuit Laboratory

In this laboratory the students make and test their analog and digital circuits by using all kinds of circuit components like diode, transistor, opamps, and clocks. The lab has following equipments:

1. Arbitrary Function Generator from Agilent
2. Digital Oscilloscope from Agilent
3. Programmable Power Supply from Scientific
4. 6 1/2 BIT DMM from Agilent

Electro Mechanical Energy Conversion Laboratory

In order to familiarize students to Electrical Machines properties & characteristics, IIT Jodhpur has established "Electro Mechanical Energy Conversion Laboratory" and has continually been developing the potential of its lab facility. In this lab, state-of-the-art "Electrical Engineering" facilitates the students to empower their potentials by familiarizing themselves with the fundamental of electro-mechanical energy conversion process, including

several practical & industrial applications of machines in true applicable environment. This lab occupies conventional as well as modern equipments to fulfil the basic and modern technological requirements with continual developing efforts.

Renewable Energy Laboratory

To resolve most daunting challenge of this world—energy needs—and also our nation's heavy reliance on fossil fuels, Renewable Energy Laboratory (REL) promotes rigorous and objective empirical research at IIT Jodhpur on issues related to energy and environment. REL focuses on designing, testing, and disseminating renewable and efficient energy system. The mission of REL is to help these technologies to realize their full potential to contribute to environmentally sustainable development in industrial and developing countries. In the renewable energy field, expert faculty and students at this Laboratory are currently striving to create an innovative system to efficiently harness energy from sunlight and wind power. Recently, a work on solar and wind system for household development has been planned and our research effort at REL draws on ongoing work in variety of fields, including energy engineering, and environmental risk analysis. REL has computer interfaced systems and approximately 30 students can work at a time. Students are the greatest resource of REL and IIT Jodhpur has made substantial commitment to the area of renewable energy and been providing all required resources to execute a viable plan and innovative research at REL. One aspect of the evolution of REL is the development of collaborative partnership with other academic and industrial groups. In the near future, it will be a hub for training and public-private sector collaboration. Recently, the lab has started a consultancy project, with Panasonic R & D India Pvt Ltd, on the prototyping of microbial fuel cells. In addition, the lab

has started work on data collection, interpretation, and analysis of PV power plants less than 5 MW in Rajasthan and Gujarat.

Equipment

1. Wind power of 2KW Charge controller ~12V, Synchronous generator with permanent magnets ~12V, Lamp board ~12V, Off grid inverter etc

2. PEM Fuel cell Fuel cell with DC converter, Electronic load, Metal hydride storage cell, Electrolyser, 200W/20V/10A.

3. Advanced Photovoltaics Solar module simulation model 23V/2A, Solar module with solar altitude emulator, Solar charge controller 12/24V, 6A, Solar accumulator 12V, 7Ah, Off grid inverter 230V, 275VA etc.

4. Combined RF/DC Sputtering Unit for Coatings Applications

Fluid Mechanics and Heat Transfer Laboratory

At Fluid Mechanics Laboratory students learn:

- Analyses and evaluation of experimental data
- Comparison between theoretical models and experimental data

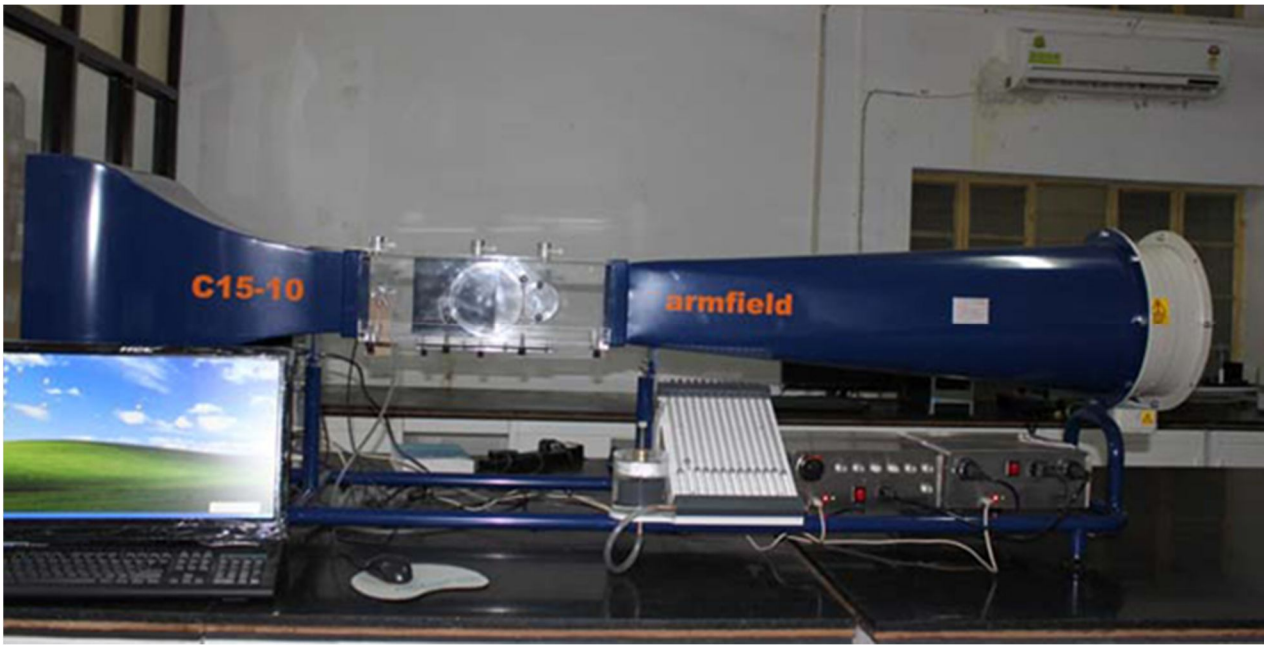
- How to design a fluid mechanical and heat transfer system e.g. a piping system considering various technical aspects, heat exchanger, thermal energy storage, receiver, wind catcher, volumetric air receiver.

In addition to the above, this laboratory aims at generating innovative ideas in students by promoting the design of experiments and small scale projects. At present in the fluid mechanics laboratory are conducted experiments on losses in pipes (smooth/rough) and fittings (e.g. valves, bends), comparison between different flow meters, particle image velocimetry technique, Hot-wire anemometer, labscale sub-sonic wind tunnel for- pressure distribution around a cylinder/air-foil, lift and drag balance, boundary layer development, weather monitoring. Furthermore the lab provides training on standard software, such as, CFAST for fire simulation.

Currently the Heat Transfer Laboratory is equipped with the demonstration of various thermometry techniques, heat exchange system, ventilation system, Natural and forced convection system, heat conduction unit for different materials, lab and industrial-scale solar water heater system, and thermal radiation unit. All these equipment are installed with respective software.

For testing, calibration and research purpose in these laboratories, various equipments, such as, Laser Doppler Velocimeter with Particle Analyzer, pressure and temperature calibration, blower with variable flow, pressure transducers, differential pressure transducers, turbine test rig, turbo-machine test rig, IC engine test rig etc. are being procured.

Moreover, multi-purpose test set up is being indigenously designed and the components / sub-systems involved are being fabricated locally. This system aims at investigation and evaluation of solar thermal sub-systems such as volumetric air receiver, thermal energy storage, air-water heat exchange systems and their simultaneous operation. Devices such as earth air heat exchange system, wind catcher, and air-cooled heat exchange systems are being fabricated and tested for certain applications.



Instrumentation and Communication Laboratory

The mission of Instrumentation and Communication Laboratory is to synthesize research and hands-on learning in Measurement and Automation Technology. The state-of-the-art facilities at this laboratory offer innovative research opportunities in the astronomical space of communication and real time measurement and real time measurement technology. The experienced Lab team nurtures students' talent in research and offers a platform for developing sophisticated measurement, test, and control systems, data analysis system, and next generation communication technologies.

Students also develop theoretical and practical competence in building baseband communication circuits, in the application of NI LabVIEW graphical programing software, in the PXI based NI RF/Wireless measurement stand, in evaluating NI WSNs and LabVIEW software, adjusting a software-defined radio system, measuring the parameters of studied antennas, and in the operation of analog modulation schemes.

NI-Lab contains software and hardware subsystems which enable rapid prototyping and development of embedded systems for various applications. Currently, this lab contains the following setups:

- NI ELVIS based Communication Systems and Theory Teaching Stand
- Large MIMO Stand for Spectral, Channel Efficiency Studies and New Standard Development
- Protocols Stand for WLAN, WiMAX, GPS, RFID, Zigbee, GSM, CDMA, WCDMA, Bluetooth
- FPGA-enabled Software Defined Radio Stand for Custom Communication Scheme Development and Research
- Basic Analog and Digital Communication Techniques Teaching Stand
- Wireless Sensor Networks Stand
- Signal Intelligence and Wireless Spectral Monitoring Stand
- Wireless Prototype Characterization and Testing Stand
- FPGA based protocol development for base-band studies and signal processing
- VNA based Antenna Characterization Stand
- Fiber Optic Communication Stands
- Network Based Manufacturing
- Network Communication and Manufacturing Control Stand

After two years of its formation, this lab has contributed immensely to the learning and research activities at IIT Jodhpur. Cellular Communications Lab, Intelligent Instrumentation, System Analysis Techniques and Bio-Sensors courses are being offered through this lab for both graduate and undergraduate students. The lab has provided the right hardware and software tools for many industry consultancy projects, including the development of DRM/DRM+ IP for digital radio standards. Other projects being done in the lab are development of affordable wireless video transmission systems, cognitive radio, and Zigbee protocol development.

Material Testing and Solid Mechanics

The material testing lab of the institute provides facilities to test samples of different types of materials to find out their mechanical properties like modulus of elasticity, tensile and compressive strength, stress strain curve, bending properties, hardness etc. The lab is equipped with following test equipments:

1. Universal testing Machine 5-50 kN
2. Rockwell Tester
3. Brinell Tester
4. Vickers Tester
5. Poldi Hardness Tester

6. Portable hardness tester
7. Material Testing and Solid Mechanics

Materials Analysis Laboratory

The laboratory is equipped with state-of-the-art facilities to carry out thermal analysis, electrochemical analysis, surface morphology studies, separation techniques for chemicals, electrical conductivity measurement devices, glove box etc.

The equipments available at the Materials Analysis Laboratory include:

(i) Differential Scanning Calorimeter: DSC 8000, Perkin Elmer Simultaneous thermal analyzer: STA 6000, Perkin Elmer

(ii) Waters HPLC

(iii) Gas Chromatography-Perkin Elmer

Microscopy Laboratory

The Microscopy Laboratory at IIT Jodhpur is located in Academic block 1, Room Number 1107. This burgeoning laboratory is committed to procuring all specific Equipments and is about to gain the level of state-of-the-art laboratories at IIT Jodhpur. Experienced faculty nurtures students' enthusiasm about the morphological analysis of biological samples and also assists them to operate scientific instruments. Currently, this laboratory houses different microscopes and a number of common pieces of sample preparation equipments.

Multimedia Laboratory

The Media Laboratory provides facilities to carry out work related to E-learning, image processing, and computer vision. The thrust areas of research in this lab are: Semantic

analysis of video/image content, video surveillance, human motion analysis, document image analysis, content based image retrieval etc. E-learning related activities include video recording, audio-video digitization, video editing, etc. In the academic year 2011-2012, a research on Indian sign language recognition using Kinect has been initiated.

Equipments:

Scanners: Book Drive Mini, UMAX Powerlook. Cameras: Sony 177PD, Sony Camcorder, Cannon 500D VCR: Sony DSR 45AP Tripods: Manfrotto, iMac.

Networking Technologies Laboratory

Networking Technologies Laboratory has been started functioning in the Academic Year 2011-2012. It aims at enabling undergraduate and graduate students, who pursue their interest in the area of computer networks, to understand the concepts of computer networks and work with contemporary networking equipment in a realistic setting. In addition, the lab aims at providing necessary infrastructure to carry out research activities on advanced topics, such as wireless mesh networks, sensor networks, communication on power lines, from computer networks.

Proposed Activities:

- Prototyping of networking hardware (Example, Ethernet switch, IPV4 router etc) using NetFPGA.
- Developing packet processors using Click router modular software framework.
- Establishing infrastructure for the mini-Internet, single-hop wireless networks, multi-hop wireless mesh and sensor networks, power line communication networks, home phone line networks.
- Studies related to the performance analysis of various protocols over on different network configurations.
- Development of novel routing algorithms, transport layer mechanisms, and services for next generation networks.
- Setting up planet-lab infrastructure (which will essentially become part of the global distributed computing platform created over the Internet by connecting over 500+ sites). This allows the students and researchers not only to understand the traffic patterns on the Internet but also to develop new technologies/applications on the Internet for distributed storage, networking mapping, peer-to-peer systems, content distribution service, and cloud computing.

Physics Laboratory

The mission of the Physics laboratory at IIT Jodhpur is to provide students with experiential knowledge in basic physics. This laboratory has state-of-the-art facilities including specific equipments and is currently offering different experiments in Mechanics, Waves, Electricity, Magnetism, and Optics. Now the lab has facilities for experimenting with Speed of Light, Zeeman Effect, and Michelson Interferometer.

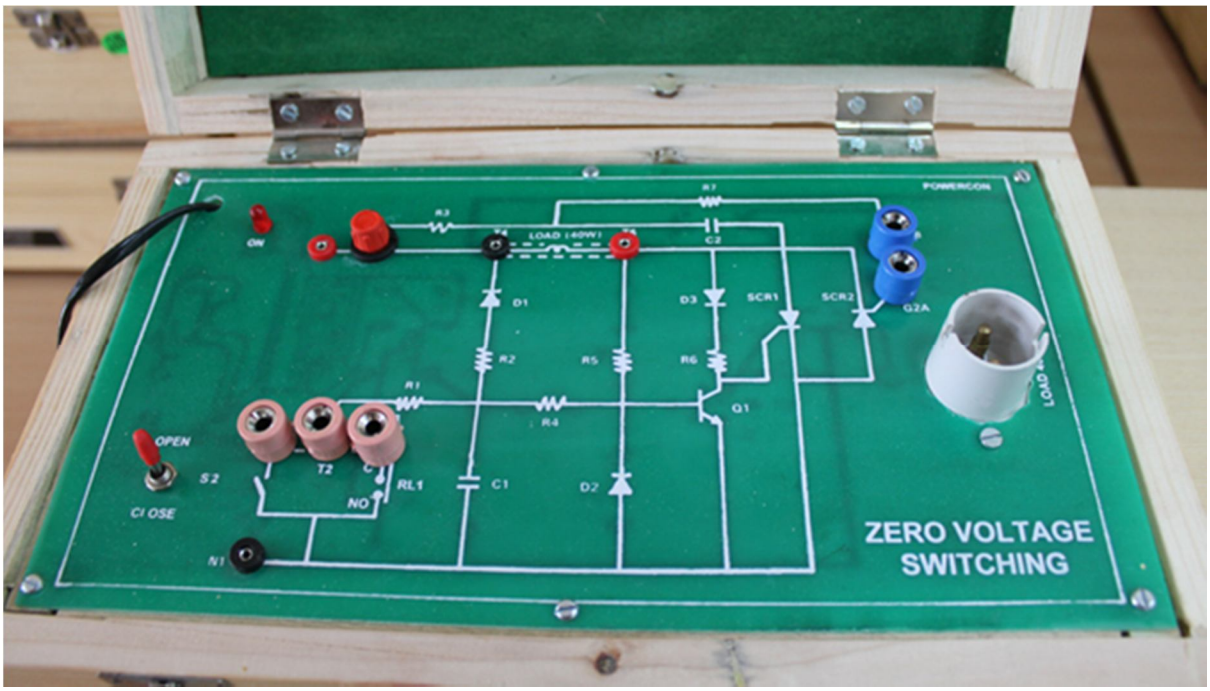
Power Electronics Laboratory

The power electronics laboratory is used for undergraduate studies and research in the area of power electronics based power conversion systems, control systems and drives. The laboratory facilitates for faculty and students to conduct research in the areas power converters and AC/DC micro-grid. The laboratory is equipped with state-of-art test and measurement instruments, converters, power supplies and programming boards.

Major Equipments:

1. High Precision power Analyzer –YOKOGAWA WT3000.
2. DSO- Tektronix 200MHz (DPO 2024) and 1GHz (DPO 4104B).
3. Function Generator-Tektronix AFG 3021B.
4. Power Supply: 0-30V, 1A; 0-32V, 3A; 0-32, 10A.

5. Three phase inverter drive.
6. Three phase inverter stacks.
7. DC-DC converters.
8. Differential currents Probes.
9. Current clamps.
10. Isolation Transformers.
11. FPGA training kits and programming boards.

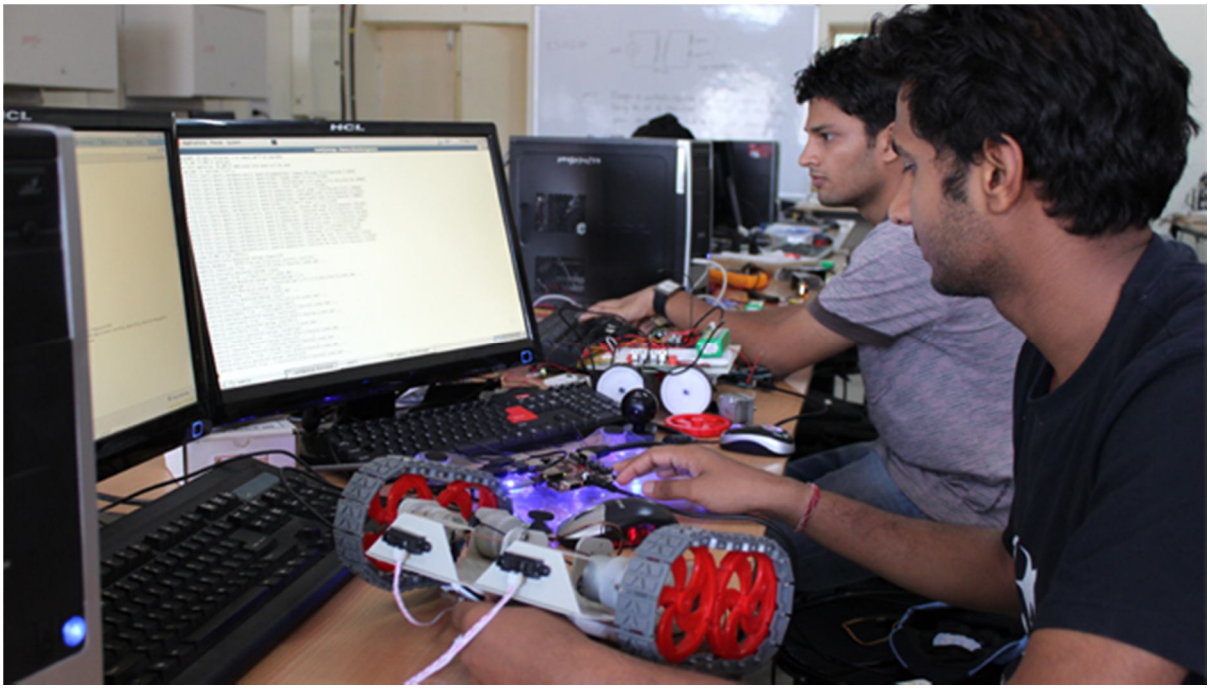


Robotics Laboratory

IIT Jodhpur has an advanced robotics laboratory for PG/UG education and research. The infrastructure includes the following:

1. Vicon Motion Tracking System
2. Mobile Manipulator comprising of Barret WAM ARM mounted on a PowerBot Mobile robot platform
3. Pioneer P3-DX mobile robots - 10 units
4. Turtlebot
5. Wheel Chair
6. Force Plate
7. Infrastructure for Mobile Robotics - Navigation, Path-planning, SLAM

8. Dynamic and Kinematic Control problem, Redundancy Resolution, Inverse Kinematics of Manipulators and Mobile Manipulators, Visual Servoing
9. GAIT Analysis and Robot Assisted Rehabilitation



Solar Radiation Laboratory

The Ministry of New and Renewable Energy (MNRE) has selected the IIT Jodhpur campus site as one of their solar radiation centers. Solar radiation measurement (Global and Direct), Humidity, Ambient temperature, Rain gauge and wind speed measurement are carried out at this center and the data is transmitted via a satellite link to the MNRE nodal center C-WET in Chennai. The instruments in this laboratory are powered by a couple of solar panels. The data collected from this center enables the solar resource assessment required for the setting up of solar thermal and solar photovoltaic power plants as outlined in the Jawaharlal Nehru National Solar Mission (JNNSM).

Health Center

IIT Jodhpur provides health care facilities to students at the residential campus round the clock. The Health Center has now three doctors and four supporting staff members. The institute also has tie-ups with some hospitals in the city to cater to the medical needs of the students and staff. The Health Center at the residential area has all the necessary infrastructure, facilities, and equipment needed for basic health care. Essential medicines are stocked and provided to patients undergoing treatment.

Health Center coordinates and supervises the treatment of students, employees, and their dependents during hospitalization in other hospitals which are accredited to the institute to provide in-patient care. HC arranges for ambulance on call during medical emergencies.

HC extends its health care services on request to visitors of the institute during their stay in transit hostels in the residential area. Free medical consultancy services are also extended to the poor and needy serving in the residential area. Further, Patient records, details of medicine procurement/disbursement, assets, equipment of HC etc. are all computerized. The

institute is looking forward to procuring facilities for some common emergency health situations such as ECG machine, ambulance, etc.

Sports Facilities

The institute provides facilities for sports and games at four places: hostel premises, academic campus, Vidyashram playground, and JNVU new campus. Also, the institute has arranged conveyance for those students who wish to go to Vidyasham playground and JNVU new campus. Further, a gymnasium at the residential area functions for the students.

SC/ST and OBC Cell

IIT Jodhpur has created the SC/ST and OBC Cell for ensuring the proper utilization and adaptation of reservation policies and guidelines issued by the Government of India. The Cell has also been entrusted with work related to grievances received from SC/ST and OBC employees and students. The Cell also needs to communicate relevant information to the Ministry of Human Research and Development and to communicate to the Institute Government of India's decisions related to admission, recruitment, promotion and training of SC/ST and OBC students and employees.

Hindi Cell

The Hindi Cell of IIT Jodhpur promotes the use of Hindi as a medium of official communications and public relations. The mission of the Cell is to enable the whole IIT Jodhpur community to develop basic language skills of Hindi. The Cell also encourages and assists students to conduct competitions and activities in Hindi language and literature.

Office Automation

The Office Automation Cell of the institute takes care of the IIT website, CoE websites, web pages of faculty members, and so on. The mission of the Office Automation division is to render all office procedures automated so their timely completion could be ensured and account keeping would become simpler and easier. The institute has already automated procedures for booking transit hostel; faculty, staff, and students leave; vehicle booking for official purposes; and bona fide certificate for students.

Faculty Activities

Sponsored Projects

Awards and Recognition

Invited Lectures

Publications

Conference Presentations

Faculty Members & Areas of Research Interest

Sponsored Projects

1. Principal Investigator: Dr Gaurav Harit. Project Title: Creation of Virtual Class-Rooms at IITs over National Knowledge Network. Sponsoring Agency: National Informatics Centre. Sanctioned Amount: Rs 1,51,79,860/-. Duration: 1 year.

2. Principal Investigator: Dr. Sandeep Yadav. Project Title: Low Cost Access-cum-Computing Devices. Sponsoring Agency: MHRD. Sanctioned Amount: Rs 47,72,00,000/-. Duration/Date of Completion: 19-Mar-12.

3. Principal Investigator: Prof. P K Kalra, Dr. K S Daya (DEI). Project Title: The Village Community Network: Technology Development and Pilot Roll out Plan for Low Cost Opportunistic Communication Networks for Rural Areas of India. Sponsoring Agency: MHRD. Sanctioned Amount: Rs 6,00,00,000/-. Duration/Date of Completion: 31-Dec-12.

4. Principal Investigator: Prof. P K Kalra, Dr. S Bhatnagar (DEI). Project Title: E-Books on Introduction to High Energy Physics, Introduction to Astroparticle Physics and Instrumentation Methods in Astroparticle Physics. Sponsoring Agency: MHRD. Sanctioned Amount: Rs 14,00,000/-. Duration/Date of Completion: 31-Dec-12.

5. Principal Investigator: Dr. Swagat Kumar. Project Title: Development of Low Cost Mobile Robots - Robotics for Education. Sponsoring Agency: MHRD. Sanctioned Amount: Rs 1,55,80,000/-. Duration/Date of Completion: 31-Dec-12.

6. Principal Investigator: Dr. Gaurav Harit. Project Title: Development of Analysis and Indexing Tools for Harnessing Educational Videos. Sponsoring Agency: MHRD. Sanctioned Amount: Rs 32,45,000/-. Duration/Date of Completion: 31-Dec-12.

7. Principal Investigator: Dr. Sandeep Yadav. Project Title: NI-SENSOR & NETWORKS LAB. Sponsoring Agency: NI Systems (I) Pvt. Ltd., Bangalore. Sanctioned Amount: Rs 5,00,000/-. Duration/Date of Completion: 1 year.

8. Principal Investigator: Dr. Sandeep Yadav. Project Title: Cross MAC & PHY Layer Research. Sponsoring Agency: NI Systems (I) Pvt. Ltd., Bangalore. Sanctioned Amount: Rs 5,00,000/-. Duration/Date of Completion: 6 months.

9. Principal Investigator: Dr. Hari Narayanan V. Project Title: Language, Cognition & the Human Mind. Sponsoring Agency: Indian Council of Philosophical Research, MHRD. Sanctioned Amount: Rs 50,000/-. Duration/Date of Completion: 3 years.

10. Principal Investigator: Dr. Akhilesh Mohan. Project Title: Conceptualization and Design Study for Freespace Material Characterization Facility. Sponsoring Agency: Defence Research & Development Organisation, Jodhpur. Sanctioned Amount: Rs 5,69,000/-. Duration/Date of Completion: 1 year.

11. Principal Investigator: Prof. P K Kalra. Project Title: One Stop Educational Portal. Sponsoring Agency: Chhattisgarh Infotech & Biotech Promotion Society. Sanctioned Amount: Rs 40,85,934/-. Duration/Date of Completion: 2 years.

12. Principal Investigator: Dr. Amit Mishra. Project Title: Identification, assessment and Characterization of E3 Ubiquitin Ligases and Molecular Chaperones Implicated in Neurogenerative Diseases. Sponsoring Agency: Department of Science & Technology. Sanctioned Amount: Rs 5,56,000/-. Duration/Date of Completion: 2 years.

13. Principal Investigator: Prof. Rajiv Shekhar. Project Title: Establishment of the Centre of Excellence in Solar Thermal Research and Education. Sponsoring Agency: Ministry of New & Renewable Energy. Sanctioned Amount: Rs 40,00,00,000/-. Duration/Date of Completion: 5 years.

14. Principal Investigator: Dr. Balram Tripathi. Project Title: Study of Aligned CNT/Polymer Nanocomposites for Hydrogen Storage. Sponsoring Agency: Science and Engineering Research Board, DST. Amount Sanctioned: Rs 25,92,000/-. Duration/Date of Completion: 3 years.

15. Principal Investigator: Dr. Sandeep Yadav. Project Title: Development of Intelligent Instrumentation and Cellular Communication Courses. Sponsoring Agency: NI Systems (I) Pvt. Ltd., Bangalore. Amount Sanctioned: Rs 5,00,000/-. Duration/Date of Completion: 6 months.

16. Principal Investigator: Dr. Sandeep Yadav. Project Title: Development of DRM/DRM+ Standards. Sponsoring Agency: NI Systems (I) Pvt. Ltd., Bangalore. Amount Sanctioned: Rs 25,00,000/-. Duration/Date of Completion: 6 months.

17. Principal Investigator: Dr. Rakesh Sharma. Project Title: Generation, Storage and Distribution of Solar Hydrogen. Sponsoring Agency: Department of Science & Technology. Amount Sanctioned: Rs 39,63,600/-. Duration/Date of Completion: 2 years.

18. Principal Investigator: Dr. Vivek Vijay. Project Title: Advancement in Nuclear Reactor Design Pertaining to NRFCC. Sponsoring Agency: Department of Atomic Energy. Amount Sanctioned: Rs 4,30,000/-. Duration/Date of Completion: 1 year.

19. Principal Investigator: Dr. Sandeep Yadav. Project Title: Reproductive Child Health. Sponsoring Agency: UNICEF, Jaipur Branch. Amount Sanctioned: Rs 20,86,500/-. Duration/Date of Completion: 2 years 3 months.

20. Principal Investigator: Dr. Rakesh Sharma. Project Title: Molecular Sensors: Synthesis and Anion Recognition Studies. Sponsoring Agency: Science and Engineering Research Board, DST. Amount Sanctioned: Rs 27,69,000/-. Duration/Date of Completion: 3 years.
21. Principal Investigator: Prof. Rajiv Shekhar. Project Title: Concentrated Solar Power Plant. Sponsoring Agency: Indian Oil Corpn. Ltd. Amount Sanctioned: Rs 60,00,000/-. Duration/Date of Completion: 3 years.

22. Principal Investigator: Dr. Deepak Fulwani. Project Title: Development of Programmable Emulator for Photovoltaic Plant to Facilitate Complex Testing Requirements. Sponsoring Agency: Science and Engineering Research Board, DST. Amount Sanctioned: 9,48,000/-. Duration/Date of Completion: 3 years.

23. Principal Investigator: Dr. Sandeep Yadav. Project Title: Innovation and Incubation Centre. Sponsoring Agency: Rajasthan State Government with IIT Rajasthan. Amount Sanctioned: Rs 2,50,00,000/. Duration/Date of Completion: 1 year.

24. Principal Investigator: Dr. Rakesh Sharma. Project Title: Asymmetric Hydrogenation on Carbon Nanotube Surface. Sponsoring Agency: Department of Science & Technology. Amount Sanctioned: Rs 34,02,360/-. Duration/Date of Completion: 2 years.

Awards and Recognitions

Dr. Amit Mishra has been awarded DST-JSPS (IJCSP) fellowship, INT-India and Japan, for the period 2011-2013

Dr. Sonam Mehrotra has received the Galo Award sponsored by the Cancer Institute of New Jersey and The New Jersey Commission for Cancer Research for scientific excellence in Cancer Biology research 2011.

Invited Lectures

Vivek Vijay: Co-chair in Workshop on Vedic Studies and Information Technology at Dev Sanskriti University, Haridwar, India, August 23-24, 2011.

Shree Prakash Tiwari: Keynote Speech: "Introduction to Microelectronics & VLSI", in Short Term Training Program on "Advance Trends in VLSI", June 11 - 16, 2012, JIET Jodhpur, India.

Publications of Faculty Members in Academic Journals

1. **A. Mohan**, S. Singh, and A. Biswas,"Generalized Synthesis and Design of Symmetrical Multiple Passband Filters" *Progress In Electromagnetics Research* B, Vol. 42, 115-139, 2012.

2. B. Ramachandran, **A. Dixit**, R. Nai, G. Lawes, M. S. Ramachandra Rao, *Appl. Phys. Lett*. 100, 252902 (2012).

3. **Amit Mishra**; Megha Maheshwari; Deepak Chhangani; Noriko Fujimori Tonou; Fumito Endo; Ajay P Joshi; Nihar R Jana; Koji Yamanaka, "E6-AP association promotes SOD1 aggresomes degradation and suppresses toxicity." http://dx.doi.org/10.1016/j.neurobiolaging.2012.08.016, (*Neurobiology of Aging* 2012).

4. Deepak Chhangani., Ajay Prakash Joshi., **Amit Mishra** (2012), "E3 Ubiquitin Ligases in Protein Control Mechanism." *Molecular Neurobiology* 45 (3), 571-585.

5. Xiaohua Wei, Xiugui Wang , Bing Dong , Xinjian Li, **Anand K. Plappally**, Zhi Mao & Larry C. Brown, "Simplified residence time prediction models for constructed wetland water recycling systems," *Desalination and Water Treatment*, DOI:10.1080/19443994.2012.708522

6. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, "Time-frequency characterization of fetal phonocardiographic signals using wavelet scalogram", *Journal of Mechanics in Medicine and Biology*, vol. 11, no. 2, pp. 391-406, 2011.

7. Vijay S. Chourasia, **Anil Kumar Tiwari**, "Fetal Heart Rate Variability Analysis from Phonocardiographic Recordings", *Journal of Mechanics in Medicine and Biology*, Vol. 11, No. 3, pp. 1-17, 2011.

8. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, K. A. Akant, "Fetal phonocardiogarphic signal denoising based on non-negative matrix factorization", *Journal of Medical Engineering and Technology*, vol. 36, no.1-2, pp. 57-66, Dec

9. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, "Adaptive Neuro-Fuzzy Inference System for Antepartum Antenatal Care using Phonocardiography", Accepted for publication in International Journal of Biomedical Engineering & Technology, Inderscience Publications.

10. Vijay S. Chourasia, **Anil Kumar Tiwari**, "Wireless data acquisition system for fetal phonocardiographic signals using BluetoothTM," *International Journal of Computers in Healthcare*, vol. 1, no. 3, pp. 240-253, 2012.

11. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, “Spectral analysis of fetal heart sounds in healthy and pathological subjects”, *Journal of Medical Engineering and Informatics*, vol. 4, no. 2, pp. 125-139, 2012.

12. Vijay S. Chourasia, **Anil Kumar Tiwari**, “A phonocardiography based real-time fetal heart rate monitoring system”, In: Eddie Y. K. Ng, R. U. Acharya, T. Tamura, (Eds.), *Distributed Diagnosis and Home Healthcare*, *American Scientific Publications*, pp. 115-128, chapter 8, vol. 3, 2011.

13. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, “Implementation of fetal e-health monitoring system through biotelemetry”, *International Journal of Electronic Healthcare*, vol. 7, no. 1, pp. 36-52, 2012.

14. Vijay S. Chourasia, **Anil Kumar Tiwari**, "Fetal Heart Rate Variability Analysis from Phonocardiographic Recordings", *Journal of Mechanics in Medicine and Biology*, Vol. 11, No. 3, pp. 1-17, 2011.

15. Vijay S. Chourasia, **Anil Kumar Tiwari**, Ranjan Gangopadhyay, "Adaptive Neuro-Fuzzy Inference System for Antepartum Antenatal Care using Phonocardiography", Accepted for publication in *International Journal of Biomedical Engineering & Technology*, Inderscience Publications.

16. Vijay S. Chourasia, **Anil Kumar Tiwari**, "A Phonocardiography based Real-Time Fetal Heart Rate Monitoring System", Book Chapter in Eddie Y. K. Ng, R. U. Acharya, T. Tamura, (Eds.), *Distributed Diagnosis and Home Healthcare*, American Scientific Publications, vol. 3, Article in press.

17. **Ansu Louis**. "Critiquing Narratives of Progress: Alternative History in Philip Roth's The Plot Against America." *The IUP Journal of American Studies* (February 2012).

18. **Ansu Louis.** "Transgression and Oedipal Politics in Philip Roth's Sabbath's Theater." *The Explicator*. [June, 2012].

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3. Xiaohua Wei, Xiugui Wang, Bing Dong, Xinjian Li, **Anand K. Plappally**, Zhi Mao, Larry C. Brown, "Simplified Residence Time Prediction Models for Constructed Wetland Water Recycling Systems," EDS 2012 Barcelona, Conference and Exhibition on Desalination For The Environment Clean Water and Energy.

4. Sunil Jaiswal and **Anil Kumar Tiwari**, Coefficient Interpolation Approach for Enhancement of Spatial Resolution of Images," *Proceedings of the 11th biennial Asia Pacific Conference on Circuits.*

5. Sunil Prasad Jaiswal, Vinit Jakhetiya, and **Anil Kumar Tiwari,** "An Efficient Image Interpolation Algorithm Based Upon the Switching and Self Learned Characteristics for Natural Images", 44th IEEE International Symposium on Circuits and Systems (ISCAS) pp. 861 - 864, Rio de Janeiro, Brazil 2011.

6. Vinit Jakhetiya, Sunil Prasad Jaiswal, and **Anil Kumar Tiwari**, "A Computationally Efficient Context Based Switched Image Interpolation Algorithm for Natural Image", 28th IEEE International Instrumentation and Measurement Technology Conference, 2011.

7. Ashwani Sharma, **Anil Kumar Tiwari**, "Lossless Video Coding using Grid- Gradient Classification", IEEE International Conference on Image Processing Brussels, Belgium, September 11 - 14, 2011.

8. Sunil Prasad Jaiswal, **Anil Kumar Tiwari**, AU, "Interpolation Based Symmetrical Predictor Structure For Lossless Image Coding", 45th IEEE International Symposium on Circuits and Systems (ISCAS) 2012.

9. Vinit Jakhetiya, Sunil Prasad Jaiswal, Ashutosh Singla, **Anil Kumar Tiwari,** "Image Square Optimization," Prediction Algorithm 28th IEEE using International, Slope Instrumentation Measurement Technology Conference, Graz, Austria.

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11. Vinit Jakhetiya, Sunil Prasad Jaiswal, Ayush Kumar, **Anil Kumar Tiwari**, "A Low Complex Context Based Image Interpolation Algorithm For Natural Images" 29th IEEE International Instrumentation and Measurement Technology Conference, 2012.

12. Jaiswal, Gaurav Mittal, Vinit Jakhetiya, **Anil Kumar Tiwari**, "An Efficient Two Pass Lossless Invisible Watermaking Algorithm for Natural Images", IEEE 19th International Conference on Systems, Signals and Image Processing, 2012, Vienna, Austria.

13. **Dubey A**, Boukouvala F, Muzzio FJ et al. "A QbD Approach to Improve Tablet Coating Uniformity." The 2011 AIChE Annual Meeting, Oct. 16-21, Minneapolis MN, USA.

14. Varghese A, **Dubey A**, Ramachandran R. "Efficient Simulation of Population Balance Models via Parallel and Distributed Computing." The 2011 AIChE Annual Meeting, Oct. 16-21, Minneapolis MN, USA.

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18. **S. Harinipriya**(a)*, B. Usmani(a), D. J. Rogers(b) , V. E. Sandana(b,c,d), F. Hosseini Teherani(b), A. Lusson(c), P. Bove(b), H.-J. Drouhin(d) and M. Razeghi(e), "ZnO Nanorod Electrodes for Hydrogen Evolution & Storage," *Proc. of SPIE* Vol. 8263, 82631Y · © 2012

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22. F. Roelofs, V. Gopala, D. Visser, A. Shams, J.A. Lycklama à Nijeholt, **L. Chandra**, "Developments In Single Phase Fuel Assembly Simulations," *Proc. NURETH* 14, Canada, 2011.

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25. Jungbae Kim, Canek Fuentes-Hernandez, Do Kyung Hwang, William J. Potscavage, Jr., Hyeunseok Cheun, **Shree P. Tiwari**, and Bernard Kippelen, "Top-gate pentacene and amorphous InGaZnO channel thin-film transistors and inverters with high-operational stability," SPIE Optics + Photonics: Photonic Devices + Applications (Organic Field-Effect Transistors X), August 21 -25, 2011, San Diego, California, USA.

26. J. B. Kim, C. Fuentes-Hernandez, D. K. Hwang, **S. P. Tiwari**, W. J. Potscavage Jr., and B. Kippelen, "Vertically stacked complementary inverters with solution-processed organic semiconductors," SPIE Optics + Photonics: Photonic Devices + Applications (Organic Field-Effect Transistors X), August 21 -25, 2011, San Diego, California, USA.

27. **Sushmita Jha**, Siddharth Y. Srivastava, W. June Brickey, Heather Iocca, Arrel Toews, James P. Morrison, Vivian S. Chen, Denis Gris, Glenn K. Matsushima, and Jenny P.-Y. Ting, "The inflammasome sensor, NLRP3, regulates CNS inflammation and demyelination via caspase-1 and IL-18," selected for a poster presentation at the Young Investigator Meeting (YIM) Boston, MIT Stata Center, Oct 8th 2011.

28. **S. Harinipriya,** B. Usmani(a), D. J. Rogers(b) , V. E. Sandana(b,c,d), F. Hosseini Teherani(b), A. Lusson(c), P. Bove(b), H.-J. Drouhin(d) and M. Razeghi(e), ZnO Nanorod Electrodes for Hydrogen Evolution & Storage, *Proc. of SPIE* Vol. 8263, pp82631Y-10· 2012.

29. Bernard Kippelen, Jungbae Kim, Do Kyung Hwang, **Shree P. Tiwari**, William J. Potscavage, Jr., Canek Fuentes-Hernandez, "Organic and hybrid thin-film transistors with novel architectures and high stability," SPIE Optics + Photonics: Photonic Devices + Applications *(*Organic Field-Effect Transistors X), August 21 -25, 2011, San Diego, California, USA.

Faculty Members and Specializations (as on 31 July 2012)

Prem K. Kalra	Professor & Director	University of Manitoba, Canada	Electrical Engineering: Power Systems, Expert Systems, HVDC Transmission, Deregulated Power System, Educational Paradigms, Data Mining, Fuzzy Logic System, Neural Networks, Computational Neuroscience Image Processing Independent Component Analysis & Blind Source Separation, KARMAA (Knowledge Acquisition, Retention, Management, Assimilation & Application)
Akhilesh Mohan	Assistant Professor	IIT Kanpur	Electrical Engineering: RF and Microwave Communication, Microwave Filters Metamaterials, RF-MEMS for filter applications
Ambesh Dixit	Assistant Professor	Wayne State University	Physics: Semiconductors, multifunctional ferroics & materials for energy-fabrication & characterization, Photovoltaic materials & devices ab initio DFT study and device simulations
Amit Mishra	Assistant Professor	National Brain Research Centre	Cellular and Molecular Neuroscience, Cell Cycle Regulation and Cancer
Anand Krishnan Plappally	Assistant Professor	Ohio State University	Mechanical Engineering: Energy Water Nexus; Water/Waste Water Treatment, Hydrology, Mechanics of Materials, Probabil. Methods in Engg., Agri. Water Mgmt.
Anil Kumar Tiwari	Assistant Professor	IIT Kharagpur	Electrical Engineering: Image Processing,Video Processing, and Signal Processing application in Bio-Medical

Ansu Louis	Assistant Professor	IIT Kanpur	English: American Literature, Literary and Critical Theory, Postmodern Fiction, and English Language and Communication
Arnab Datta	Assistant Professor	IIT Bombay	Electrical Engineering:Electrical characterization, T-CAD, and Monte-Carlo modeling of semiconductor devices, Advanced MOSFET characterization issues, Numerical modeling for MEMS reliability projection, Integrated optical devices modeling, Fabrication of MOS devices
Ashutosh Kumar Alok	Assistant Professor	IIT Bombay	Physics: Particle Physics and Cosmology
Atul Dubey	Assistant Professor	Rutgers University, USA	Mechanical Engineering: Granular Dynamics; Solar Thermal Energy utilization ; Computational Engineering ; BioEngineering
Atul Kumar	Visiting Assistant Professor	IIT Madras	Chemistry: Quantum Information Processing
Ravindra Brammajyosula	Associate Professor	IIT Kanpur	Mechanical Engineering: Mechanics, Mechatronics and Solar energy
Barun Pratiher	Assistant Professor	IIT Guwahati	Mechanical Engineering: Dynamic Model & Simulation, Nonlinear Dynamics,Stability Analysis,Perturbation Techniques,Flexible Robots, Fluid-Structures Interaction in Flexible Pipes or carbon nanotube, Modeling and Dynamics Response MEMS Devices
Bibhas Adhikari	Assistant Professor	IIT Guwahati	Mathematics & Statistics: Linear and Non-linear Algebraic Systems, Optimization Techniques, Network Systems

Deepakkumar M Fulwani	Assistant Professor	IIT Bombay	Electrical Engineering: Control and state estimation of uncertain systems, Power system, Control issues in wind energy conversion system
Gaurav Harit	Assistant Professor	IIT Delhi	Computer Science & Engineering:Image and Video Analysis
Gourishankar S Hiremath	Assistant Professor	University of Hyderabad	Economics:Financial Economics,Financial Markets, International Finance, Economics of Energy, Long Memory, Cooperatives,
Hari Narayanan V	Assistant Professor	IIT Kanpur	Philosophy: Cognitive Studies, Evolutionary Theory, Analytic Philosophy and Mindfullness
George Kodimattam Joseph	Assistant Professor	IIT Kanpur	Philosophy:Applied Ethics, Ethics of Technology, Bioethics
K K Dua	Visiting Faculty		Zoology(Environmental Pollution), Bioethics
Kirankumar Rajshekhar Hiremath	Assistant Professor	University of Twente (The Netherlands)	Mathematics & Statistics: Theoretical, mathematical and computational aspects of wave-matter interactions
Laltu Chandra	Assistant Professor	Forschungszentrum Karlsruhe GmbH & University of Karlsruhe, Germany	Mechanical Engineering : Solar thermal system, Thermal hydraulics, Turbulence simulation(DNS/LES/HYBRID/RANS) & model development, Computational Fluid Dynamics, Heat Exchager design

Mainak Mazumdar	Assistant Professor	Instiute for Social and Economic Change (ISEC)	Economics: Intellectual Property Right(IPR) and Pharmaceutical Industry, Productivity and Efficiency Analysis, Growth and Regional Development, Inequality Poverty and Social mobility.
Manish Dev Shrimali	Assistant Professor	JNU	Physics: Nonlinear Dynamics and Chaos, Complex Systems, Computational Neuroscience
Meenu Chhabra	Assistant Professor	IIT Delhi	Biological Science & Bio-Engineering :Renewable Bioenergy Bioremediation
Monika Sinha	Assistant Professor	Jadavpur University	Physics: Astrophysics, Astroparticle physics
Pradeep Kumar P	Assistant Professor	IIT Bombay	Mechanical Engineering: Thermal hydraulics, Solar thermal system, Microfluidics
Puneet Sharma	Assistant Professor	IIT Delhi	Mathematics & Statistics: Topological Dynamics, Low Dimensional Chaos
Pushkar Shripad Joglekar	Assistant Professor	Institute of Mathematical Sciences, Chennai	Computer Science & Engineering: Computational Complexity, Algorithms.
Rahul Chhibber	Assistant Professor	IIT Roorkee	Mechanical Engineering: Welding and Joining, Advance Manufacturing Processes, Damage Mechanics, Biomaterials, Materials Processing
Rahul Singhal	Visiting Assistant Professor	Delhi University	Energy, Biosensors
Rajiv Shekhar	Visiting Faculty	University of California	Energy

Rakesh Kumar Sharma	Assistant Professor	Indian Institute of Science	Chemistry: Water splitting catalysis, solar hydrogen production Macromolecule based molecular sensors, Heterogeneous catalysis for small molecule activation, Green Chemistry Catalysis for stereocontrol Plastic electronics, Feedstock Chemistry, Catalysis for energy solutions, coordination Chemistry based of d- and f- block element. Water chemistry.
Prof. Ravindra Arora	Professor	TU Dresden, Germany	Electrical Engineering: Electrical Power System, High Voltage Insulation Engineering, Lightning and Ball Lightning Phenomena
Sandeep Kumar Yadav	Assistant Professor	IIT Kanpur	Electrical Engineering: Signal Processing, Condition Monitoring, Image Processing, Data Compression, Blind Source Separation, Artificial Neural Network.
Satyabrata Adhikari	Assistant Professor	Bengal Engineering and Science University, Shibpur	Mathematics & Statistics: Quantum Information
Shaligram Tiwari	Visiting Faculty	IIT Kanpur	Mechanical Engineering: Heat and Mass Transfer, Computational Fluid Dynamics,Flow Transition and Instability, Refrigeration and Air Conditioning
Harinipriya Seshadri	Assistant Professor	IIT Madras	Chemistry: Lithium ion batteries, fuel cells, electrodeposition, Thermal storage systems, Monte Carlo simulations, Materials synthesis and characterisation
Shanmuganathan Raman	Assistant Professor	IIT Bombay	Electrical Engineering : Computer Vision, Computational Photography, High Dynamic Range Imaging, Signal/Image Processing, Computational Neuroscience

Shree Prakash Tiwari	Assistant Professor	IIT Bombay	Electrical Engineering: Microelectronics & VLSI Technology, Microfabrication, Organic Electronics, Device Physics and Characterization, New Device Structures
Sonam Mehrotra	Assistant Professor	Rutgers, New Brunswick, U.S.A	Biological Science & Bio-Engineering: Cellular and Molecular Bio sciences, Genetic Engineering, Cancer Biology
Subhashish Banerjee	Assistant Professor	JNU	Physics: Open Quantum Systems; Quantum Information;Non-Equilibrium Statistical Mechanics;Quantum Optics
Sushmita Jha	Assistant Professor	University of North Carolina at Chapel Hill, USA	Cellular and Molecular Neuroscience: Cellular and molecular Neuroscience, Cell and molecular Physiology
VenkataRamana Badarla	Assistant Professor	IIT Madras	Computer Science & Engineering: Transport, Network, MAC layes issues in Wireless ad-hoc, mesh, sensor networks. Also interested in the issues such as, Designing of an autonomous/self-organising wireless networking system, Techniques for implementing reconfigurable MAC-layer, Techniques for implementing a prototype cognitive radio network, Deployment aspects of IPv6, and Issues related to WiMAX.
V. Narayan	Assistant Professor	IIT Kanpur	Physics: Optics and Solar Field Design, Plasmonics,Laser Produced Plasmas(LPP), Pulsed Laser Depostion(PLD), Plasma Diagnostics (Interferometry & Optical Emission Spectroscopy(OES)) Laser Matter Interaction and Laser Cluster Interaction

Vidya Sarveswaran	Assistant Professor	IIT Madras	English: Literature and Environment(Ecocriticism),Film and Literature,Literatures of the Global South,Regional Literatures in Translation, American Literature
Vivek Vijayvargiya	Assistant Professor	IIT Madras	Mathematics & Statistics: Financial Risk Analysis, Categorical Data Analysis, Regression
V. V. M. Sarma Chandramouli	Assistant Professor	SUNY at Stony Brook, USA and RUG, The Netherlands	Mathematics & Statistics: Smooth Dynamical Systems, Renormalization of Unimodal maps and Henon-like maps

Institute Staff

Name	Designation
Dr. Kshema Prakash	Deputy Librarian
Amardeep Sharma	Asst. Registrar
K.K. Mathur	Asst. Proj.Officer
Gaurav Nigam	Jr. Superintendent
Sandeep Singh Chandel	Jr. Superintendent
Sharabh Pradhan	Jr. Superintendent
Swati Kushwaha	Jr. Assistant
Dhani Ram	Jr. Assistant
Vinay Kumar	Jr. Engineer
Shiv Ram Jat	Jr. Assistant
Rajendra Vaishnav	Jr. Accountant
Sharad Srivastava	Jr. Accountant
Dr. Leela Dhar Sanwal	Medical Officer
Dr. M.M. Purohit	Medical Officer
Dr. M.S. Charan	Medical Officer
Apesh Singh Deora	P.T.I.
Kamal Kumar	P.T.I.
Rimpesh Katiyar	Technical Superintendent
Narendra Kumar Singh	Technical Superintendent
Amit Kumar Soni	Sr. Library Information Assistant
Dheerendra Yadav	Junior Technical Superintendent
Sanjay	Junior Technical Superintendent
Vijay	Junior Technical Superintendent
Bharat Pareek	Junior Technical Superintendent
Rinkesh K. Mangal	Junior Technical Superintendent
Vivek Verma	Jr. Lab Assistant
Yogesh Kumar	Jr. Lab Assistant
Amit Gupta	Jr. Lab Assistant

Student Activities

Unique Governance System (SCHoD)

NUTS

MAD

WAWES

SAGE

PROM

Major Student Events

Parivarthan

Councelling Servive

Student Placement Cell

Allumni Association

List of Students

Unique Governance System: SCHoD

Students' Council for Holistic Development (SCHoD) is the regulatory body which facilitates and governs all student activities at IIT Jodhpur. With advisory support from the faculty, the SCHoD is run entirely by students. The elected leader of the SCHoD is the president. Apart from acting as the governing body for all the concerns of the students, SCHoD coordinates the activities of five different councils:

1. NUTS: Nurturing and Understanding of Technology and Science
2. PROM: Promotion Relations Ocassion Management
3. WAVES: Writing Awareness Vocal Entertainment Social Awareness
4. SAGE: Sports Adventure Games And Exploration
5. MAD: Media Arts Design

These councils work collectively together and is headed and run by the students for the students. The councils run the extra-curricular activities in the campus. Each council has various clubs through which it functions and performs it various activities.

Cultural, Technical, Sports, Media and Management constitute the entire activities of SCHoD. SCHoD has something to catch the attention of each and every student of IIT Jodhpur. The SCHoD is responsible for planning, designing and executing intra as well as inter collegiate events.

Nurturing Understanding in Technology and Science (NUTS)

NUTS is a part of Student's body SCHoD and provides students an opportunity to explore the amazing world of technology, in order to innovate, to learn, to create, and to try out new things and at the same time have loads and loads of fun. This is a platform for one to realize his/her dream and to develop the next generation technology.

NUTS urges everyone to think beyond conventional boundaries. It also provides support and opportunity to help one unleash his/her imagination and an ideal platform to showcase one's talent. We make things fly, we build electronic gadgets, our own communication devices, we dare to stare deep into the sky not only to admire the cosmic wonder, but a lot more; we write our own codes, and we do make our own robots.

Media, Arts and Design (MAD)

Media, Arts and Design is one of the most active students councils of IIT Jodhpur. Under the MAD council five clubs function very efficiently and smoothly with the help of an official coordinator and an assistant coordinator besides the student volunteers. All the clubs are under the direct supervision of the General Executive of the council. The following clubs function under the MAD Council:

Photography and Photo-editing Club.

Video Editing Club

Fine Arts Club

Media Screening

Animation

This council conducts the intra college cultural festival of IIT Jodhpur “SPANDAN” in collaboration with cultural council of IIT Jodhpur, in addition to conducting several intra college events involving art exhibition, animation, photography, and creativity workshops. The council also assists the core festival committee of the national level inter college techno-cultural festival of IIT Jodhpur “IGNUS.” The council has presently 47 members and aims to nourish the artistic creativity of the IIT Jodhpur community.

Writing, Awareness, Vocals, Entertainment and Social awareness (WAVES)

The WAVES cell is responsible for conducting several events and for providing several avenues for students to express their freedom and creativity. These events include workshops and competitions, helping students showcase, as well as hone their talents. The following clubs function under the WAVES cell:

The Music Club: It is the haven for the musically inclined, dealing with the entire musical spectrum, from Hindustani to Western, vocals and instrumentals.

The Dance Club: It consists of an extremely competitive team that has performed at festivals across the country.

The Drama Club: It produces a wide variety of plays, including comedy and Nukkad (street plays) that raise awareness about burning social issues.

Sports, Adventures, Games, and Explorations (SAGE)

Sports, Adventures, Games and Explorations is an organization dedicated to the improvement of traditional sports education and to the configuring of a unique sports culture through various competitions, festivals, disciplines, and social integration programs. The SAGE seeks to develop a system that brings a healthier way of life to our student athletes, helps them make better decisions, feel a winning attitude, and assists them in developing their skills and abilities, thereby making them better human beings.

Sports council with its fabulous performance in consecutive 4 Inter IIT festivals has motivated each and every student of the institute to be a part of it and contribute to it even further. The SAGE has been successfully organizing various inter college and intra college festivals in every academic session like Varchas and Kridansh. The SAGE also has the recreational clubs such as Adventure Club, Carom Club, Chess Club, Bridge Club, Skating Club, and Yoga Club.

Promotion Relation Occasion Management (PROM)

Promotion Relation Occasion Management, (PROM), is the 5th and newest cell of IIT Jodhpur's Students Council For Holistic Development. A very non-technical cell, PROM deals with the managerial and social aspects of a student's life in IIT Jodhpur. In today's overly competitive world, a student does not only need to be technically sound, but also capable of putting the deal across the table, and making a generally good impression among their peers, superiors and juniors. A successful person today is recognised by the ease of communication, body language, punctuality, self-confidence and motivational capabilities, as well as proficiency in their field of interest. At IIT Jodhpur, students, through their academics and other extra-curricular activities, attain technical proficiency of the highest level. With the

inception of PROM, it is absolutely certain that the students walking out of this campus will also be able to take control and execute activities and jobs as required from them. At IIT Jodhpur, a student will, thus, participate in events technical, cultural, or sporty in nature, while also learning how to plan, organise, conduct and execute such events. Students will also get an opportunity to express and experience as they move from under-graduate students to mature, full-grown individual personalities. PROM provides a platform for budding businessmen, entrepreneurs, and managers. It inculcates in the individual a sense of responsibility and purpose, and helps them decide a plan of action to go about tackling various obstacles.

Major Student Events

The students were successful in nurturing a culture filled with energy and initiative. Students have organized several events, which served as a medium of communication and bonding among them, given their variegated background and ethnicity. Several major festivals like Diwali, Lohri, Eid and Holi were celebrated with great enthusiasm. Various sports activities were also regularly conducted to encourage sportsmanship. The faculty members were greatly supportive and promoted these activities. The following are some of the major student activities that had taken place in the campus in the academic year 2011-2012:

Spandan

The inter-hostel cultural festival *Spandan* celebrated from 21 ^{to} 23 October, 2011 was a big hit. The theme being 'Rural India,' the whole of G.P.R.A (the residential campus) was decked up to look like a village with huts, pots at places. The evening marked its beginning with a musical event blending the Indian classical, tabla with the rock electric guitar. This was followed by Rajasthani folk dance-'Kalbeliya Dance' by professionals. The competitions began with Arangetram, on the spot solo dance, and Antakshari. The Spandan weekend was full of events leaving all enthralled. This intra college festival aimed at increasing the interaction among students and gave all a platform to show their talents.

NiMBLE

The intra-college technical festival of IIT Jodhpur, NiMBLE was celebrated from 4th-6th November, 2011. There were 20 events as part of this festival. The theme this year's NiMBLE was "The Battleground" and the entire college was divided into 8 teams with cut-throat competitions to test their technical competence.

Kridansh

It is the annual intra-college sports festival of IITJ. It is the fest which has seen maximum participation over the years. There have been three editions of this fest and competitions in all the major sports are conducted. Also many informal events like Obstacle race, 6x100 m mixed relay and street cricket are played. This has been enjoyed enormously by everyone.

Intercollege Festivals

Ignus

'IGNUS 2012′ consisted of VARCHAS (the sports festival) and TAKSH (the techno-cult-entrepreneurship festival).

Varchas*:* This is the annual sports festival of IIT Jodhpur. Competitions in sports such as Football, Volleyball, Basketball, Badminton, Table Tennis, Athletics, Lawn Tennis, Cricket and Chess were organized. The events attracted participants from all over the country. It saw the participation of over 500 athletes. The sponsorship for the fest was really good and saw generous funding for all the events. Excellent facilities were made available for the sports-persons participating in the events. This festival held up the expectations of an IIT.

Taksh: This techno-cult festival of IIT Jodhpur saw enormous participation. One of the biggest attractions of the day—the Taj IIT Conclave, the young entrepreneurship meet was a phenomenal success and saw an enthusiastic turn up from students. The most eagerly awaited attraction of the festival was the band performance by Ashwamedh, a renowned band from Pune. Students went berserk as Ashwamedh rocked the stage with a mind blowing performance.

Independence Day Celebrations

The second Independence Day celebration of the Institute at Jodhpur was held on 15 August 2011. The Director, faculty members, staff and students were present. The function started in the morning of August 15 at the Academic campus with the Director hoisting the national flag, followed by the Director's address and various cultural programs organized by the students.

Republic Day Celebrations

The Republic Day celebration 2012 started with a parade of the security wing, followed by the Director's hoisting of the national flag. The Director's address emphasized the

significance of the day. The celebration witnessed several cultural programs organized by the students.

Gandhi Jayanthi Celebrations

IIT Jodhpur community gathered on 2 October 2011 to celebrate the birthday of the father of the nation Mahatma Gandhi. The function was illuminated by the inspiring speeches of faculty members and student representatives.

Parivartan

Parivarthan is a social initiative undertaken by IIT Jodhpur community. We are working in the direction of making an educated and well informed society around us. It is an initiative to improve education level and awareness in the poor and deprived section of society through teaching, youth counselling, and parent counselling. We adopt a village which is very poor, literacy rate is very low, where basic facilities of life like health, water, shelter, education etc are not easily available. Our objective is to convert that village into a developed village in such a manner that it will represent an ideal model of developed village in 21st century.

According to the plan, separate strategies for the welfare of child, adult or working people and old people will be followed.

1) Children: quality education will be made available to them
2) Adult or working people: our attempt will be to enhance the skills of working population of that village through small workshop or training. And also increase the employment opportunity for skilled labour through our network in city or provide them opportunity to earn by working at their home itself.
3) Old People: we will try to ensure good health to old people and also try to shape their role

as moral guard in the village so that unethical and unfair acts in the village can be discouraged efficiently.

Counselling Service

Studying at IIT will bring about tremendous academic growth and overall development; however, it will also be accompanied by significant challenges and considerable stress. Our counselling services team provides personalized guidance and necessary resources to help students under duress to achieve their goals. The counselling service is a voluntary organization formed by a group of dedicated students guided by faculty members. It helps students deal with various problems both personal and academic, and plays a significant role in enriching their experiences as students in the institute.

The counselling service was formed in the year 2009 by the first batch of students under the supervision of a faculty advisor. Over the years it has evolved into a significant body comprising of seven faculty members and a total of 25 students. Student guides and members of the counselling team are selected through an annual election process. Each student guide is responsible for the wellbeing of 8-10 students from the 1st year undergraduate batch. The counselling service strives for the well being of all students and assists in their academic and personal growth. It provides voluntary, confidential and free counselling for a wide range of issues that include:

● Academic support: Provides information about the different academic programmes of the institute, efficient time management skills, study skills, exam anxiety etc.
● Personal: Overcoming home-sickness, adjustment to new environment etc.
● Counselling advocacy, psycho-education and referral services to students
● Interaction with the institute and the existing body of students
● Encourages students discover extra-curricular interests/hobbies

Student Placement Cell

The Student Placement Cell (SPC) is entirely run and managed by the students in harmony with the official authorities, thereby taking care of the entire placement and internship procedure. The students coordinate the job of contacting various companies, their interaction with the students, arranging pre-placement talks, tests, interviews.

In the academic year 2011-2012, SPC organised two soft skills workshop in which eminent speakers guided the students on personality development and interview skills.

The speakers were:

Lorraine Coutinho (Latitude Group)
Dr Prashant Jha

The placement session was divided into two parts which went on for the first 10 days of December 2011 and then from 10 Jan- 25 Jan 2012. Many companies in core engineering, IT, and banking sector, including Microsoft, National Instruments, Samsung, Flipkart, and ARM, have visited IIT Rajasthan since then. Public sector companies have also participated in campus placements.

Allumni Association

IIT Jodhpur proudly saw its first batch of B. Tech.students Completing their academic program in April 2012. An Allumni Association was formed in order to provide them with a platform where they can stay connected to the institute, their fellow alumni, and junior students.

List of Students

Doctoral Students

PG201081501	Belal Usmani	Energy
PG201081502	Dharmendra Singh Rajpurohit	Energy
PG201081504	Suresh Kumar	Energy
PG201082502	Deepak Kumar Chhangani	ICT
PG201181001	Deepesh Patidar	Energy
PG201181003	Pura Ram	Energy
PG201181004	Vikas Pratap Singh	Energy
PG201181005	Vikash Chandra Janu	Energy
PG201181501	Lokesh Saini	Energy
PG201181502	Surendra Singh Barala	Energy
PG201182001	Abhay Samant	ICT
PG201182003	Heena Rathore	ICT
PG201182005	Puneet Kumar Jain	ICT
PG201182006	Ram Niwash Mahia	ICT
PG201182007	Ravi Raj Choudhary	ICT
PG201182009	Sapana Ranwa	ICT
PG201182010	Saurabh Maheshwari	ICT
PG201182011	Sibani Bisoyi	ICT
PG201182501	Amit Bhati	ICT
PG201182502	Kapil Sharma	ICT
PG201182504	Kuldeep Goswami	ICT
PG201182505	Mohd Najim	ICT
PG201182506	Shrivishal Tripathi	ICT
PG201183001	Rohan Sharma	SS

PG201183501	Parmod Kumar	SS
PG201183502	Preeti Yadav	SS

M. Tech Students

PG201171001	Akash Yadav	Energy
PG201171003	Anurag	Energy
PG201171004	Digpal Kumar	Energy
PG201171005	Gaurav Hedau	Energy
PG201171006	Nupur Rathore	Energy
PG201171007	Pallavi Kar	Energy
PG201171008	Parag Kamal Talukdar	Energy
PG201171009	Priyanka Bhartiya	Energy
PG201171010	Rakesh Kumar	Energy
PG201171011	Rakesh Sarma	Energy
PG201171012	Ram Niwas Verma	Energy
PG201171013	Shubhi Srivastava	Energy
PG201171014	Vinod Kumar Verma	Energy
PG201171015	Ayyaz Siddique	Energy
PG201172001	Amrik Singh	ICT
PG201172002	Ankita Samariya	ICT
PG201172003	Anop Singh	ICT
PG201172004	Deepak Kumar Gupta	ICT
PG201172005	Durgesh Kumar	ICT
PG201172006	Garima Jain	ICT
PG201172007	Gaurav Raj	ICT
PG201172008	Govind Salvi	ICT
PG201172009	Himanshu Singhvi	ICT
PG201172010	Kapil Lahuwa	ICT
PG201172011	Nagabhushan Eswara	ICT
PG201172012	Nakul Shashikant Goud	ICT
PG201172013	Naman Joshi	ICT
PG201172014	Prasad Kulkarni	ICT
PG201172015	Ramnarayan Yadav	ICT
PG201172016	Ravi Bhandari	ICT
PG201172017	Ravi Ranjan	ICT
PG201172018	Satyanarayan Sahu	ICT
PG201172019	Saurabh Heda	ICT
PG201172020	Shahnawaz Abdullah	ICT
PG201172021	Shailendra Soni	ICT
PG201172022	Supratim Shit	ICT

PG201172023	Umesh Tanwar	ICT
PG201172024	Yatin Mehandiratta	ICT
PG201172025	Zafar Ahmed Ansari	ICT
PG201172026	Ety Mittal	ICT
PG201172027	Shantanav Chakraborty	ICT

B. Tech. Students, Batch 2008

J08001	Abhash Kumar Singh	CSE
J08002	Abhishek Kumar	EE
J08003	Aditya Upadhyay	EE
J08004	Akash Gupta	CSE
J08005	Akash Gupta	ME
J08006	Akash Kumar	CSE
J08007	Akhil Jhalani	CSE
J08008	Alok Verma	EE
J08009	Alok Yadav	CSE
J08010	Amit Patel	EE
J08011	Amit Pushp	ME
J08013	Anil Kumar Alwaria	ME
J08015	Ankit Agarwal	CSE
J08016	Ankit Agarwal	ME
J08017	Ankit Goyal	CSE
J08018	Ankit Goyal	CSE
J08019	Ankit Saraswat	ME
J08020	Ankit Rajotia	ME
J08021	Ankur Khandelwal	EE
J08022	Annu Saini	ME
J08023	Anurag Chaurasia	CSE
J08024	Appoorve Kaushal Arya	ME
J08025	Arjun Pandian T	ME
J08026	Arpit Toshniwal	CSE
J08027	Ashish Katiyar	EE
J08028	Atul Anand	ME
J08029	Maruthi Chand Bhogireddi	EE
J08030	Brajesh Kumar	EE
J08031	Chandan Kumar	CSE
J08032	Chetan Bhati	EE
J08033	Coutinho Brain Camilo	EE
J08034	D Vijay Kumar	EE
J08035	Deepak Kumar Gupta	CSE
J08036	Dhruv Gupta	ME
J08037	Dibya Deepta Mishra	EE
J08038	Digumarti Sundara Tejaswi	EE
J08039	Dushyant Pratap Singh	ME
J08040	Erram Vipanch	ME

J08041	Faizy Ahsan	CSE
J08042	Gaurav Sachan	CSE
J08043	Gaurav Sahu	CSE
J08044	Gautam Jain	ME
J08045	Gorle Venkata Ramana	ME
J08046	Gurram Krishna Sudhama	ME
J08047	Haresh Kumar Solanki	CSE
J08048	Himanshu Aggrawal	EE
J08049	Jaiprakash	ME
J08051	Jothishwaran C A	EE
J08052	Kamble Shivanjali Sadashiv	CSE
J08053	Kavish Chaurasia	ME
J08054	Koganti Nishanth	EE
J08055	Koneti Geervani	CSE
J08056	Kshitiz Baratariya	CSE
J08057	Kumar Gaurav	EE
J08058	Lal Chand Bisu	EE
J08059	Maitri Rohit Vishwanath	ME
J08060	Masuram Kiran Kumar	EE
J08061	Mayank Bakshi	EE
J08062	Mayank Singh	CSE
J08063	Mehakdeep Singh	CSE
J08064	Mutukuloju Murali	ME
J08065	Nadipelly Suraj Rao	EE
J08066	Nakka Chanakya Dev	CSE
J08067	Narendra Chaudhary	EE
J08068	Naveen Kumar	EE
J08069	Nikhil Goyal	CSE
J08070	Nikhil Goyal	EE
J08071	Nikhil Jain	EE
J08072	Nirmal Kumawat	CSE
J08073	Nishant Kejriwal	CSE
J08074	Nithin Karnati	CSE
J08075	Nuthalapati Rahul Pavan Kumar	ME
J08076	Obbani Chaitanya Deepthi	CSE
J08077	P A Vinay Kumar	EE
J08078	Pallavi Arya	ME
J08079	Parul Garg	CSE
J08080	Patel Hardikkumar	CSE
J08081	Pradumn Kumar Pandey	CSE
J08082	Prashant Garg	EE
J08083	Prateek Agarwal	EE
J08084	Prateek Jawalkar	EE
J08085	Priya Ranjani Das B	CSE
J08086	Rahul Jain	ME
J08087	Raj Kumar	EE
J08088	Ranjan Kumar	ME

J08089	Ranveer Singh	CSE
J08090	Praveen Garg	ME
J08091	Ravinder Gupta	ME
J08092	Rupal Khare	CSE
J08093	Sachin Kumar Singh	EE
J08094	Sachin Singh	ME
J08095	Salman Khaleeq	ME
J08096	Sanapati Chanakyapatrudu	ME
J08097	Sandeep Singh Tomar	CSE
J08098	Sankalp Kumar Singh	CSE
J08099	Shivansh Chaudhary	EE
J08100	Shivaram I	EE
J08101	Shobhit Srivastava	CSE
J08102	Shriyesh Gautam	CSE
J08103	Sunil Sulania	EE
J08104	Swathi Manda	ME
J08105	Tara Chand Khorwal	EE
J08106	Tarun Chaudhary	EE
J08107	Tejas Vijay Muley	ME
J08108	Vaibhav Kumar Singh	CSE
J08109	Vemuluru Venkata Sri Harsha	ME
J08110	Vipul Sharma	EE
J08111	Vishal Kadian	CSE

B. Tech. Students, Batch 2009

J09001	Abhinav Dadhich	EE
J09002	Abhinav Piprotar	EE
J09004	Abhishek Verma	EE
J09005	Ajay Monga	CSE
J09006	Akanksha Saran	CSE
J09007	Akash Deep	EE
J09009	Akshay Hari Kumar	ME
J09010	Akshay Jain	ME
J09011	Amit Lonkar	ME
J09012	Amit Ranjan Trivedi	CSE
J09013	Amit Srivastava	EE
J09014	Amol Pol	CSE
J09015	Ankit Karwasra	CSE
J09016	Ankit Gupta	ME
J09017	Anurag	EE
J09018	Anurag Mittal	EE
J09019	Anurup Ganguli	ME
J09020	Ashish Aseri	CSE
J09021	Ashish Pandey	ME

J09022	Ashok Banjara	EE
J09023	Aswin Siva N	CSE
J09024	Avinash Yadav	EE
J09025	Ayyer Rishi Kalyan	ME
J09026	B Amulya Sai	EE
J09027	Bhaskar Puri	ME
J09028	Bhuwanesh Kumawat	ME
J09029	Boobalan G	EE
J09030	Chetan Bhatsange	EE
J09031	Devula Vinay Kumar	EE
J09032	Eshan Jain	CSE
J09033	Ganduri Rahul Goutham	EE
J09034	Gaurav Kumar	ME
J09035	Gaurav Siwach	ME
J09036	Gautam Bajaj	CSE
J09037	Girish Budhwani	CSE
J09038	Govind Agarwal	EE
J09039	Govind Ram	CSE
J09040	Gundre Vaibhav Pralhad	ME
J09041	Harshit Kumar Pancholi	ME
J09042	Hitesh Choudhary	ME
J09043	Jatin Goyal	ME
J09044	Jatin Rustagi	EE
J09045	Jogendra Singh	CSE
J09046	Joshi Darshan Rajeev	EE
J09047	Kalpana Verma	CSE
J09048	Kasuvojula Devendar	ME
J09049	Keshav Kumar	CSE
J09050	Kiran Kumari	CSE
J09051	Kshitij Kumar	ME
J09052	Kumar Ashayam Gupta	CSE
J09053	Kunal Chelani	EE
J09054	Lakhan Singh Jatav	ME
J09055	M. Vidhya Sagar	EE
J09056	Mana Ram	ME
J09057	Manish Kumar Jain	CSE
J09058	Manvendra Singh Chauhan	EE
J09059	Mayank Agarwal	CSE
J09060	Mohammad Firoz	ME
J09061	Mohammed Aquibuddin Ahmed	EE
J09062	Rajni Yadav	EE
J09063	Naveen Kumar Gautam	EE
J09064	Naveen Shrivastava	CSE
J09065	Nikita Chopra	CSE
J09067	Nithin Kumar Kokkisa	ME
J09068	Pawan Kumar Sharma	CSE
J09069	Prafful Gupta	EE

J09070	Pranay Balar	CSE
J09071	Prashant Babu	CSE
J09072	Prashant Godara	ME
J09073	Prashant Kumar Shukla	ME
J09074	Pratesh Jhari	ME
J09075	Prem Raj	CSE
J09076	Radhe Shyam Meena	EE
J09077	Rahul Nahata	CSE
J09078	Rahul Sachan	CSE
J09079	Rajendra Nagar	EE
J09080	Rajput Shailendra Shesh Kumar	CSE
J09081	Rameshwar Prasad Meghwal	CSE
J09082	Ravin Kumar Jain	CSE
J09083	Rohit Jangir	CSE
J09084	Ruchi Toshniwal	CSE
J09085	Sanjay Kumar Rajak	ME
J09086	Sanjay Kumar Rav	CSE
J09087	Sarthak Sharma	EE
J09088	Satyesh Jha	ME
J09089	Saurabh Garg	EE
J09090	Saurajit Sar	EE
J09091	Shah Chintan Chirag	CSE
J09092	Shashank Kumar	CSE
J09093	Shobhit Mandloi	EE
J09094	Sonal Gupta	CSE
J09095	Sumit	CSE
J09096	Sunil Saini	EE
J09097	Surendra S Choudhary	ME
J09098	Surendra Verma	EE
J09099	Sushant Gaurav	EE
J09100	Syed Faizul Hai	EE
J09101	Tambade Narendra Satish	ME
J09102	Tokala Sai Teja	CSE
J09103	Utkarsha Verma	EE
J09104	Vaibhav Jain	CSE
J09105	Vennam Samuel Susmith	ME
J09106	Vinay Kumar	ME
J09107	Vivek Sharma	EE
J09108	Yogesh Kumar Verma	EE
J09109	Zubin Sortee	CSE

B. Tech. Students, Batch 2010

UG201010001	Abhishek Anand	CSE
UG201010002	Aman Deep	CSE
UG201010003	Amar Singh Saini	CSE
UG201010004	Anurag Saini	CSE

UG201010005	Bollempalli Trivikram Chowdary	CSE
UG201010006	Dheeraj Tak	CSE
UG201010007	Godugu Ravi Kiran	CSE
UG201010008	Hemlata Soni	CSE
UG201010009	Junaid Masood	CSE
UG201010010	Kanchan Kumari	CSE
UG201010011	Khusheeram Meena	CSE
UG201010012	Kishor Mehra	CSE
UG201010013	Lalit Yadav	CSE
UG201010014	Mahesh Chand Gurjar	CSE
UG201010015	Mandeep Singh Yadav	CSE
UG201010016	Manish Kumawat	CSE
UG201010017	Manpreet Singh Bedi	CSE
UG201010018	Mohd Asad	CSE
UG201010019	Mohd Hamzah Khan	CSE
UG201010020	Monu	CSE
UG201010021	Narendra Meena	CSE
UG201010022	Nishchay Kala	CSE
UG201010023	Pankaj Agrawal	CSE
UG201010024	Pankaj Bhardwaj	CSE
UG201010025	Pankaj Khandelwal	CSE
UG201010026	Pavan Meena	CSE
UG201010027	Pawan Meena	CSE
UG201010028	Reena Yadav	CSE
UG201010029	Rohit Gupta	CSE
UG201010030	S Praveenkumar	CSE
UG201010031	Saurabh Singh	CSE
UG201010032	Sourabh Maheshwari	CSE
UG201010033	Sukalkar Pavan Vijayrao	CSE
UG201010034	Sumit Jangid	CSE
UG201010035	Sunita Pateer	CSE
UG201010036	Surendra Singh Meena	CSE
UG201010037	Tapish Rathore	CSE
UG201010038	Vemana Vinith	CSE
UG201010039	Vikas Goyal	CSE
UG201010040	Vikas Yadav	CSE
UG201010041	Vinod Kumar Meena	CSE
UG201010042	Vishwas Garg	CSE
UG201010043	Yogesh Kumar Gupta	CSE
UG201010044	Manu Agarwal	CSE
UG201011001	Aayush Verma	EE
UG201011002	Amit Kumar Verma	EE
UG201011003	Arun Balajee V	EE
UG201011004	Bharat Kumar Tanwar	EE
UG201011005	Chintapalli Siva Pratheek	EE
UG201011006	Dilip Kumar Meena	EE
UG201011008	Ghatge Mayur Sambhaji	EE

UG201011009	Himanshu Jaiswal	EE
UG201011010	Mahesh Chandra M	EE
UG201011011	Manish Kumar Meena	EE
UG201011013	Mukul Bansal	EE
UG201011014	Narendra Kumar Singh	EE
UG201011016	Nimmarthi Vara Prasad	EE
UG201011017	Pasunoori Prashanth	EE
UG201011018	Pote Rohan Ramchandra	EE
UG201011019	Prince Gupta	EE
UG201011020	Priya Dhandev	EE
UG201011021	Rahul Malav	EE
UG201011022	Rahul Meena	EE
UG201011023	Rajat Jain	EE
UG201011024	Rajeev Kumar	EE
UG201011025	Ravi Mahavar	EE
UG201011026	Rinku Meena	EE
UG201011027	Rishi Kumar	EE
UG201011028	Rit Shekhawat	EE
UG201011029	Saba Suhail	EE
UG201011030	Sandeep Kumar Singh	EE
UG201011031	Saurabh Santosh	EE
UG201011032	Shashikant	EE
UG201011033	Siddharth Singh Rao	EE
UG201011034	Shiv Singh Meena	EE
UG201011035	Srikanth M	EE
UG201011036	Sudesh Gora	EE
UG201011037	Sudhir Kumar Singh	EE
UG201011038	Surya Pratap Singh Yadav	EE
UG201011039	Tarun Patel	EE
UG201011040	Tirumani Vamshi Krishna	EE
UG201011041	Veepee Singh Meena	EE
UG201011042	Vikash Kumar	EE
UG201011043	Vinod Meena	EE
UG201011044	Vivek Dubey	EE
UG201011045	Yogendra Kumar Goyal	EE
UG201011046	Aswin Suresh	EE
UG201011047	Hemant Verma	EE
UG201012001	Abhinav	ME
UG201012002	Aditya Budaraju	ME
UG201012003	Aditya Ranjan	ME
UG201012004	Akash Bansal	ME
UG201012005	Akhilendra Singh	ME
UG201012006	Aman Doharey	ME
UG201012007	Ankur Hasija	ME
UG201012008	Anshul Gupta	ME
UG201012009	Anuj Kumar	ME
UG201012010	Ashok Kumar Meena	ME

UG201012012	Chetram Meena	ME
UG201012014	Gudla Sushanth	ME
UG201012015	Gaurav Kumar	ME
UG201012018	Jagmohan Shree Rao	ME
UG201012019	Jaideep	ME
UG201012020	Jai Prakash Meena	ME
UG201012021	Kuldeep Singh	ME
UG201012022	Manraj Meena	ME
UG201012023	Mohit Naneria	ME
UG201012024	Niket Kumar Singh	ME
UG201012025	Nishant Kumar	ME
UG201012026	Nitesh Kumar	ME
UG201012027	Nitin Katiyar	ME
UG201012028	Pradeep Rai	ME
UG201012030	Rooga Ram	ME
UG201012032	Sachin Gupta	ME
UG201012033	Sarvesh Dayal	ME
UG201012034	Shaikh Abu Amsal	ME
UG201012035	Shivendra Rai	ME
UG201012036	Siddarth Jain	ME
UG201012037	Sitaram Meena	ME
UG201012038	Snehlata Joshi	ME
UG201012039	Tanmay Sethi	ME
UG201012040	Utkarsh Trivedi	ME
UG201012041	Vasu Goenka	ME
UG201012042	Vijay Singh Meena	ME
UG201012043	Vipin Kumar	ME
UG201012044	Vivek Ganj Gahlot	ME
UG201012045	Yatin Chaudhary	ME
UG201012046	Yogesh Kumar	ME

B. Tech. Students, Batch 2011

UG201110001	Abhishek Saini	CSE
UG201110002	Amit Raj	CSE
UG201110003	Apurv Gupta	CSE
UG201110004	Ashish Kumar	CSE
UG201110005	Banoth Surya Prasad	CSE
UG201110006	Debashish Ghatak	CSE
UG201110007	Deven Bhooshan	CSE
UG201110008	Gurupratap	CSE
UG201110009	Hari Om Gaur	CSE
UG201110010	Heena Masuriya	CSE
UG201110011	Hemraj Kumawat	CSE
UG201110012	Jitendra Kumar Chaudhary	CSE
UG201110013	Jitendra Singh Garhwal	CSE
UG201110014	Kalpnath Rao	CSE

UG201110015	Kankanti Nithin Veer Reddy	CSE
UG201110017	Kuchana Maharshi Devaraj	CSE
UG201110018	Mahesh	CSE
UG201110019	Mayank Agrawal	CSE
UG201110020	Mayank Mittal	CSE
UG201110021	Palak Samaiya	CSE
UG201110022	Pitta Divya Shree	CSE
UG201110023	Praneeth A S	CSE
UG201110024	Prashant Rastogi	CSE
UG201110025	Ravi Kumar Meena	CSE
UG201110026	Revti Raman Singh	CSE
UG201110027	Rishi Mishra	CSE
UG201110028	Sahil Kharb	CSE
UG201110029	Sanjeev Kumar	CSE
UG201110030	Santosh Kumar Siddharth	CSE
UG201110031	Saurabh Kumar Gangwar	CSE
UG201110032	Shah Jenil Dilip	CSE
UG201110033	Shivam Verma	CSE
UG201110034	Siddharth Kumar Singh	CSE
UG201110035	Siddharth Maheshwari	CSE
UG201110036	Sonu Mehta	CSE
UG201110037	Syed Navaid Ahmad	CSE
UG201110038	Yash Kumar Sonthalia	CSE
UG201110039	Yeravothula Rohith	CSE
UG201110040	Gatla Rajasekhar Reddy	CSE
UG201111001	Abhishek Bassan	EE
UG201111002	Abhishek Pilania	EE
UG201111003	Anshul Narayan Bhatt	EE
UG201111004	Anshul Singh Parihar	EE
UG201111005	Anurag Dharmawat	EE
UG201111006	Atul Agarwal	EE
UG201111007	Battula Sasi Kaushik	EE
UG201111008	Brajesh Kumar	EE
UG201111009	Bussa Pavan Kumar	EE
UG201111010	Damacharla Sandeep	EE
UG201111011	Devendra Kumar Jangid	EE
UG201111012	Gajarla Ravi Teja	EE
UG201111014	Guneet Singh Mehta	EE
UG201111015	Hari Om Meena	EE
UG201111016	Harshit Dixit	EE
UG201111017	Hem Singh Meena	EE
UG201111018	Hemant Kumar Biloniya	EE
UG201111019	Kadoo Amruta Anil	EE
UG201111020	Kotha Sudheer	EE
UG201111021	Koyinni Deekshitha	EE
UG201111022	Krishna Kumar Damolia	EE
UG201111023	Kuldeep Singh Rathore	EE

UG201111024	Kumar Saurav	EE
UG201111025	Lalithkumar P	EE
UG201111026	Prashant Mittal	EE
UG201111027	Rahul Rathore	EE
UG201111028	Rangaraju Yashomani Srikar	EE
UG201111029	Ravindra Kumar Sharma	EE
UG201111030	Ravyansh Kumar	EE
UG201111031	Sanchit Kumar Singh	EE
UG201111032	Satyendra Kumar Gautam	EE
UG201111033	Shivalika Agarwal	EE
UG201111034	Shivam Punia	EE
UG201111035	Sudhanshu Singh	EE
UG201111036	Sunil Kumar	EE
UG201111037	Vadakattu Sreeja	EE
UG201111038	Vineet Kumar	EE
UG201111039	Voruganti Surya Teja	EE
UG201112001	Alvin Roy Aliath	ME
UG201112002	Ankit Aggarwal	ME
UG201112003	Ashutosh Mittal	ME
UG201112004	Ashutosh Vishwakarma	ME
UG201112005	Atishay Jain	ME
UG201112006	C Sri Harsha	ME
UG201112007	Chetan Regar	ME
UG201112008	Chilakamarri Satya Ranga Prasanth	ME
UG201112009	Deep Kumar	ME
UG201112010	Deshraj Meena	ME
UG201112011	Devesh Singh	ME
UG201112012	Dheeraj	ME
UG201112013	Gajanand Saini	ME
UG201112014	Gautam Kumar	ME
UG201112015	Harsh Kumar Karmveer	ME
UG201112016	Harshit Srivastava	ME
UG201112017	Himanshu Sahu	ME
UG201112018	Kishan Sharma	ME
UG201112019	Kothapally Mounish	ME
UG201112020	Kunal Vishnu Paraswani	ME
UG201112021	Kundan Singh Meena	ME
UG201112022	Maninder Singh	ME
UG201112023	Manish Sachdeva	ME
UG201112024	Mohit Dadhich	ME
UG201112025	Mukul Kumar Gupta	ME
UG201112026	Navneet Kumar Yadav	ME
UG201112027	Neeraj Kumar	ME
UG201112028	Rahul Sathya Babu	ME
UG201112029	Sagar Anand Ramgare	ME
UG201112030	Sandeep Shankarrao Hatte	ME
UG201112031	Sanket Kinage	ME

UG201112032	Shravan Mishra	ME
UG201112033	Siddee Meena	ME
UG201112035	Smriti Jain	ME
UG201112036	Tagde Prateek Prakash	ME
UG201112037	Vaidya Kedar Sanjay	ME
UG201112038	Vikash	ME
UG201112039	Wins Goyal	ME
UG201113001	Arvind Pandey	SS
UG201113002	Abhishek Singh	SS
UG201113003	Ajay Sunarthi	SS
UG201113004	Akhil Arora	SS
UG201113005	Aniruddh Ramrakhyani	SS
UG201113006	Ankit Singh	SS
UG201113007	Arpit Agarwal	SS
UG201113008	Atharv S Ghaisas	SS
UG201113010	Desidi Siva Prakash	SS
UG201113011	Dhiraj Bhatt	SS
UG201113012	Divya Grover	SS
UG201113013	Gurjot Singh	SS
UG201113014	Himanshu Shukla	SS
UG201113015	Jaswant	SS
UG201113016	Jitendra Kumar Meena	SS
UG201113017	Kakkirala Anuroop	SS
UG201113018	Kowlagi Sudhendra Narayan	SS
UG201113019	Krati Saxena	SS
UG201113020	Kusum Lata Meena	SS
UG201113022	M Hari Haran	SS
UG201113023	Manthani Tejaswi	SS
UG201113024	Mohamed Rehan Mohamed Sagheer	SS
UG201113025	Neelesh Dwivedi	SS
UG201113026	Neha Singh Chauhan	SS
UG201113027	P Vivek	SS
UG201113028	Pratik Kumar	SS
UG201113029	Rahul Kumar	SS
UG201113030	Raj Rohit Jalem	SS
UG201113032	Rishabh Jain	SS
UG201113033	Sankha Narayan Guria	SS
UG201113036	Shinde Sahil Anil	SS
UG201113037	Tavish Garg	SS
UG201113039	Vinnakota Sai Rakshit	SS

Financial Brief

The MHRD has released a sum of `6,622.30 Lakhs as Grant-in-Aid under Normal Plan Head and `1,854.58 Lakh as opening balance as on 01-04-2011. The internal income of the Institute was `551.58 Lakh. The total Plan expenditure during the year was `3,513.94 Lakhs (Recurring `1,493.95 Lakh and Non-Recurring `2,069.00 Lakh).