

Semester-II notes 2012-13

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K K Birla Goa Campus



BITS Pilani
K K Birla Goa Campus



from the editor

Beginning with a bang, the II Semester 2012-13 witnessed the launch of BITScanConnect 2.0, the largest Project initiative jointly accomplished by BITS Pilani and BITSAA International.

BITS Connect 2.0 : Inauguration



The simultaneous launch at Pilani, Goa and Hyderabad campuses of BITS Pilani in the presence of distinguished personalities was both intellectually and visually appealing to the BITS community. Marching ahead, the semester added more feathers to its infrastructure-cap: Technology Business Incubator (TBI), Center for Technical Education (CTE) and Mini Supercomputer all promoting learning, training and development on campus.

A number of conferences and workshops organized by various departments enriched the academic research experience and also paved way for more contacts with the renowned national and international scholars and researchers. Faculty members and students brought laurels through their various academic endeavors and research projects. Many of them visited countries abroad to present papers at conferences, deliver invited talks and pursue their research interests. Continuing their editorial assignments, faculty members served on the editorial board of journals / reviewed papers.

SPREE Inauguration Ceremony



Quark 2013 and Spree 2013 were celebrated with great gusto with a number of teams from universities across India participating enthusiastically. A new student body was elected for the Council of Student Affairs (CSA) of the Campus to spearhead the various student activities during the academic year 2013-14.

CSA 2013-2014



Being the only official magazine on our campus, BITScan has been striving to present a comprehensive overview of almost all the events happening on campus in a particular semester. We are glad that all of you, students and faculty have been participating actively in this fruitful 6-semester-old venture. We are sure you will be connected with us forever.

BITS Connect 2.0 : A techno-marvel

A new model for Multi-Campus Education with BITSCONNECT 2.0

- ✍ Largest and first-of-its-kind in India: Project valued at over USD 5 Million
- ✍ Simultaneously connects 1000+ faculty and students

BITS Connect 2.0 : Inauguration



BITS Pilani along with BITSAA, its global alumni association, launched a first of its kind multi-million dollar cross-campus technology initiative named BITSCONNECT 2.0 on 9 January 2013. Pioneering a unique model of multi-campus education in India, the initiative comprises Immersive Telepresence, High-definition Video Conferencing and Live Streaming technologies, that are set to transform the learning experience by connecting all campuses at an unprecedented scale. This University-Alumni initiative was launched simultaneously at Pilani, Goa and Hyderabad campuses, while being connected to Cisco's offices in San Jose and Boston, jointly by Prof. BijendraNath Jain, Vice Chancellor, BITS Pilani and Raju Reddy, Chairman, BITSAA, in the presence of His Excellency the Governor of Goa, Shri Bharat VirWanchoo and Shri J Satyanarayana, Secretary, Department of IT, Government of India.

Marching relentlessly towards its Vision to be among the top research-driven institutions in Asia by 2020, BITS Pilani has taken a giant leap forward in using technology for education. In fact it was one of the first Indian universities to set up IP Telephony, Gigabit Ethernet and Wireless accessibility on campus with BITSCONNECT 1.0 in 2003. With BITS Connect 2.0, the University has attempted to bridge the geographical distance across campuses and global knowledge centers. This platform will facilitate collaboration among its faculty, students, industry partners and alumni, for education, research and mentorship.

Inaugurating the facility at Goa campus, the Governor of Goa congratulated BITS Pilani. He said, "I am happy that BITS Pilani and the BITS Alumni Association jointly took up the task to realize this project. This is not only a testament of technology and cost sharing by multiple stake holders, but also exemplifies the continuity of a relationship, connectivity, trust and mission sharing between BITS and its alumni, who are the institutions resource ambassadors spread all over the world. I would like to convey my deep appreciation for this bond and look forward to future rewarding endeavours. The alumni by their sizeable contribution have to an extent paid back their debt of gratitude to their alma mater. ...The Indian higher education system faces acute shortage of quality educators, the quality of education is not of the highest standards, and there is very limited focus on research. This is a big negative and is indeed a matter of concern. While Government is taking all possible steps to address these critical challenges, one of our country's premier private universities, none other than BITS Pilani, has happily taken a lead through its BITS Connect 2.0 program, which is a laudable initiative. ...

The Governor of Goa at Inauguration



Our challenge in meeting the demand and supply of qualified and experienced teachers for our Universities, colleges and schools can largely be addressed using these rapidly evolving technological tools and BITS Pilani has shown us the way. I feel that as this project goes live today with its unique and impressive infra-structure put up in the telepresence conference room and class-rooms at the BITS Campuses, the prospects for BITS Pilani to

place itself among the most advanced centres in the higher education field and become a model technological University in India appears to have been achieved”.

Dr. Kumar Mangalam Birla , Chancellor of BITS Pilani, in his message said, “The launch of BITS Connect 2.0 from its three campuses in India signals a significant step forward that extends the boundaries of technology-enabled learning. The Telepresence system provides avenues for research collaboration and knowledge sharing among BITS faculty and students, and for face-to-face communication between members of BITS “leadership.”

Additional information on the BITSCONNECT 2.0 project can be found at <http://bitsconnect20.bitsaa.org>

Institute staff at the Inauguration



Mini Super-Computer

BITS, Pilani K K Birla Goa Campus has acquired a new mini supercomputer, which has been named *kosambi*, after Damodar Dharmanand Kosambi, the legendary polymath who hailed from the village of Sancoale wherein our Campus is located. On 25th July 2013, Director Prof. K. E. Raman inaugurated the cluster computer by starting a benchmark program on it, showing computation at about (1/3)Teraflops speed. Prof. Raman commended the team for naming it after a great academician and researcher.

He expressed his happiness at seeing the beginning of the academic year being marked by the acquisition of a powerful computer that would give a fillip to theoretical research, and seeing the sharing spirit with which it was acquired. *Kosambi* , placed in the CC Server Room, is accessible from anywhere in the campus, and available for research projects.

Prof. A. V. Kulkarni spoke on how the Departments of Physics and Computer Science pooled their computer infrastructure budget and opted for a machine more powerful than all the individual PCs that could be bought in such a budget. He also spoke about system administration procedures that would facilitate full utilization of Kosambi for research.

Inauguration Of Kosambi



Elaborating on the technical details, Dr. Ramprasad Joshi mentioned that Kosambi has a head-node and two compute-nodes, each having two CPUs of eight cores each. Put together, there are 48 cores that can execute independent threads in parallel. The nodes communicate to each other on a dedicated Infiniband switch, which is the real backbone of Kosambi which is further connected to the Campus via another dedicated ethernet switch. This configuration was chosen with due diligence by Dr. Chandradew Sharma, Dr. Ramprasad Joshi, Dr. D. M. Kulkarni, and others, to be scalable in many ways. The backbone can cater to the needs of at least a generation of CPUs thereby minimising the future investment per additional core.

Center for Technical Education(CTE)

CTE 2013-2014



With Prof Bharat Deshpande, as the Head, the CTE aims at imparting knowledge on application oriented courses/topics. The idea is to build a sustainable system for passing knowledge from seniors to juniors. The Centre would also expose students early on to the popular research areas in Engineering to broaden their knowledge base rather than simply sticking to the academic curriculum. A mentorship model has been employed with 3rd or 4th year students teaching under the guidance of faculty members and 2nd year students acting as mentors for the course. This helps the CTE ensure sustainability. The courses are designed to be more practice oriented and some evaluation components are Hackathon's and a coding assignment or a term project in a few courses. Each course has a faculty mentor assigned who oversees the quality of the course being taught.

CTE would also serve as a platform for research activities on campus. It looks forward to collaborate with companies in the form of undertaking their projects along with a mentor, to further provide a real industry exposure to students early on and for the companies to eventually build a talent pool on our campus.

The students who successfully complete the course get a certificate which would enrich their academic credentials. The following courses were offered during II Semester 2012-13:

- 1.Windows Application development using C#
- 2.Advanced Image Processing
- 3.Computer Vision
- 4.Introductory Robotics
- 5.Web Development

Technology Business Incubator (TBI)

Technology Business Incubator



BITS Pilani, K K Birla Goa Campus in association with the Department of Information Technology, Government of India has established a Technology Business Incubator under the TIDE scheme in the area of Electronics and ICT to embolden this spirit of technology based innovation and entrepreneurship. Housed in a newly constructed building near the main gate, TBI was formally inaugurated on March 2, 2013 by Prof. Shanmugasundaram Balasubramaniam, Dean, Academic & Resource Planning, BITS-Pilani.

The incubator is equipped with a conference room with state-of-the-art media equipment and video conferencing facility besides seven office spaces with excellent computing systems. TBI offers access to high-speed Internet, phone, fax, scanner, printer, copier etc. to all incubates. Four promising BITS, Pilani K. K. Birla Goa Campus startups that have already been selected for incubation are *Tuitor*, *Dinasource*, *Brainbrought.com* and *Cubito.in*

Center for Entrepreneur Leadership at the campus has been working under the expert guidance of Prof. Mridula Goel towards giving a specific boost and emphasis to entrepreneurship development. The TBI incubator along with efforts by CEL shall promote entrepreneurial leadership in the state of Goa, facilitate entrepreneurial activity amongst students, faculty and alumni and also invite entrepreneurs to use TBI services so as to develop end products for commercialization.

a confluence of ideas academia

seminars / conferences /
workshops / training programmes

International Conference on Emerging Technologies in Micro to Nano (ETMN – 2013)

With 235 participants from 14 countries and eminent speakers from Japan, USA, Germany, UK and Sweden, BITS Pilani in collaboration with CEERI (Central Electronics Engineering Research Institute-CSIR) Pilani hosted the International Conference on Emerging Technologies: Micro to Nano (ETMN-2013) at its Goa campus during 23 - 24 February 2013. Inaugurated by Dr. Chandra Shekhar, Director, CEERI, ETMN-2013 was designed to showcase cutting edge research and accomplishments, and to enrich the educational experience in these frontal and emerging fields in Science and Engineering. Prof. K E Raman, Director of the campus welcomed the guests and participants.

ETMN Conference 2013



Dr. Sumio Iijima, a Japanese Physicist and a Professor at Meijouniversity, cited as the inventor of carbon nanotubes (CNT), spoke briefly about the CNT technology and its application in drug testing. Dr. M. Meyappan of NASA, USA spoke about Biochip system and its utility in Biosensor field while Dr. Paul Milner, Professor of Bionanotechnology at the University of Leeds, UK talked about Biosensor technology and Solar energy uses in water purification.

Prof. Magnus Willander, Linköping University, Sweden talked about how to measure chemicals in small volumes and with high sensitivity and selectivity is of practical interest using different nanostructures like dots, nanowires, nanotubes, nanofibers, nanoflakes, nanosheets. Dr. Andeas Manz, KIST (Korea Institute of Science and Technology) Germany delivered his keynote address Lab-on-chip and related technology for infectious disease applications. Twelve invited speakers from IITs, IISc, BARC delivered invited lectures while eighteen companies in the field of nanotechnology and MEMS exhibited their products. 46 research papers and 105 student posters were presented in the conference. Coordinated by Dr. P. M. Singru, Prof. Sunil Bhand, Dr. N. N. Ghosh and Prof. N. N. Sharma from BITS Pilani and Dr. Jamil Akhtar from CEERI Pilani and their teams made the program turn out to be a great success.

In near future, Nanotechnology, and Micro-electro-mechanical Systems (MEMS) will be dominating new frontiers of technology to maintain and improve human life. These emerging technologies, indispensable for developing adaptable man-machine interface, equipment and artificial organs for life support, are going to be another technical revolution in all pervading science and engineering fields.

workshop on Graph and Geometric Algorithms

The Department of Mathematics, BITS Pilani, K K Birla Goa Campus in association with School of Technology and Computer Science, Tata Institute of Fundamental Research, Mumbai organized a three-day national level workshop 'Research Promotion Workshop on Graph and Geometric Algorithms' during 17-19 January 2013. The workshop was sponsored by National Board for Higher Mathematics. Inaugurated by eminent computer scientist Prof. Subir Kumar Ghosh, Tata Institute of Fundamental Research Mumbai, this workshop was intended to bring together and train the undergraduate students, researchers and experts in the area of algorithms. The main objective was to introduce the fertile research area available in graph and geometric algorithms to the participants. Addressing the gathering, Prof. Ghosh said "Active participation in research projects will empower us and it is a matter of concern that a vast number of science and engineering research agencies are running short of quality researchers.

Research scholars must be instilled with an extra sense of accomplishing inventions that is able to reach every corner of the society." He felt that a research promotion in the undergraduate level itself is a need of the hour and research activities in computer science and mathematics should go in tandem.

The Guest of Honor, Prof. M K Deshmukh, Faculty-In-Charge, Faculty Affairs, said "Relentless spirit and passion are the two key factors in any innovative research and quality research empowers the society. It is the responsibility of the higher educational institutes to promote research among students and the sustained spirit is very much essential to reach the goal. Students should be inspired through such workshops and the spirit created should get converted into a passion towards research." He also explained how BITS has taken new steps towards promoting high quality research.

Topics such as Geometric Algorithms, Graph Algorithms, Randomized Algorithms, Approximation Algorithms, Computational Geometry, Computer Graphics were covered in the workshop. Eminent computer scientists from various Research Institutions delivered lectures so as to educate the participants and multiply their knowledge and skills.

Prof. Sasanka Roy, Chennai Mathematics Institute, Prof. Subir Kumar Ghosh, TIFR, Mumbai, Prof. John Augustine, IIT Madras, Prof. M V Panduranga Rao, IIT, Hyderabad, Prof. Abiram Ranade and Prof. Sachin Patkar, IIT Bombay, Prof. C R Subramanian, The Institute of Mathematical Sciences, Chennai, Prof. Sunil Chandran, Indian Institute of Science, Bangalore, Prof. Vijay Natarajan, IISc., Prof. Subodh Kumar, IIT Delhi, Prof. Amitabha Mukerjee, IIT, Kanpur and Prof. Sudhir Mudur, Concordia University, Montreal, Canada acted as resource persons.

135 participants from different parts of India, quite a good number of students, research scholars, and faculty from BITS Pilani K K Birla Goa Campus participated in the workshop. Dr. Tarkeshwar Singh and Dr. Anil Kumar coordinated the event.

Workshop on Graph and Geometric Algorithms



workshop on Higgs boson and top quark physics

The department of Physics organized a 3- day workshop during 25 – 27 February, 2013 on Higgs boson and top quark physics: HIGGSTOP-2013.

With 39 participants (6 Postdoctoral fellows and 19 PhD scholars) from 5 countries and eminent speakers from USA, Taiwan and from different parts of India, BITS Pilani in collaboration with RECAPP (Regional Center for Accelerator based Particle Physics), Harish-Chandra Research Institute(HRI, a autonomous DAE Institute), Allahabad and Department of Science & Technology (DST), Government of India jointly organize the workshop, HiggStop-2013. Inaugurated by Prof. Biswarup Mukhopadhyaya, RECAPP, HRI (Allahabad), Prof. K. E. Raman welcomed the participants.

Although officially the workshop started on 25th February, the tune of the workshop was set by Prof. Sreerup Raychaudhuri (TIFR, Mumbai) through his public lecture on 22 February. The lecture was primarily intended to our undergraduate students: The evolution of science: starting from the age of stone he guided our students to the era of periodic table of elements and finally to the Higgs boson discovery at the Large Hadron Collider at CERN, Switzerland in July, 2012.

HIGGSTOP - 2013



Prof. Bruce Mellado (LHC,CERN and University of Wisconsin, Madison, USA) gave a Skype talk on the recent LHC results: Experimental viewpoint. Prof. T. C. Yuan from Academia Sinica, Taiwan elaborated how to distinguish various models of the $125 - 126$ GeV Higgs boson. Prof. Anirban Kundu from University of Calcutta discussed about the recent developments in B physics in the post Higgs discovery period. Prof. Rahul Sinha throws light on how to identify the spin and parity of the newly found scalar boson.

Prof. Manas Maity (Visva-Bharati University, Santiniketan, CMS group, LHC) discussed at a length about how to search charged Higgs boson.

In addition, 9 talks were delivered by invited speakers on topics : Spin identification of resonances at the LHC to NLO QCD, Vacuum Stability constraints on Universal Extra Dimensional Models, SUSY Inverse Seesaw and its signatures at LHC, QCD effects in Higgs production, SUSY models ,Vector-like fermion, Mass and spin determination, Coloured exotic quark searches, Consequences of 125 GeV Higgs for Asymmetric Dark Matter and Leptogenesis. Besides these talks there were several brain storming discussion sessions to initiate new direction of research, new project work.

Dr. Prasanta Kumar Das (Convener), Dr. V. Sunil Kumar, Dr. P. Nandakumar, Dr. Chandradew Sharma, Dr. Madhu K, Dr. Tarun Kr. Jha, Dr. Ram S. Patel, Dr. E. S. Kannan and their teams made the program a success.

International workshop on Data Analytics & Applications 2013 (IWDA 2013)

Departments of Computer Science & Information Systems of Pilani & Goa campuses of BITS Pilani, jointly organized an International Workshop on Data Analytics and Applications (IWDA 2013) from 26 February to 1 March 2013 at the K K Birla Goa Campus, Goa.

The workshop was aimed to bring in research expertise, both from academia and industry, to enable practitioners and educators to gain insight into the exciting fields of data analytics. The workshop covered current research in several related topics like Data Science, Data Visualization, Bioinformatics/Agri-bioinformatics, Web Mining & Information Retrieval, Social Media Analytics, High Performance Computing, Big Data, etc.

Prominent researchers (from academia/industry) and entrepreneurs from India and abroad delivered talks at the workshop that was inaugurated by Prof. B.N. Jain, Vice-chancellor, BITS- Pilani along with Prof. G. Raghurama, Director, Pilani campus and Prof. K.E. Raman, Director, KK Birla Goa Campus through Telepresence facility.

This 4 day long workshop not only enhanced participants' knowledge in concerned fields but also gave them ample opportunity to interact with experts.

workshop on Negotiations and Negotiating

Mr. D J Sarkar addressing the participate



“We negotiate everyday at home and at office though we may not sit at a table for the process of negotiating”, said Mr. Peter Francis Xavier D’Lima, the former Director, President and CEO of the Goa Institute of Management who inaugurated the workshop on “Negotiations and Negotiating” organized by the Department of Humanities and Management at the Goa campus of BITS Pilani on 8 March 2013. Conducted by D J Sarkar, Project PSCM Manager at BP, UK, the workshop aims to impart skills in commercial negotiations. The workshop is structured to offer insights to those who are new to negotiating in a business environment. Apart from the interactive exercises and role-playing, the facilitator uses live examples from his experience to demonstrate the subtle nuances of negotiating. While Day 1 was conducted for business managers, Day 2 was organized for students. Coordinated by Dr. Basavadatta Mitra of the Department of Humanities and Management, the workshop witnessed the participation of about 25 managers from 11 organizations in Goa: Sanofi Pharmaceuticals, Smart Link Network Systems, GMI Zarhak Moulders, Vergo Pharma Research Lab, Wockhardt, Nestle, Pentair, Berger Becker Coatings, M/s. Parle (Exports) V. M. Salgaocar & Bro. Pvt. Ltd., and House of Rajaram N. S Bandekar. On 9th March, 46 students from BITS Pilani Goa campus, Goa University and GITIC (Goa IT Innovation Centre at Goa Chamber of Commerce and Industries) participated in various activities based on negotiation case studies and enjoyed learning the process of negotiation. Before introducing the theme of the workshop, Prof. Meenakshi Raman HoD, Humanities and Management presented a brief overview of the Department.

She emphasized that negotiation is an integral part of all businesses and it enables the businesses to thrive and grow continuously. Prof. Sutapa Roy Ramanan, Assistant Dean of the Practice School Division of BITS Pilani, K K Birla Goa Campus, elaborated on the Practice School Scheme that aims at enabling students to put the classroom concepts into industrial applications.

workshop on Statistical Mechanics

The IAPT Goa Regional Council organized a 2-day workshop for College Physics Teachers of Goa, on 22nd and 23rd March 2013 at the BITS Pilani, K K Birla Goa Campus. With 24 participants and the resource persons from the Department of Physics the workshop covered a range of topics from Thermodynamics, Kinetic Theory, Classical and Quantum Statistical Mechanics. Funded by the Department of Science, Technology and Environment (DSTE) Govt. of Goa, the workshop aimed at explicitly working out mathematical details surrounding some of these concepts so that the participants develop greater confidence and ability to use these concepts and also to teach at the undergraduate level. The workshop was inaugurated by Prof. K.E. Raman, Director of the Campus. Prof. Arun V Kulkarni, Prof. Gaurav Dar, and Dr. Chandradew Sharma, Dr. Radhika Vathsan, Dr. Madhu Kalingalthode, Dr. Prashanta Das, and Dr. Toby Joseph delivered lectures at the workshop.

DSTPAC-2013

The Department of Physics organized the Second meeting of [DSTPAC-2013](#) (Department of Science and Technology Program Advisory Committee) in High Energy Physics, Nuclear Physics, Astrophysics during 22-23 April 2013. Convened by Dr. Prasanta Kumar Das, the project monitoring meeting was funded by the Department of Science and Technology (DST), Govt. of India.

Statistical Mechanics Workshop



workshop on Mathematica

The Department of Mathematics, BITS Pilani, KK Birla Goa Campus successfully organized an Introductory Workshop on “MATHEMATICA” during 24-25 July 2013.

The objective of the Workshop was to motivate and train the Research Scholars as well as Faculty members across all academic disciplines, to use MATHEMATICA in their Research work as well as in Teaching. With 25 participants across the campus, the Workshop covered the following topics with hands on experience:

- (i) Introduction to MATHEMATICA
- (ii) System of Linear Algebraic Equations
- (iii) Differentiation & Integration
- (iv) Engineering Applications to Differential Equations
- (v) Optimization Problems

Apart from lecture classes, hands on computation through Lab sessions were the distinctive features of this workshop.

Dr. Anil Kumar and Dr. P. Dhanumjaya acted as resource persons at the workshop that received an encouraging feedback from all the participants. Prof. M.K.Deshmukh, Faculty-in-charge, Faculty Affairs, distributed the certificates to participants.

distinguished lectures

SPEAKER	AFFILIATION	TOPIC	DATE
Prof. Sreerup Raychaudhuri	Department of Theoretical Physics Tata Institute of Fundamental Research , Mumbai	The Final Frontier– the story of particle physics from its earliest beginnings till the discovery of the Higgs boson	22 February 2013
Prof. Biswarup Mukhopadhyaya	Regional centre for Accelerator based Particle Physics, Harish-Chandra Research Institute, Allahabad, India	The Higgs Boson Saga and the God Particle Myth	25 February 2013
Prof. Margaret Burnett	School of Electrical Engineering and Computer Science, Oregon State University. Oregon, USA conversion potential of the organic wastes.	Information Foraging Theory in Software Navigation	2 April 2013
Prof. D S Nagaraj	Head, Department of Mathematics, IMSc Chennai	Groups-Symmetries and Algebraic varieties-A Conceptual Approach	16-17 April 2013
Prof. Ulhas Naik	Director, Delaware Cardiovascular Research Center and Professor of Biology, Biochemistry and Chemical Engineering	Molecule to Medicine: a Scientific Journey	19 July 2013

Embryo lectures

NAME	AFFILIATION	BATCH	TOPIC	DATE
Dr. John C Mather	NASA (Nobel Laureate in Physics)	—	The history of the universe in a nutshell	13 February
Mandar Gokhale	University of Michigan	2009-EEE	Career Paths in EEE and E & I	8 March
Dream works	Dream Works	—	How Animation Movies are Made	3 April
Ashwath Krishnan	University of California, Los Angeles	2011EEE	Human Machine Interface	6 April
Gurtej Saini	University of Texas at Austin	2001 EEE	Electric and Hybrid Electric vehicleTechnology	6 April
Dr. Tarun Khanna	Professor of Economics & Head of Strategy Department in Harvard Business School	—	The Essence of Entrepreneurship in Emerging Market	8 April
Satish Poliseti ; Gaelen Pereira; Sddhartha Nath	University of California, Los Angeles; University of California, Berkeley; University of California, San Diego	2010-EEE: 2011-Mech & EEE; 2003-EEE	Know your University' panel on University of California	14 April
Ravi Teja Kothuru	Consultant in Invensys Operation Management	2008 Chemical	Career options in the Chemical Industry	22 April

visits by faculty

enriching the learning experience

international visits

Dr. M. Srikanth, Associate Professor, Department of Biological Sciences, presented a Poster on Microbial diversity in a pilot scale horizontal plug flow reactor set up for anaerobic digestion of food waste at the 2nd International conference on Water Research during 20 – 23 January 2013 at Singapore Expo, Singapore.

Dr. Saroj Baral, Assistant Professor, Department of Chemical Engineering presented a paper Pre-treatment of organic composite waste mixtures for enhanced biomethanation (co-author Dr. P. V. Rao) at the 3rd International Engineering Symposium held at Kumamoto University, Japan during 4-6 March 2013.

Dr. Saroj Baral



Dr. Meenakshi Raman



Dr. Meenakshi Raman, Professor and Head, Department of Humanities and Management presented a paper ERP in Indian Universities : Opportunities and Challenges (co-author: Shashank Saurav ID NO. 2008B2A8563G) at the International Conference on

Management (ICTBM-13) held at the American University in the Emirates, Dubai during 18-20 March 2013. She also delivered a talk at the BITS Pilani, Dubai Campus on Acing the Job Interviews on 21 March 2013 for the students.

Dr. Meenal Kowshik, Associate Professor, Department of Biological Sciences delivered an invited talk on 'Silver Nanocomposites for Biomedical Applications' at the Select Nanomedicine 2013 conference, held at Barcelona, Spain during 11-12 April 2013.

Dr. Meenal Kowshik



Dr. Raghunath Behera, Assistant Professor, Department of Chemistry presented a paper Comparative Study of E...N (E = Se/Te) Intramolecular Interactions in Organochalcogen Compounds using Density Functional Theory at the 3rd International Conference on Research Frontiers in Chalcogen Science & Technology held at UNESCO-IHE Institute for Water Education, DELFT, The Netherlands during 27 – 28 May 2013.

Dr. R. N. Behera



Dr. Judith Braganca, Assistant Professor, Department of Biological Sciences presented two posters on Resistance of extremely halophilic archaea to various heavy metals and Isolation and characterization of hydrolytic enzyme producing *Halogeometricum* sp. E3 at the Halophiles 2013 Conference at University of Connecticut, Storrs, CT, USA in July 2013. She was awarded the DST Travel Grant to attend the same.

Dr. R.P Pradhan



Dr. R. P. Pradhan, Assistant Professor, Department of Humanities and Management presented a paper Terror Management & Political Economy of India's Red Corridor at the 7th Annual Conference at University of East London, UK jointly organised with Society for Terrorism Research during 27 -28 June 2013.

Dr. Ram Shankar Patel, visited Quantum Device Physics Laboratory, Chalmers University of Technology, Sweden during 1 June - 3 July 2013 for collaborative research experiments.

Dr. Narendra Nath Ghosh and **Dr. Sunil Bhand** visited University of Leeds during 29th May to 12th June 2013 they conducted joint experiments on advanced materials and their applications in nano-biotechnology with Prof Paul Millner and his group members. This visit was part of the activities of DST and British Council sponsored project entitled "Development and characterisation of nanomaterials for biosensors and biocatalysts (DST UKIERI Thematic Partnership Project)". In this project Dr. Ghosh is India Project Leader and Prof. Millner is UK Project Leader.

Dr. Ghosh and Dr. Bhand with Prof. Millner



invited lectures by faculty

Dr. Tarun Kumar Jha, Assistant Professor, Department of Physics delivered three invited talks : Applicability of Relativistic Mean Field Theory to Nuclear Reactions, in 'SURROGATE - 2013' at M S university, Baroda during 24 - 25 January 2013 ; Neutron Stars: New window to the Universe, at the National Conference in Nuclear Physics (NCNP-2013) held at Sambalpur University, Odisha during 1 - 3 March 2013 ; Neutron stars as potential continuous gravitational wave emitter at the Institute of Physics, Bhubaneswar, Odisha on 31 May 2013 during his collaborative visit to the Institute.

Dr Tarun Kumar Jha



Dr. Meenakshi Raman, Professor and Head, Department of Humanities and Management conducted two sessions on Written Business Communication and Effective Presentation Strategies at the Workshop on Professional Communication organized by the Department of English and Foreign Languages of SHIATS, Allahabad on 29 January 2013. She delivered a talk on BITS Model of Education at the open seminar organized for prospective students and their parents by Integra Eduventure, Nagpur on 24 March 2013. Dr. Raman was the Chief Guest at the annual function of Airways Public School, Goa on 23 February 2013 and at the ICare seminar organized by Mount Litera Zee School on 17 February 2013 in Goa.

Dr. Meenakshi Raman



Dr. S.D. Manjare, Associate Professor, Department of Chemical Engineering conducted a workshop on Environmental Management and Audit at the Department of Chemical Engineering at Padmashri Dr. Vitthalrao Vikhe Patil Institute of Technology and Engineering (Polytechnic) Pravaranagar during 25 Feb - 1 March 2013.

Dr. Ranjan Dey chaired the sixth session at the International Conference on Emerging Trends in Chemical Sciences (ICETCS) organized at the Central University, Gujarat, Gandhinagar during 14-15 March 2013.

Dr. Ranjan Dey



Dr. Debasis Patnaik, Assistant Professor, Department of Economics was a resource person at a Social Science Workshop organized by Goa University and delivered a talk Technology and Economics.

Dr. Rayson K. Alex, Assistant Professor, Department of Humanities and Management conducted a workshop Ecocinema? Are we ready for it, yet?, at The Goa Project organized at The Marbela Beach Resort, Morjim Beach, Goa, on 28 March 2013.

Dr. R P Pradhan, Assistant Professor, Department of Humanities and Management delivered an invited panel talk Maritime Economics: India's Long Range Challenges & Growth Options on the occasion of National Maritime Day Celebration at Goa organised by Mercantile Maritime Department, Govt. of India on 2 April 2013.

Dr. Basavadatta Mitra, Assistant Professor, Department of Humanities and Management, conducted a workshop Multi-word verbs: Learner problems, at the 3rd National Conference on ELT: Making the Teaching and Learner of Grammar a Pleasure: Challenges and Solutions organised by English Language Teaching Institute of Symbiosis (ELTIS), Pune in collaboration with English Language Teachers Association of India (ELTAI), 8-9 February 2013. Dr. Mitra also conducted another workshop Building Employability Skills amongst students of Technology as a part of the series of workshops organized by the Centre of Excellence for Development

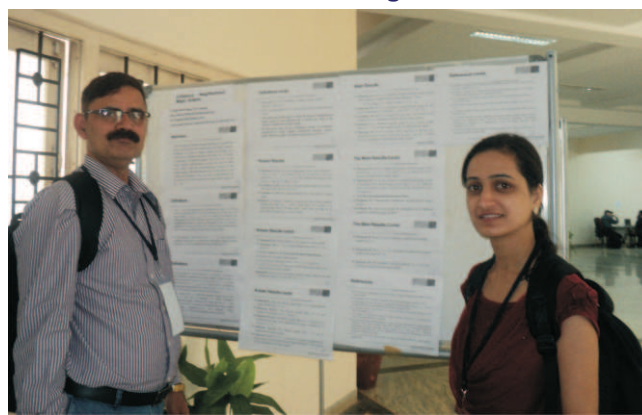
of Employability Skills among students of Technology for the Global Workplace during 29 -30 April 2013. The Centre has been set up as part of the Technical Education Quality Improvement Programme (TEQIP), Ministry of Education, Government of West Bengal.

Dr. Basvadatta Mitra



Dr. Tarakeshwar Singh, Assistant Professor, Department of Mathematics acted as a resource person in the Panel Discussion: Is Research a Good Career Option? in the Research Promotion Workshop on Introduction to Graph and Geometric Algorithms organized by the Department of Mathematics, BITS Pilani K K Birla Goa Campus, Goa (jointly with School of Technology and Computer Science, Mumbai). Dr. Singh delivered two lectures on Discrete Mathematical Models and its Applications in a Workshop on A tribute to S. Ramanujan and Prof. S. Chandrashekar (Life and Work) organized during 18-22 April 2013, at the Department of Mathematics, T. D. P. G. College (Purvanchal University) Jaunpur.

Dr. T K Singh



Dr. Sumit Biswas, Assistant Professor, Department of Biological Sciences delivered three invited talks: on Signatures in microRNAs associated with Cancer at the Department of Biotechnology, IIT Kharagpur during 10-11 June 2013; an invited session talk at the First International and Third National Conference on Biotechnology, Bioinformatics and Bioengineering,

organized by Society of Applied Biotechnology on 28 June 2013 at Tirupati and The Cholera Enigma at the Certificate Course in Global Health, organized by Albert Einstein College of Medicine and BITS, Hyderabad, on 2 July 2013.

Dr Sumit Biswas



Dr. N N Ghosh has visited Indira Gandhi Center for Advanced Research (IGCAR), Kalpakkam during 21 December, 2012 and delivered an Invited talk entitled “Development of novel techniques of preparation of magnetic nanoparticles and mechanically flexible ferrite-polybenzoxazine nanocomposites” to the Indian Institute of Metals, Kalpakkam Chapter. Dr. Ghosh visited Vikram Sarabhai Space Research Center (VSSC), Trivandrum and delivered an invited talk entitled “Ferrite-Polybenzoxazine Nano-composites: Synthesis Challenges, Magnetic and Mechanical Properties” to the Society for Polymer Science, India, Thiruvananthapuram Chapter on 19 December, 2012.

Dr. Halan Prakash, Assistant Professor, Department of Chemistry delivered a talk on ‘Advanced Oxidation Process for the Degradation of Dye Pollutants’ at the Second International Conference on Advanced oxidation Process organized at the Mahatma Gandhi University, Kottayam during September, 2012 under aegis of The Society for Environmental Chemistry and Allied Sciences.

Dr. P. Dhanumjaya, Assistant Professor, Department of Mathematics was a resource person and speaker for a National Program on Differential Equations: Theory, Computation and Applications UG-Level Program at Birla Institute of Applied Sciences, Bhimtal, Uttarakhand during 3-22, June 2013.

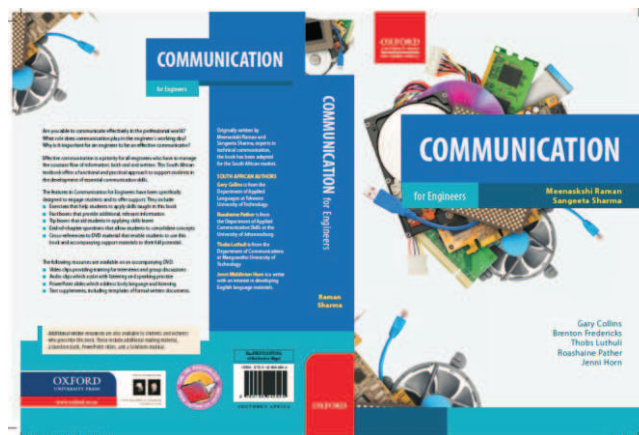
Dr. Anil Kumar, Assistant professor, Department of Mathematics delivered lectures on Mathematica in the Introductory Workshop on Mathematica held at Department of Mathematics, BITS Pilani, KK Birla Goa Campus, Goa during 24-25 July 2013.

achievements

Dr. N. N. Ghosh received a prestigious research grant under the DST UKIERI Thematic Partnership Scheme: The UK India Education and Research Initiative (UKIERI) has approved a research project under DST UKIERI Thematic Partnerships scheme to the Department of Chemistry BITS Pilani, K K Birla Goa campus (Indian Lead Institute) and University of Leeds (UK Lead Institute). Dr. Narendra Nath Ghosh is Indian Project Leader and Prof Paul A Milner is UK Project leader. Other partners are Dr. Sunil Bhand (BITS Pilani, KK Birla Goa campus) and Prof C Mitra (University of Hyderabad). The main area of the project is “Advanced Materials including Nanotechnology” and title of the project is “Development and characterization of nanomaterials for biosensors and biocatalysts”.

Prof. Meenakshi Raman won the first prize at the research paper writing competition jointly organized by ELTIS and ELTWeekly. (Title : Teaching Expressions of Cause, Effect, Purpose and Function in English for the Students of Science and Technology). She was awarded a Certificate, \$200 and a copy of the book 'Compelling Conversations' by Eric Roth. The book Technical Communication authored by Prof. Meenakshi Raman and Dr. Sangeeta Sharma (Pilani Campus) and published by OUP, India has been adapted by OUP, South Africa under the title Communication For Engineers for the South African Market (2013).

Dr. Meenakshi Raman's book



Dr. Basavadatta Mitra has been appointed as Consultant by Ministry of Education, Government of West Bengal for Technical Education Quality Improvement Programme (TEQIP), an initiative of the World Bank and Ministry of Human Resource Development, Government of India.

Dr. Tarakeshwar Singh has been selected as a member of Advisory Board of Indian Academy of Mathematics for the 2013-15.

Ms. Priyadarshini Parakh, Mr. Gokulakrishnan Subramanian, and Dr. Halan Prakash, won the Best Poster award in Second International Conference on Advanced oxidation Process, Mahatma Gandhi University, Kottayam, during September, 2012. Research work done by Dr. Halan Prakash and his group featured as a front page cover article and highlighted in, March, 2013 issue of PPS, Royal Society of Chemistry, UK. 5 Dec 2012, PPS, UK. An MoU was signed with VerGo Pharma Research Laboratories, GOA to support the research work on Advanced oxidation Process, done by Dr. Halan Prakash.

Prof. Pravin Singru, Associate Professor of Mechanical Engineering visited Tata Technologies, Pune under the BITS Industry Immersion Programme during June 2013. He has visited Jaguar Land Rover Oversea Development Center for 3 weeks and Tata Motors Overseas Development Center for 1 week. These centers are involved in design of cars from Noise, Vibration and Crash worthiness studies.

Dr. Judith Braganca of the Department of Biological Sciences visited Goethe-University Frankfurt, Germany during June – July 2013. She worked with Prof. Dr. Volker Muller, Dept. of Molecular Microbiology & Bioenergetics, Biozentrum under the University Immersion Programme. She explored the cellular pools of compatible solutes in *Halobacillus halophilus*. In Prof. Dr. Jorg Soppa's laboratory she worked with the genomics of extremely halophilic archaeon *Haloferax volcanii*.

Dr. Judith Braganca



Dr. M. Srikanth has been appointed by the Government of Goa as the Member of Expert committee constituted for technical evaluation of bids for the Municipal solid waste (MSW) processing facility going to be set up at Bainguinim, North Goa.

Ms. Kshipra Naik Research scholar at the Department of Biological Sciences won the best Poster Prize for her poster entitled Silver Embedded Titanium Dioxide Nanoparticle Films as Efficient Inhibitors of Biofilm Formation at the Nanomedicine Conference held at Rey Juan Carlos Hotel, Barcelona, Spain on 11-12 April 2013.

Mr. Raghavendraprasad Suryavanshi (2011H129009G) M.E. Biotechnology student won the 1st prize in TIE 50K Big Idea Business Plan Competition final round held on 22 May 2013 at TIEHubli. Final round of competition was judged by Dr. Gururaj Deshpande (Chairman of Sycamore Networks, Sandstone Capital, A123 Systems, Hive Fire, Tejas Networks etc.) and other jury members. Team was guided by Dr. Srikanth Mutnuri and supported by Akshat Tyagi and Meghanath Prabhu. The business plan was on an organic fertilizer developed in the Applied and Environmental Biotechnology Laboratory at the Dept. of Biological Sciences.

Rishabh Goel (2009B3A4446G) and **Tejas Pandey** (2009A3TS168G) finished as runner-ups of the Tata Crucible Campus Quiz, Goa and won Rs. 35000/-

Palnitkar Aditya Devdatt (2008A7PS701G) secured admission in Stanford University.

Arnav Goel (2010A3PS077G) worked as an associate intern at Indian Institute of Science (IISc) Bangalore under MMSoc2013 Program.

Balasubramanian Viswanathan (2012A4PS143G) and **Pradhyumna Bhat** (2012A3PS127G) won the "Times College Quiz" conducted by Goa **Times**. **Arka Bhattacharya** (2009A3PS047G) and **Tejas Pandey** (2009A3TS168G) finished third in the same.

Shobhit Sharma (2009B5A7540G) got into CERN Summer Student Program and was accepted by Queens University, Canada for his thesis on Neutrino Physics.

Raunak Sharan (2009A7PS142G) interned with prestigious International Thermo-Nuclear Experimental Reactor project in Cadarache, France and worked with the executive team at SAP Labs Bangalore in the OEM enablement program of their global business incubation project.

significant projects

PRINCIPAL INVESTIGATOR & NAME OF THE DEPARTMENT	TITLE OF THE PROJECT	FUNDING AGENCY AND AMOUNT
Dr. Saroj Sundar Baral	Development of efficient bioleaching process for the metal recovery from spent catalysts.	Department of Biotechnology (DBT) Govt. of India ; 17.626Lakhs
Dr. N N Ghosh	Development and characterization of nanomaterials for biosensors and biocatalystsanaerobic	DST UKIERI (Rs. 91 lakhs)
Dr. P. Venkateswara Rao	Investigating the effect of co-digestion and advanced sludge pre-treatment methods on the conversion potential of the organic wastes.	Department of Biotechnology Govt. of India ; 27.488 Lakhs
Dr. Tarakeshwar Singh(PI) Dr. Anil Kumar (Co-Investigator)	Studies on Neighborhood Magic Graphs	Department of Science & Technology (DST) Govt. of India ; Rs. 12,69,360
Dr. Prasanta Kumar Das	Probing new physics at high energy colliders	CSIR, Government of India 13.5 Lakh
Dr. Basavadatta Mitra	Cultural Communication-An empirical analysis in Indian Industries and Academia	University Grants Commission ; Rs. 6,50,600
Dr. V V S N V Prasad	A Study on Usage and Impact of ICT in Secondary Schools	BITS Seed Grant Rs.7.5 Lakhs
Dr. Judith Braganca	Screening and Characterization of Hydrolytic enzymes from Halophilic archaea having biotechnological potential	BITS Seed Grant Rs.11 Lakhs
Dr. Srikanth Mutnuri	Biocatalytic Production of a commercial textile dye – Indigo Analysis of metabolically active bacterial species in anaerobic digesters	Department of Science, Technology and Environment, Govt of Goa Council for Scientific and Industrial Research Rs. 19 Lakhs

Faculty members from various disciplines have been appointed as members of National and International advisory committees / acted as reviewers for books / papers published in journals of national and international repute.

NAME	DEPARTMENT	JOURNAL / MEMBER DETAILS
Dr. Utpal Roy	Biology	Reviewer for International Journal of Plant and Social Science; International Journal of Agricultural Policy and Research; International Journal of Biotechnology Research
Dr. Meenal Kowshik	Biology	Reviewed papers for Journal of Nanobiotechnology, Journal of Nanotechnology Research and Current Nanoscience
Dr. Judith Braganca	Biology	Reviewed manuscripts for FEMS Microbiology Ecology, Ecotoxicology and Geomicrobiology
Dr. Ranjan Dey	Chemistry	Reviewed papers for : Journal of Solution Chemistry (Springer); Indian Journal For Pure and Applied Physics (IJPAP); Indian Journal of Physics
Dr. Halan Prakash	Chemistry	Reviewed papers for (i) Royal Society of Chemistry: RSC. Advances. (five manuscripts) (ii) American Chemical Society: Industrial Engineering chemistry research. (one manuscript) (iii) Wiley- Journal of Mass Spectrometry (one manuscript) and (iv) Elsevier Journals: Journal of Hazardous materials (4 manuscripts), Chemical Engineering journal (two manuscripts), Chemical Engineering Research and Design (one manuscript), Journal of Photochemistry and Photobiology. (two manuscripts). Invited Author Affiliate member of Royal Society of Chemistry, U.K. (2013-2014)
Dr. Tarakeshwar Singh	Mathematics	Editor of the Technical proceedings of Research Promotion Workshop on Introduction to Graphs and Algorithms
Dr. Rakesh Mote	Physics	Reviewer: Applied Physics Letters (APL), International Journal of Manufacturing Technology and Management (IJMTM), COMPUMAG 2013: Conference on the Computation of Electromagnetic Fields, Hungary.
Dr. Lucy Gudino	Computer Science	Reviewed a paper for IEEE Transactions on Antennas & Propagation, entitled Two-Dimensional Scanning Antenna Array Driven by Integrated Waveguide Phase Shifter.
Dr. Meenakshi Raman	Humanities and Management	Reviewed three papers for AIMS International Journal of Management Appointed as Guest Editor for International Journal of Communication for Jan-June 2014 Issue

Caring beyond our walls

Nirmaan carried out several activities during the semester :

- ☛ Blood Donation Camp : In association with Goa Medical College on 12 January; received an overwhelming response of over 200 students and faculty members.
- ☛ End Semester Collection Drive : Unused sheets of paper distributed among children of Zari; waste paper (1520 Kgs) generating Rs. 9120 to be used in educational projects ; clothes and other usable items collected and donated to the Goa Welfare Charitable Trust towards their cloth bank.
- ☛ Movie Screening In Zari: on the occasion of Republic Day, movie "Iqbal" was screened in the temple grounds in Zari for Zari community.

Dr. Ranjan Dey taught and interacted with students of class IX, X and XI of Bharat Sevashram School at Ukimath, Kedernath, Uttarakhand in May 2013 to motivate them towards taking up careers in Science and Technology

BITS bids farewell to Prof. B.J.C. Babu

On Friday 26th July'13 many faculty, staff, and students gathered to bid farewell to one of the senior most faculty members of BITS Pilani, K K Birla Goa Campus Prof. B J C Babu (Mechanical Engineering) who retired from service to pursue his other interests especially in spiritual development. Prof. Babu got his M.Tech & Ph.D from IIT Madras, and after a brief stint in Vikram Sarabhai Space Center, rejoined IIT – Madras as faculty member and researcher. He further moved to Industry and in June 1999 joined BITS Pilani, Pilani Campus. He joined the Goa campus in 2004, the year of its inception. Since then, he was holding various responsible positions such as In-charge of Admissions, In-charge of Student Welfare and Member of various committees, etc. He was also involved in the early development of Workshop functioning under the Department of Mechanical Engineering. He has taught a variety of courses in Mechanical Engineering, and has also guided scores of student Projects. Prof. Babu has also carried out extensive interaction and consultancy with industry in and around Goa.

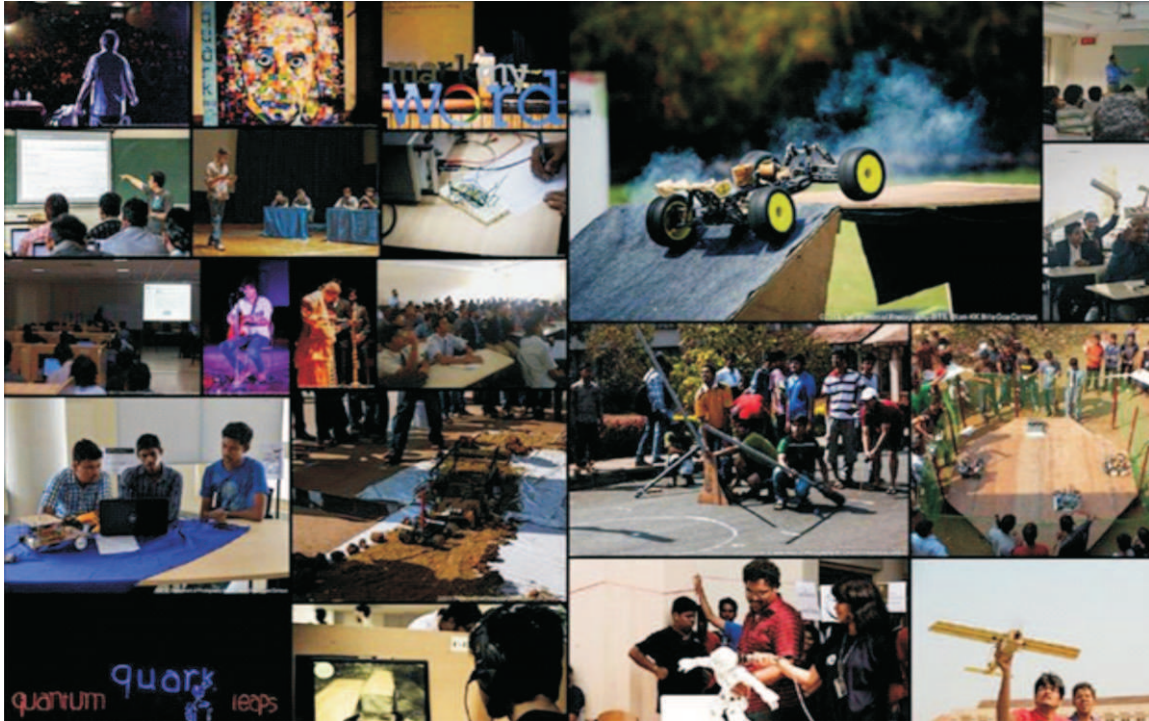
Known for his benevolence, Prof. Babu was always surrounded by students. He gave a patient hearing to all students to understand their problems and tried to give them an appropriate answer. He was usually firm in his decisions and many students left convinced despite their request being denied. He seemed to be always in a pensive mood but occasionally did enjoy a good laugh.

Prof. Babu and his wife were felicitated at the function. After Prof. A V Kulkarni gave a brief introduction to Prof. Babu, Director Prof. K.E. Raman addressed the gathering extolling the long and distinguished service put in by Prof. Babu in BITS. Prof. Babu , in his address, thanked all the members of BITS family for their cooperation and cordiality. Several faculty members during their speeches, recalled their association with Prof. Babu whose wisdom and guidance would be missed by every member of BITS Pilani, K K Birla Goa Campus.

Dr. B.J.C Babu



Quark 2013



With the active participation of over 1800 students from 70 colleges across the country, Quark 2013 was inaugurated by Dr. Ravi Gomatam, Director of Bhaktivedanta Institute (Berkeley and Mumbai) and a pioneer in the field of consciousness studies. The Mime Club and Dance Club with their amazing performances enthralled the audience at the inaugural ceremony.

Quark is acknowledged for growing from one edition to next in terms of innovation and vision as each edition boasts of events, guest lectures, workshops, exhibitions and special nights surpassing the ingenuity and grandeur of its predecessors.

Influential leaders such as Dr. A.P.J Abdul Kalam, notable industrialists such as K.M Birla and Babasaheb Kalyani, Noble laureates Sir Harry Kroto (Chemistry,1996) and Prof. Douglas Osheroff (Physics, 1996), media personalities such as Prabhu Chawla and innovators such as Mr Vic Hayes (the Father of Wi-Fi), Archana Sharma (physicist at CERN) and Tamer Nakisci (Nokia 888 designer) have addressed students in past editions of Quark.

The Pre-Quark 2013 campaign in collaboration with Google Developers Group and INK Talks brought people from diverse genres like Joi Barua (Singer), Krushnaa Patil (mountaineer), Anupam Mukherji (fake IPL player) under one roof provided an excellent kickoff for Quark 2013.

Quark 2013 played host to Chris Phillips (Professor, Imperial College, London), popularly called the invisible man who dazzled a whole crowd of 2000 people in the auditorium by using his “clever coat” and research on quantum physics that rendered him invisible. Guest lectures by Dr. Vishwanath Poosala, Head, Bell Labs India and CP Ravi Kumar, Technical Director of University Relations at Texas Instruments, India were well appreciated by the audience.

Events like RoboKombat and Burnout brought a new dimension to the world of robot fights and RC Car races. Paper presentation and Open Showcase events received 600 and 400 entries respectively while 1400 students participated in the online events like E-Dorado and Code Quest. E-Dorado is one of the largest online treasure hunts in the country with participants from countries like Romania.

Exhibits by BARC, Nao Bot and NPCL attracted the campus students and the Goan school students alike. Workshops on the world's smallest computer, the raspberry Pi, wireless sensor networks and pneumatics were an added attraction for the students along with Google and Python all-night Hackathons. Projects showcased by our students included the auto-gyro, tricopter, MAC based communication in LAN, effect of dielectric on micro EDM process to name a few.

Spree 2013

Every year, thousands of students take a break from the rigors of their academics to plan their itinerary in Goa for “Spree” - the annual sports festival of BITS Pilani, K K Birla Goa Campus. Held during 28 February – 3 March with the theme Play to Inspire Spree 2013 aimed at encouraging sporting talent through the true spirit of sportsmanship.

The inauguration of Spree 2013 was graced by Air Marshal Denzil Keelor, Chairman, Special Olympics, He's been honored with a number of medals including the Veer Chakra, the Param Vishist Sewa Medal, the Keerti Chakra and the Ati Vishist Sewa Medal for his bravery and valor in the Indo-Pak war. The Spree cricket trophy was signed by 7 renowned cricket players like Dinesh Kartik and Sunil Joshi. The Fest brought high octane entertainment for all involved hosting rich variety of events such as Football, Cricket, Basketball, Badminton, Volleyball, Lawn tennis, Table-tennis, Carom, Pool, etc. The campus boasts of the finest sports facilities with a state-of-the-art Football ground and a BCCI-recognised Cricket ground. The campus has also found mention in 'Cricinfo' having hosted the prestigious 'Vijay Hazare trophy' – a testament of the quality of sporting infrastructure. Apart from Cricket, Football was the other main attraction of Spree.

The campus has its own football club named BITSFC that competes in the Goa Second division. The event, known as 'Kickoff' was a major crowd puller. Other than conventional sports, Spree also brought to the fore many new and innovative events. These included Shuffle-a game of Mixed doubles table-tennis, Anti-Chess and 3BA – Basketball with three players in each team. Other events included Futsal, Mixed Doubles Table tennis, Mixed Doubles Badminton, Gully Cricket, Keepy Uppay, Carom Pool, Mini Tennis. Moreover, indigenous sports such as Kabaddi, Kho-Kho, Pittu and Tug of War attracted large crowds. Another popular sport was Ultimate Frisbee- a unique mixture of Touch Rugby and Basketball.

The Quiz club organised the Spree Sports Quiz, adding to the fun. The defending champions of each sport returned to renew their stay at the top.

Apart from sport, Spree also enraptured the visitors with scintillating performances by Aagman - the band and playback singers like Benny Dayal and Shalmali Kholgade. Themed 'Play to Inspire', Spree had launched the 'Act to Inspire' campaign with the aim of spreading a strong social message. It encompassed the 'Spree Goa Half Marathon', a blood donation camp, a tree plantation drive, a beach clean-up drive and a Cancer awareness campaign.



snapshots

Continuum 2013 - Music Night



Dance Night



Dance Night



Drama Night



Drama Night



Kala Event



introducing new faculty

NAME	DESIGNATION	DISCIPLINE	RESEARCH AREA
Dr. Sree Raj E.S	Assistant Professor	Electronics Engineering & Instrumentation	Power Electronics, Renewable Energy Systems
Mr. Gavax B Joshi	Lecturer	EEE and E&I	Low power VLSI Design, Mixed signal, MEMS
Dr. Rajaram Lakkaraju	Assistant Professor	Mechanical Engineering	Direct numerical simulations of turbulent flows, Highly accurate computational Algorithms for general differential equations etc.
Dr. Raviprasad Aduri	Assistant Professor	Biological Sciences	Biophysical and structural studies of RNA and RNA: Protein interaction
Dr. Indrani Talukdar	Assistant Professor	Biological Sciences	Molecular Biology, RNA Biology, Stem Cell Research
Dr. Arnab Banerjee	Assistant Professor	Biological Sciences	Biology of reproduction with emphasis to the gonadal steroidogenesis, development biology, metabolism and reproductive senescence
Dr. Subhadeep Banerjee	Assistant Professor	Chemistry	Synthesis of porphyrins with structural modification in their periphery and their inner-core in order to induce non-planar molecular conformations
Dr. Shrabani Mukherjee	Visiting Faculty	Economics	Econometrics, Public Finance and Rural Finance
Dr. Madhu Kallingal Thodi	Assistant Professor	Physics	Quantum field theory, Supersymmetry, String theory.
Dr. Swarup Kumar Majee	Assistant Professor	Physics	Phenomenology Beyond The Standard Model of Particle Physics. Related topics are Extra Dimension, Supersymmetry, Grand Unified Theory, Neutrino, Leptogenesis
Dr. Kinjal Banerjee	Assistant Professor	Physics	Classical and Quantum Gravity, Cosmology, Quantum Field theory
Dr. Nilak Datta	Assistant Professor	Humanities and Management	Postmodern American fiction, tourism studies, heritage studies, critical theory, literary and cultural studies.
Dr. Pushkar	Visiting Assistant Professor	Humanities and Management	Public health and health policy; the role of political institutions and civil society; public goods provision & welfare
Dr. Madhvi Gupta	Visiting Assistant Professor	Humanities and Management	Democratic theory and politics; race, caste, class and civil society; social inequality and its consequences

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The Editorial Team



innovate

achieve

lead

BITS Pilani

K K Birla Goa Campus

mediaspeak



BITS Pilani's technology to connect three campuses

Our Bureau

Hyderabad, Jan. 9

The Birla Institute of Technology and Science, Pilani, on Wednesday launched a technology initiative which facilitates multi-campus education.

The initiative – which was launched in association with institute's global alumni association and christened as BIT-

SConnect 2.0. – will facilitate multi-campus education by connecting three campuses in the country at Pilani, Goa and Hyderabad.

The technology is based on the use of immersive telepresence, high-definition video conferencing and

live-streaming. naga.gunturi@thehindu.co.in

Inaugurates BITS connect 2.0 at BITS Pilani

Governor pitches for enhancing virtual education system

NEW DELHI The Governor, Mr. Anant Singh, has inaugurated the BITS Connect 2.0 initiative at BITS Pilani on Wednesday. The Governor, while addressing the students and faculty members, said that the initiative is a significant step towards enhancing the virtual education system. He emphasized the need for digital infrastructure and the role of technology in education. The Governor also mentioned the importance of fostering innovation and entrepreneurship among students. The event was attended by BITS Pilani officials and faculty members.

BITS to boost entrepreneurship

TISHREESH SAMAL
Hyderabad, 11 January

The Birla Institute of Technology and Science Pilani (BITS-Pilani), Hyderabad campus, is betting big on entrepreneurship development initiatives.

The institute is setting up a Technology Business Incubation (TBI) centre with assistance from the Department of Science and Technology (DST).

The centre will focus on areas such as biotech, pharma, and

services (CEL) to encourage entrepreneurship development.

CEL would promote entrepreneurial leadership across all disciplines, facilitate entrepreneurial activity among students and invite entrepreneurs to use TBI services.

The institute has introduced a new course 'New Venture Creation', in association with its alumni association BIT-SAA International (Birla Institute of Technology and

To begin with, we plan to incubate five companies in

तंत्रज्ञानामुळे शैक्षणिक क्षेत्रात क्रांती : वांच्छू

वास्को दि. ९ (प्रतिनिधी)

तंत्रज्ञान माध्यमे शैक्षणिक क्षेत्रात परिणामक क्रांती घडवून आणतेली असल्याने एक अकृष्ट विद्यार्थी आणि सान व्यवस्थान चांचामधील दृष्टी आता दूर राहाणार नाही. पहिल्या खासगी विद्यार्थीने 'बिट्स कनेक्ट २.०' या कार्यक्रमाद्वारे आघाडी घेतलेली असून त्यांचे प्रयत्न अभिन्नदलीय आहे, असे प्रतिपादन राज्यात भारतीय वांच्छू योनी केले.

आज सांख्यिक वेधे असलेल्या बिरला इन्स्टिट्यूट ऑफ टेक्नॉलॉजी आणि सायन्स (बिट्स) गोवा यांच्यात 'बिट्स कनेक्ट २.०' या कार्यक्रमाद्वारे गोवा कॅम्पसचे संचालक प्रो. के.ई.रमण व



बिट्स पिलानीचे मॅट्री कॅम्पस शिक्षणकारिता कॅम्पस अंतर्गत चालणाऱ्या तंत्रज्ञानाचे उद्घाटन राज्यात भारतीय वांच्छू योच्या हस्ते करण्यात आले. बाजुला गोवा कॅम्पसचे संचालक प्रो. के.ई. रमण व इतर.

वांच्छू हस्ते करण्यात आले. या वेळी ते प्रमुख पाहुणे म्हणून बोलत होते. बिटेस पिलानीचे उप कुलपती प्रो. चिन्मोनाथ जैन योनी स्वगतपर भाषण केले. माजी विद्यार्थी सरलागार मंडळचे सदस्य प्रेम जैन यांचेही भाषण

बिट्स पिलानीचे मॅट्री कॅम्पस अंतर्गत चालणाऱ्या तंत्रज्ञानाचे उद्घाटन राज्यात भारतीय वांच्छू योच्या हस्ते करण्यात आले. बाजुला गोवा कॅम्पसचे संचालक प्रो. के.ई. रमण व इतर.

Taking connection beyond bits and bytes

The director of BITS Pilani Goa campus, Prof K.E. Ramani, shares how BITS Connect 2.0, a cross-campus technology initiative, just might transform the learning experience at BITS by virtually connecting all its campuses

New Delhi: The Birla Institute of Technology and Science (BITS) Pilani is taking a significant step towards enhancing its virtual education system. The institute has launched a cross-campus technology initiative called BITS Connect 2.0, which aims to connect all its campuses (Pilani, Goa, and Hyderabad) through immersive telepresence, high-definition video conferencing, and live-streaming. This initiative is expected to revolutionize the learning experience by virtually connecting all its campuses. The director of BITS Pilani Goa campus, Prof K.E. Ramani, shares how this initiative might transform the learning experience at BITS.

Be pioneer in the field of video telephony. Guv tells institutions

NEW DELHI The Governor, Mr. Anant Singh, has urged educational institutions to be pioneers in the field of video telephony. He emphasized the need for digital infrastructure and the role of technology in education. The Governor also mentioned the importance of fostering innovation and entrepreneurship among students. The event was attended by educational institutions and officials.



Governor Shri Anant Singh inaugurating the BITS Connect 2.0 at BITS Pilani

The Governor and other dignitaries were present at the inauguration. He emphasized the need for digital infrastructure and the role of technology in education. The Governor also mentioned the importance of fostering innovation and entrepreneurship among students. The event was attended by educational institutions and officials.

NEWS | GOA | 14 countries take part in ETMN 2013 conference

GT WEEKENDER 14 countries take part in ETMN 2013 conference



Dr Chandra Shekhar, Director, CEERI inaugurating the conference.

GT NEWSROOM With 26 participants from 14 countries and eminent speakers from Japan, USA, Germany, UK and Sweden, BITS Pilani in collaboration with CEERI (Central Electronics Engineering Research Institute) Pilani hosted the International Conference on Emerging Technologies: Micro to Nano (ETMN 2013) at the Goa campus from February 20 and 21. Inaugurated by Dr Chandra Shekhar, Director, CEERI, the ETMN 2013 is devoted to showcasing cutting edge research and accomplishments, and to enrich the educational experience in these frontiers and emerging fields in Science and Engineering. Prof K.E. Ramani, Director of the campus welcomed the guests and participants. Dr Susilo Ijtana, a Japanese physicist and a professor at High University, cited as the promoter of carbon nanotubes (CNT), spoke briefly about the CNT technology and its application in drug testing. Dr M. Mesagan of NASA, USA spoke about flexible systems and its utility in Biosensor field while Dr Paul Miller, Professor of Biotechnology at the University of Leeds, UK talked about Biosensor technology and solar energy use in water purification. Prof Magnus Willander, Linköping University, Sweden, talked about how to measure chemicals in small volumes and with high sensitivity and selectivity. A of practical interest using different nanostructures like dots, nanowires, nanorods, nanotubes, nanofibers, nanosheets. Dr Andrew Mann, BIST (Birla Institute of Science and Technology) Germany delivered his keynote address on Lab-on-chip and related technology for infectious disease applications. Twelve invited speakers from IITs, IISc, BARC delivered lecture while sixteen participants in the field of nanotechnology and MEMS exhibited their products. A research papers and 165 student posters were presented in the conference.

EDUCATION | Launch of a special educational initiative by BITS Pilani at an event in Goa is expected to connect three campuses in a technological breakthrough

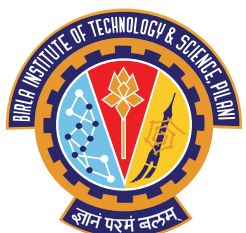
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