Semester-II notes 2010-11

# bitscan

K K Birla Goa Campus



BITS Pilani K K Birla Goa Campus

#### from the

#### editor

Second Semester of 2010-11 will be cherished in our memory forever because of the significant events it has recorded in the history of BITS Pilani, K K Birla Goa Campus.

Dedicated to its founder Chancellor Dr. K. K. Birla, the Goa Campus of BITS Pilani was renamed as BITS Pilani, K K Birla Goa Campus on 21st April 2011 at a splendid ceremony marked by the unveiling of the exquisite mosaic mural of Dr. K. K. Birla by Shri. Rahul Gandhi in the presence of Dr. Kumar Mangalam Birla. The campus was ecstatic with the visit of Mr. Rahul Gandhi, the youth icon of India and several members of the legendary Birla family. On this auspicious occasion, they all paid their homage to the former Chancellor Dr. K. K. Birla who was associated with Shri. G. D. Birla for more than four decades in all the activities of BITS Pilani.

Shri Rahul Gandhi inaugurating the Mural



The MoU between BITS Pilani and Indian Army stands as a landmark achievement because of the collaborative avenues it has created for both the organizations in the areas of academic training, development and research.

For the first time, the BITS Alumni Association organized a Global Meet in Delhi in the month of January. It was a huge success with 1000 members meeting not only their batch mates, professors but also their juniors over two days of conviviality and of fruitful discussion sessions.

Quark 2011 was bigger and better than its previous editions with its highlight event TEDxBITS GOA that witnessed an overflowing auditorium. Similarly, Spree 2011 reached greater heights and was fortunate to have the champions of sports, namely, Venkatapathy Raju, Shirish Nadkarni, Swapnil Asnodkar and the world yogasana champion & Goa prodigy Nhehern N. Acharya at its various events.

Project Vision 2020-Mission 2012 entered its third year marching towards accomplishing its objectives in the areas of promoting research, redesigning curriculum, initiating and implementing a robust ERP system, enhancing the engagement level, promoting the BITS brand, etc.

The international conference and the international workshop hosted by the Departments of Biology and Mathematics respectively reinforced the keen interest of faculty members and students in disseminating and receiving diverse academic and research experiences. By winning the national finals at the CIMA global business challenge 2011, the students of our campus have proved their exceptional talent in creativity and innovation yet again.

Time passes like a brisk wind and it's hard to believe that BITScan of K K Birla Goa Campus has completed its two-semester stint.

**BITSAA Global Meet** 



This third issue, we hope would enjoy as much support from you as the earlier issues had received. Once again we earnestly appeal to you to share with us all the activities you are organizing on campus and all the recognitions and achievements that have been conferred upon you so as to enable us to add more vigor, vitality and value to BITScan, K K Birla Goa Campus thus making it scale newer boundaries.

#### MoU with

## **Indian Army**

11th February 2011 witnessed another milestone in the history of Birla Institute of Technology and Science, Pilani when a Memorandum of Understanding was signed in Delhi by its Vice Chancellor Professor B. N. Jain , and Lt. Gen. V. K. Chaturvedi, Director General (MP & PS), Integrated Hq. of Ministry of Defence (Army), New Delhi.

#### **MoU with Indian Army**



The MoU was signed under "Project Samarth" to provide higher technical education to service personnel through on-campus and off-campus programmes of BITS, Pilani and to promote research in areas of mutual interest like safety and security, information systems, robotics, pharmacy, psychology, material and communication studies by jointly establishing a centre of excellence. Students of BITS, Pilani's campuses in Pilani, Goa and Hyderabad would also get an opportunity to visit and spend time at the Army establishments to work on live projects.

Prof. B. N. Jain said, "As India's finest university in the private sector, with a dedicated set of faculty and talented students, BITS Pilani has made successful strides in the last decade with many pioneering initiatives. The signing of this MoU heralds a new beginning in the history of our institution, as we partner with the Indian Army offering our resources, our programmes, our services for the greater good of the country." In collaboration with the Army, BITS would also identify off-campus 'Work Integrated Learning' programmes to provide Bachelor and Master degrees in different streams to the service personnel.

## Global Meet

The first ever BITSAA Global Meet, a three-day alumni extravaganza was held at the EPI CENTRE, Apparel Hall, Gurgaon, Delhi NCR, India, close to the parent campus of the Birla Institute of Technology and Science, at Pilani. Over 1200 alumni, "welcomed a new era wherein the world alumni will meet together every year to give back to the alma mater and contribute in transforming the world in an innovative BITSian way" to quote Mr. C.S. Goel, CEO of BGM'11 and Gen. Sec. BITSAA Delhi Chapter.

The three-day BGM '11 kicked off on January 7, 2011, after almost a year of intense planning and huge organizational efforts by alumni, students and various volunteer groups. The meet bore witness to many power-packed discussions and talks centered on the overall theme of the meet: 'Transforming Society, Enterprises and Academics through Innovation'.

Mr. Sam Pitroda graced the occasion as a keynote speaker.

Many among the world's most illustrious BITSians were present contributing their opinions and views on the theme, proving once again how strong their bond to their alma mater is by showing their hearty support throughout the three days of the meet. Some of the eminent alumni who embraced the occasion included Professor S. P. Kothari (MIT Solan), Mr. Rajesh Hukku (I-FLEX Solutions), Mr. Baba Kalyani (Bharat Forge), Mr. Prithiviraj Chavan (Hon'ble Chief Minister of Maharashtra), Mr. Sunit Rikhi (Intel), Mr. Ashok Pandey (Film Producer-Phas Gaye Re Obama), Mr. Raju Reddy (Sierra Atlantic), Mr. Gulu Mirchandani (Onida), Mr. Harish Bhat (Titan), Professor Rajendra Sisodia (Bentley College), Dr. Ashok Malhotra (Ninash foundation), Mr. Rakesh Verma (Map My India) and many more.

Mr. Prithviraj Chavan at BITSAA Global Meet



## dedication of BITS Pilani, Goa campus in the memory of

#### Dr. K K Birla

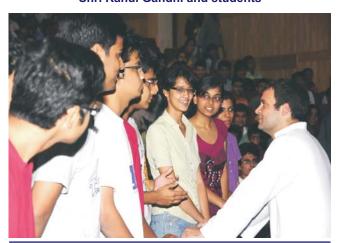
Shri Rahul Gandhi, in presence of Dr. Kumar Mangalam Birla, inaugurated the mosaic mural of Dr. Krishna Kumar Birla, the First Chancellor of BITS Pilani University on the occasion of the dedication ceremony of its Goa Campus at which the campus was renamed as BITS Pilani, K K Birla Goa Campus. The mosaic mural of Dr. K. K. Birla was created by a couple Ms. Poola Perpignani and Mr. Paolo Racagni, from Ravenna, Italy. The unveiled gold and bronze circular mural with the image of Dr. K. K. Birla had a dedication on a granite-and-glass tablet, quoting his vision for BITS: "Our prime consideration has been to prepare young men and women to act as leaders for promoting the economic and industrial development of the country and to play a creative role in the service of humanity."

This occasion was graced by the presence of Shri B. K. Birla, Smt. Sarala Birla, Mrs. Shobhana Bhartia (Pro Chancellor), Mrs. Rajashree Birla and other illustrious members of the Birla family, Dr. B.N. Jain (Vice-Chancellor) and the directors of all BITS campuses.

At a glittering function held at the campus auditorium to mark the dedication ceremony, Dr. Kumar Mangalam Birla addressed a huge gathering of students and faculty. He said "As we dedicate this campus, we pay tribute to Dr. K. K. Birla and take forward his vision for excellence in learning. We celebrate his life."

Rahul Gandhi struck a chord with the students by reaching out to them with his passionate speech on the importance of developing ideas and on the need to get them across to the maximum number of people promptly. He stressed on the urgency of moving away from a geographical-based development model to one which placed more emphasis on the individual rather

#### Shri Rahul Gandhi and students



than on his domicile, lauding the work the UPA government had done in this regard. He speculated that India would be the center for new ideas in the 21st Century, hoping that Indians would represent a massive flux in modern thoughts within and outside the country. He also highlighted the importance of people staying "connected" to the society, asserting that the nation could then benefit from the participation of people from the remotest corners of India. Mr. Gandhi paid a tribute to the Birla family, alluding to the association of the family patriarch, G. D. Birla, with the freedom struggle and his role in empowering India through industry and education. "You owe a lot to this family," he added.

#### Chancellor with Shri Rahul Gandhi



Interacting with the crowd for over an hour and a half, Gandhi answered a volley of questions, with the students seeking to know his stance on many issues of national importance. Speaking on the recent Jan Lokpal Bill issue, he maintained that Anna Hazare was quite within his rights to agitate for the bill the way he did, but he also cautioned that the bill must pass through a democratic process before becoming a law. He also praised the UPA Government's role in making governance more transparent, citing the RTI act as a major milestone in bringing corruption to the fore. On the highly controversial extended reservations in the country's premier institutes, he said that the need of the hour was not to debate on the issue of reservation, but to instead increase the number of such institutes in the country, to cater to the need of more such meritorious students. Fielding a question by a student who wanted to know what "groundwork" Mr. Gandhi had done in tackling corruption, as the latter had replied in his letter to Justice (retd) V. R. Krishna Iyer, he replied that there are no simple solutions to the problem in India, and it would require massive patience, time and extensive support of the people.

# snapshots



## a confluence of ideas

## academia

seminars / conferences / workshops / training programmes workshop on

## Microbes

in waste water and water treatment

International Water Association (IWA) specialist conference Microbes in wastewater & Waste Treatment, Bioremediation and Energy production (MWT 2011) was held at BITS Pilani, K K Birla Goa campus in association with Institut National de la Recherche Agronomique (INRA), France from 24-27 January 2011 with Dr. Jean Jacques Godon and Dr. Michel Torrijos from INRA as convenors and Dr. Srikanth Mutnuri and Dr. Utpal Roy from the campus as organizing secretaries. Graced by dignitaries such as Dr. Nicolas Poussielgue (Science and Technology Attaché at the French Embassy, Mumbai as the Chief Guest), Dr. Michel Torrijos, Dr. Godon (the conveners) and Prof. K. E. Raman (Director, BITS Pilani, Goa Campus), the inauguration ceremony on 23rd January began in the traditional Indian way with an invocation to the Almighty and the symbolic lighting of a ceremonial lamp. The Director welcomed the guests highlighting the relevance of Biology in today's world, the emphasis BITS has always placed on including the vital subject in its curriculum, and the significance of Goa, a State in the midst of an important Environment Vs Development debate as the venue of the conference.

Dr. Godon extolled the virtues of microbes in many dayto-day applications, and described the main thrust on areas to be explored for the conference over the next few days. The Chief Guest, Dr. Poussielgue, launched

#### **Inauguration of the Conference**



the conference proceedings, and spoke at length about the growing Indo-French co-operation in key areas, particularly, research in science and technology. Dr. Srikanth Mutnuri, Organising Secretary of MWT-2011, concluded the proceedings with a vote of thanks.

Held within the framework of the IWA's specialized group - Microbial Ecology and Water Engineering (MEWE) and Assessment and Control of Hazardous Substances in Water (ACHSW)), the conference aimed at allowing researchers, scientists and industry players working in the field of microbial ecology to share a common platform and exchange new ideas, approaches and findings on the same. The field of Microbial Ecology plays an important role in nonconventional energy, reduction of waste, water treatment, controlling pollution (such as oil-spills) etc. Over 150 participants from more than 22 countries participated in this conference. 49 students also registered for the conference. The conference presentations covered quite a wide range of possible applications including Ecosystem monitoring, Microalgae, anaerobic digestion, techniques, nutrient removal, H2 and electron donors, pathogen removal and airborne microbes, pathogen removal, biofilm, wastewater treatment, bioremediation, microbial activity, energy production, enzyme production, low cost technologies, anaerobic and aerobic processes. 80 posters were presented and some companies had advertised during the conference about their activities and products.

Prof. K.E.Raman inaugurating the workshop



international workshop on advances in Computational Partial

## Differential Equations

The Department of Mathematics, BITS Pilani, K K Birla Goa Campus in collaboration with Industrial

Mathematics Group (IMG), Department of Mathematics, IIT Bombay successfully organized an International Workshop on "Advances in Computational Partial Differential Equations" during 7 February - 5 March, 2011. The entire Workshop was funded by the NBHM (National Board for Higher Mathematics), Department of Atomic Energy, Mumbai. There were 29 participants (mostly Ph.D students) from all over India (including IISc, IITs, IIST and several Universities), 4 participants from Germany (Humboldt University of Berlin, University of Heidelberg) . Experts were from India, Germany and France besides two experts from the campus itself. Apart from problem solving sessions, hands on computation through Lab sessions was one of the distinctive features of this workshop. This time, group project was introduced during the last week as a new component that culminated in the project presentations on last day of the workshop. Convened Dr. P. Dhanumjaya and Dr. Anil Kumar, the workshop was inaugurated by the Director Prof. K. E. Raman on 7th February 2011.

workshop on

### Quantum Mechanics

The IAPT (Indian Association of Physics Teachers) Goa Regional Council organized a 2-day workshop for Physics Teachers of the colleges in Goa, on 12th and 13th of March 2011 at BITS Pilani, K K Birla Goa Campus. The seven Lectures delivered during the workshop, by faculty members of the Department of Physics at the campus covered a range of topics from Modern Physics, Atomic Physics and Quantum Mechanics.

Prof. Erwin De Sa at the workshop



Topics from Quantum Mechanics form a major portion of the Physics Curriculum in the current undergraduate degree program in Physics. This subject involves a variety of abstract concepts and also the use of advanced mathematics. The workshop aimed to explicitly work out mathematical details surrounding some of these abstract concepts so that the participants develop greater confidence and ability to use these concepts and also to teach at the undergraduate level.

The inaugural programme on 12th March was presided over by Prof Erwin De Sa, Dean of Natural Sciences & HOD (Physics), Goa University. In his welcome address, the President of IAPT, Prof. A. V. Kulkarni said that this workshop was the first in a series of such workshops envisaged in the near future for College teachers in Goa. More topics of core importance such as Electromagnetic Theory, Classical Mechanics will be covered in the future workshops. Chief Guest Prof De Sa lauded the efforts of the IAPT Goa in bringing focus on a recondite subject as Quantum Mechanics. The Co-ordinator of the Workshop, Dr. Radhika Vathsan gave a brief description of the details of the workshop and the Secretary Mr. Rajendra delivered the vote of thanks.

Dr. Radhika Vatsan, Dr. Gaurav Dar, Dr Toby Joseph, Dr. P. N. Deepak and Dr. A. V. Kulkarni, Dr. Prasanta Das and Dr. Suresh Ramaswamy delivered the lectures which were then followed by the interactive discussion sessions. During the short valedictory function, participation certificates were distributed.

workshop on

# Indian Mobile Initiative

A five-week workshop on MIT- Indian Mobile Initiative by a team from Massachusetts Institute of Technology, Cambridge, USA., was held at BITS, Pilani, K K Birla Goa Campus during 6 June – 8 July 2011. Three sophomores , namely, Aakriti Shroff, Kyle Fisher and Thiago Viera from MIT conducted this workshop. 54 participants with JAVA proficiency from MIT Manipal, SRM Chennai, VIT Vellore and BITS Pilani , K K Birla Goa Campus The participants were also mentored by engineers from Google, entrepreneurs and start up mentors from MentorEdge, IIMA , etc.

The workshop was conducted on two planes: while the Technical sessions focused on mobile technologies ranging from Android OS and application development on the Android platform to working with Android Architecture, the entrepreneurship training dealt with Idea Generation and Brain Storming, Elevator Pitches, business plan writing.

The workshop culminated in the IMI Developer Challenge, to identify the teams with most workable business ideas using the android OS. The largest amount of seed money (\$2000) went to a team from SRM University, Chennai. The team proposed to facilitate consumers in getting redress for their complaints, working through mobile communication. The team was mentored by the CEL Coordinator at the Goa Campus.

#### **TEDxBITSGoa**

Dr. Subir Gokarn, Deputy Governor of RBI, Anuradha Pal the Tabla Maestro and the leading female percussionist in India, Dr. Jonathan Wolfe, Executive Director, fractal foundation (New Mexico), Ms. Jhelum Paranjape, the renowned Odissi dancer, Mr. Atul Chitnis, leading technologist and founder of the Indian chapter of FOSS (Free and Open Source Software), Dr. Brij Kothari, renowned academic and social entrepreneur, Dr. Rauf Ali, a biologist (worked extensively in the Nicobar Islands for Tsunami relief), Sudip Dutta, CEO of Aporv.com (an online portal which sells Indian handicrafts), Dr. Sunil Mukhi, physicist and faculty member at Tata Institute of Fundamental Research, Kalyan Verma, wildlife enthusiast and photographer, Nitin Gupta, CEO, Entertainment Engineers-all inspired the students, faculty and other citizens of Goa through their inspiring TED talks at the TEDxBITS Goa event held at the jam-packed auditorium of K K Birla Goa Campus of BITS Pilani on 6th Feb. 2011.

Continuing with its trend of organising successful conferences and symposiums through the years, BITS-Pilani, KK Birla Goa Campus hosted "TEDxBitsGoa, 2011", building on the stupendous success story of its predecessor, TEDxBITSGoa, 2010. This version of TED (Technology, Entertainment and Design) featured national and international professionals, spanning a multitude of fields and disciplines, ranging from economic policy to stand-up comedy to the mathematical art of fractals. Keeping in mind the theme of TEDx 2011, 'exploring transformation', the speakers gave their professional insight into the various problems existing in society, and innovative ways of overcoming them.

#### Dr. Jonathan Wolfe



The famous 'SLS' program (Same Language Subtitles) that has proven to be extremely effective in improving reading ability across all strata, especially in rural society, strategies to sell Indian handicrafts thereby generating more revenue for the artisans, need of making technology more relevant for the masses, need

for using fractals to ignite and leverage the best of innovation in minds, various intricacies of economic policy-making, and the detailed thought-process attached with it, etc., were few ideas explored during the event. Brilliant demonstrations of their artistic endeavors by Anuradha Pal and Jhelum Paranjape, enthralled the audience.

#### symposium on sharing diverse

# Writing Experiences

Department of Humanities & Management and Matrix , BITS,Pilani, K K Birla Goa Campus jointly hosted a symposium 'Sharing Diverse Writing Experiences', featuring eminent writers from Goa, on 15th April, 2011. The writers, who included some of the most celebrated names in Goan literary circles such as Damodar "Bhai" Mauzo, Aniruddha Sen Gupta, Frederick Noronha, Isabel Santa Rita Vas and Jose Lourenco discussed a wide range of issues pertaining to literature, theatre and contemporary trends in writing.

Damodar "Bhai" Mauzo, Sahitya Akademi award winner and most-translated Konkani writer, began the proceedings by examining the past and present of Konkani as a literary langauage, bemoaning that a single language cannot survive multiple scripts, giving an example of how the rich heritage of Konkani was slowly being corrupted by its usage in other scripts.

Following the veteran writer was Isabel Santa Rita Vas, HOD of English at Dhempe College, Miramar, and founder of Mustard Seed Art Company. She spoke at length about the neglected art of writing for theatre, describing also the many community-building measures that theatre can undertake in its various forms.

#### Speakers and the audience



Jose Lourenco, a civil engineer and co-editor of the anthology 'Inside Out', talked about the importance of language and its many implications in today's world. He described the various sources of inspiration possible for writing stories, citing each of his own short stories as an example. Succeeding him on the stage was Frederick Noronha, a writer, cyber-journalist and an enthusiastic blogger, who discussed the impact of technology on writing and publishing.

Finishing the enlightening day was Aniruddha Sen Gupta, engineer and professional writer, who explained his transition from an engineer to an author, inspiring the students to choose their favoured vocations irrespective of their current field of learning. The symposium was greatly appreciated by the audience, ending with an informal interaction with the guest speakers.

# Graph Theory and it's applications

Department of Mathematics, BITS Pilani, K K Birla Goa Campus organized a two-day Instructional workshop on Graph Theory and its Applications. Many teachers and researchers from different colleges affiliated to Goa University and BITS Pilani, K K Birla Goa Campus participated. Dr. T. Singh delivered lectures on Graph Theory and its applications; Dr. Bharat M. Deshpande on BFS and DFS Algorithms; Mr. R. P. Joshi on Complexity of Algorithms and Mr. Veeky Baths on Application of Graph Theory in designing of Drugs for tuberculosis.

#### workshop on developing

### Performance Goals and Standards

To provide BITS Pilani Campus Leadership the tools & techniques necessary to develop performance standards & goals for themselves and their faculty members, a one-day workshop was held on 11 April 2011 with Mr. Kris Ramachandran and Mr. Paras Kaushik as the facilitators. With special focus on 'Performance Expectations' and 'Goal Setting Techniques' this program aimed at helping campus leadership to build a more effective process for goals setting and developing their faculty. All the heads of Departments and few Faculty-in-charges participated in this workshop. The workshop was later held at all campuses of BITS Pilani.

## new inititatives

**ERP** system at BITS

## Project BITS – ONE

Many top western Universities are running their campus administration through ERP (Enterprise Resource Planning) systems. Right from 1970's, various academic and administrative processes in BITS were successfully computerized by teams of faculty members and students. These systems were upgraded as and when software and hardware upgrades were required. However, when BITS established its campuses, at Dubai, Goa and Hyderabad, these stand alone legacy systems could not be integrated and the need for a web based system running on a single database was felt by the Task Force appointed for this purpose under project Vision 2020-Mission 2012. It embarked upon preparing a Software Requirement Specification document and making a thorough study of existing ERP systems in the market on different platforms.

The Task Force had clear cut goals defined for itself in this venture and they are:

- 1. Implement a world class ERP system to integrate academic and administrative functions in the multi campus environment.
- Adopt common streamlined processes across campuses, eliminating / minimizing administrative functions of academic staff.
- 3. Improve IT infrastructure to facilitate sharing resources, interaction among faculty and students across all campuses.
- Provide superior facilities to off campus/ on campus students.

With these goals in mind, Peoplesoft ERP systems has been selected after evaluation of other similar ERP systems, based on its modules which provide the best fit for the requirements of BITS. The main modules in People soft are: Campus solutions, HR, Financials. The Campus solutions will have functionalities: Admission, Timetable (to be developed using scientia syllabus plus), Registration, Grade book, Campus Self Service, Online Course Management & Recording, Guest House Management, Medical MIS for students, Mess Accounting, Campus Housing Allotment, Hostel Management, Grants Management, Learning Management System, and Interfaces (Library system, BITSAT system). The Human Resource Management System (HRMS) will have functionalities: HR, Recruitment, E-Performance, Payroll. The Finance will

have functionalities: General Ledger, Accounts Payable, Accounts receivable, Assets Management, Budgets, Cash, Stores & Purchase.

WIPRO has been selected as the Implementer for the project. The work has started with interaction of the project team with various process owners of BITS, and bringing out a 'AS IS' document for each and every process. TO BE documents have been reviewed by various core team members from Pilani. Custimizing People soft modules to BITS requirement is going on. It is expected that when Phase I goes live it would cover Admission, registration, time tabling, student financials, LMS, and Student records and relevant critical reports. This would cover Pilani, Goa and Hyderabad campuses. Phase II would include HR, Finance modules and all the associated reports. Phase III would include complete Dubai campus rollout.

The whole project involves a capital expenditure of Rs. 7.5 crores with an annual recurring expenditure of Rs. 2.5 crores. The system will cater to all on campus students of the four campuses, all off campus students, all faculty and non teaching staff members and alumni. Expansion in these numbers has been kept in mind while deciding hardware sizing. Mr. H. Krishnan, who has vast experience in implementing ERP systems in industry, has joined BITS as the Chief Information Officer. A Steering Committee consisting of Directors of all campuses, Mr. Rajiv Vasudeva of AVB Group IT,

Mr. H. Krishnan, Chief Information Officer, BITS and Prof. J P Mishra, Chief Information Processing Centre, BITS – Pilani, is over seeing the project. The Task Force members involved in this project are: Prof. Chittaranjan Hota, Prof. Arya Kumar, Dr. Rajesh Mehrotra, Dr. Maneesha Bagchandani, Prof. J V Rao, Dr. Vidya Rajesh , Prof. D M Kulkarni, Mr. Mangesh Bedekar, Prof. S P Regella, Dr. B K Rout, Mr. Vikas, Dr. M. Madiajagan. The project is being codenamed as 'BITS ONE' which reflects the main objective of the project championed by Prof. K. E. Raman under Vision 2020-Mission 2012 project.

## **Science Day**

Science Day was celebrated during 9-10 March 2011. Short talks on latest advances in various fields in Science were delivered by the faculty members. Prizes were distributed to the winners of Science Aptitude Test and Online Science Quiz . Faculty members delivered popular lectures : Dr. Anusuya Ganguly on the world of stem cells, Dr. Ram Shankar Patel on Graphene and Dr. Ranjan Dey on new and renewable energy – research, awareness and capacity building at BITS Pilani, K K Birla Goa campus. while Dr. Srikanth Mutnuri explained the functioning of the campus biogas plant through a video.

# distinguished lectures

speaker designation topic date

Dr. Vasant Manohar	Scientist in Raytheon BBN technologies , U.S. Founder and CEO, VDime Innovative works, Chennai	Computer Vision and Image Processing	9 January 2011
Prof. C.Lecot	University of Savoie, France	Numerics for PDEs - Part I (Discretization of elliptic PDEs, finite differences, convergence and properties of discrete solutions); Research, PS and Internship opportunities in France; Numerics for PDEs - Part II (Numerical schemes for parabolic PDEs, Heat equation, Von Neumann stability and convergence.)	10- 11 January 2011
Prof. S. P. Singh	Visiting Scientist- Physics and Astronomy, University of Western Ontario, Canada	Fixed point theorem & its applications; Approximation theory and applications	21 and 25 January 2011

Mr. Deepak Bharwani	Facilitator,Pragati leadership Institute; Certified trainer,Franklin Covey South Asia.	Parenting	25 January 2011
Prof. Matthias Brack	Dept. of Physics, university of Regensburg, Germany.	From the rydberg formula to quantum chaos: Triumph, fall and renaissance of Bohr's old quantum theory	7 February 2011
Mr.Shiva Kumar Ganesan	Founder of ROOPIT.	My Experience with Start-Ups	8 February 2011
Prof. RajatBhaduri	Professor Emeritus, Department of Physics and Astronomy McMaster University Hamilton, Canada	Cold atom physics	9 February 2011
Prof. M. V. N. Murthy	Inst. of Mathematical Sciences, CIT campus, Chennai.	Indian neutrino observatory	10 February 2011
Prof. Amiya Kumar Pani	Industrial Mathematics Group, Department of Mathematics, IIT Bombay	Industrial Mathematics with a Case Study from Finance	11 February 2011
Mr. Neeraj Kedar	Associate at Frost & Sullivan, a Consulting and Research Firm	Embryo (Video) Lecture titled Renewable Energy: Industry Perspective.	12 February 2011
Dr. A. Srinivasa Rao	Program Director from Indian School of Business, Hyderabad	How to develop the Entrepreneur in YOU	14 February 2011
Mr. Phanindra Sama	Founder of RedBus.in	My Experience of starting RedBus	2 March 2011
Prof. Ashok W. Deshpande	Founding Chair: Berkeley Initiative in Soft Computing (BISC)-Special Interest Group (SIG)-Environment Management Systems (EMS) and Guest Faculty, University of California, Berkeley, USA	Fuzzy Logic Via Computing with words: A case study	9 March 2011
Dr. Gopal C. Kundu	National Center for Cell Science, Pune and recipient of Shanti SwarupBhatnagar Prize in Biological Sciences	Diagnostic and Therapeutic Significance of Osteopontin and other associated Genes in Breast and other Cancers	21 March 2011
Prof. Gary Bowman and Prof. Ravi Gomatam	(i) Dept. of Physics and Astronomy, Northern Arizona Univ., U.S.A. (ii) Director, Institute for Semantic Information Sciences & Technology, Mumbai Adjunct Professor, BITS-Pilani, Director, Bhaktivedanta Institute	Quantum Reality - New Perspectives  A New Framework for Understanding Quantum Reality	1 April 2011
Prof. Radha Balakrishnan	Inst. of Mathematical Sciences, CIT campus, Chennai.	Solitons in Bose-Einstein condensates	15 April 2011
Prof. J. Ram Kumar	IIT, Kanpur	Micro-electric discharge machining	29 April 2011

## visits by faculty

# enriching the learning experience

#### international visits

**Dr. Sachin Waigaonkar**, Assistant Professor, Department of Mechanical Engineering presented a paper on Experimental Investigations and Optimisation of Curing of Unsaturated Polyester Resin at Ft. Lauderdale, Florida, USA during 2-4 February 2011 at an International conference organized by American Composites Manufacturers Association (ACMA).

Dr. Sachin Waigaonkar at Florida, USA.



Prof. Sunil Bhand, Associate Professor and Head, Department of Chemistry presented two research papers (i) Functionalized nanoparticles based immunoassay for analysis of Aflatoxin M1 in milk and (ii) Novel multifunctional nanorods as Choline Biosensor (collaborative research work with Prof. R. Chatterjee, Dept of Physics, IIT Delhi) as posters at the second international conference organized by ELSEVIER, Oxford, UK at Strasbourg, France during 6-10 March 2011.

Prof. Sunil Bhand at Strasbourg, U.K.



**Dr. K. N. Ponnani**, Adjunct Faculty, Department of Chemical Engineering, Prof. S. K. Verma (Pilani Campus) and Prof. M S. Dasgupta (Pilani Campus) visited the Aditya Birla Thai Rayon plant during 19 June-2 July 2011 to to understand and familiarise themselves with the Thai Rayon plant in particular and fibre business and technology in general and look for opportunities for creative interactions leading to mutual benefit.

Prof. D. M. Kulkarni, Associate Professor, Mechanical Engineering and Faculty In charge Computer Center delivered a Key note speech on Hip Implants Research: History, Present Status and Opportunities at the 2nd International Conference on Mechanical & Aerospace Engineering (ICMAE-2011) held in Bangkok during July 28-30, 2011.

Dr. D. M. Kulkarni's Keynote address



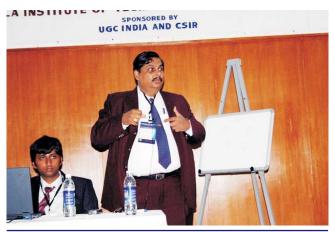
**Dr. Narendra Nath Ghosh**, Assistant Professor ,Dept of Chemistry, visited the School of Metallurgy and Materials Science of University of Birmingham, UK during 27th July to 1st August 2011 and collaborated with Professor Gerard Franklyn Fernando. He was invited by The Royal Academy Of Engineering, UK in connection with Research Exchanges with China and India.

## invited lectures by faculty

Prof. Sunil Bhand Associate Professor and Head of Dept. Chemistry delivered invited lecture entitled "Miniaturized biosensor techniques for food analysis and control" at National Training Programme under NAIP project on "Immobilizaiton Techniques for miniaturized microarray based biosensors" organised by Department of Biotechnology, Punjabi University Patiala during Jan 10-14, 2011.

Dr. Pravin Singru, Assistant Professor and Head, Dept of Mechanical Engineering, delivered keynote address on Vibration Based Condition Monitoring of Power Plant Equipments at the two - day workshop organized by the Department of Mechanical Engineering, BITS PILANI-Pilani Campus from Feb 14-15, 2011. He also delivered a lecture on "Teaching Skills" at Dr. B.N. College of Engineering, Yavatmal (MS) on June 13, 2011

Dr.Pravin Singru at BITS,Pilani



Dr. Tarun Kumar Jha, Assistant Professor, Dept. of Physics delivered an invited talk on "Compact Stars: Evolution" at the UGC Sponsored Workshop organized by Navyug Science College, Surat, Gujarat in Association with Indian Physics Association, Mumbai 24 - 25 January Chapter during

Dr. Debasis Patnaik, Assistant Professor, Department of Economics, delivered a number of invited talks: (i) Input output approach to technology assessment in Indian industries on 19 March 2011 at the University of Hyderabad (ii) Service Sector during recession, Growth Economics models and Financial Evaluation in March 2011 at Goa University (iii) Searching for an Alternative Information System on 30 April 2011 at MES college and (iv) Econometrics during Feb-March 2011 as online lectures for BITS Pilani, Hyderabad Campus.

As a part of GMA initiatives, Dr. Patnaik along with other members organized a Business Quiz in NIO, Goa on March27 2011 for Academic and Corporate sectors.

Dr. Ranjan Dey, Assistant Professor, Department of Chemistry, delivered two invited talks: (i) Intellectual property rights and industry interface on 6 Februray 2011 at the national seminar organized at the University of Allahabad and (ii) Thermodynamic, transport and excess properties of multicomponent liquid mixtures on 10 March 2011 at Centre of Excellence of Basic Sciences(CBS), Mumbai University, Kalina, Mumbai.

Dr. Ranjan Dey at the Conference



Prof. Meenakshi Raman Professor and Head, Dept of Humanities was invited as an expert for the one-day workshop on 1 July 2011 at SVNIT, Surat on the syllabus revision for their course English and Communication. Prof. Raman conducted a workshop on Writing effective research proposals at the 8th AIMS International conference held at IIM(A) during 1-4 January 2011 and she delivered a guest lecture on Teaching and Evaluation at BITS on 21 January 2011 at NITTTR Training Session in Goa on Academic Audit of Technical Institutions.

Prof. Meenakshi Raman at NITTTR session



### achievements

#### Distinguished Faculty Award for Four Professors of BITS - Pilani, K. K. Birla Goa Campus

At the BITSAA Global Meet 2011 held in Delhi in January 2011, five Professors of BITS Pilani Prof. Arya Kumar of Pilani Campus and Prof. Suresh Ramaswamy, Prof. D. M. Kulkarni, Prof. Bharat Deshpande and Dr. Anita Agarwal of K K Birla Goa Campus received the distinguished faculty award in recognition and appreciation of their dedication, interest, enthusiasm and attitude in accomplishing the assigned mission of teaching. The recipients were elated to receive this award from Mr. Prithviraj Chavan, Hon'ble Chief Minister and a distinguished alumnus of BITS Pilani.





Prof. D. M Kulkarni



**Prof. Bharat Deshpande** 



Dr. Anita Agarwal



#### Kris Ramachandran Faculty Excellence Award: Certificate of Excellence to Dr. D. M. Kulkarni

Dr. N. N. Sharma, Associate Professor, Mechanical Engineering & Officiating Dean of ARC division BITS, Pilani bagged the 2010 Kris Ramachandran Faculty Excellence Award. Dr. D. M. Kulkarni, Associate Professor, Mechanical Engineering & Faculty In charge, Computer Center, BITS, Pilani, K K Birla Goa Campus and Dr. C. Hota, Associate Professor & Head, Computer Science and Information Systems, BITS Pilani, Hyderabad campus received the Certificate of Excellence, during the Inaugural ceremony of Quark 2011 on 2nd February 2011.

The Kris Ramachandran Faculty Excellence award is an initiative to recognize BITS faculty for excellence in inspiring and engaging teaching that stimulates discovery and inquiry, in research and innovative projects, and in their professional achievements and commitment towards BITS. It is an annual award which will be presented to the selected faculty member towards the end of the second semester every year. The award is founded by BITS Alumnus Kris Ramachandran (Class of '72) and comprises of a rolling plaque, a citation, and a cash award of INR 100,000. It not only strives to recognize and reward excellent faculty but also tries to stimulate other alumni to initiate similar awards.

Prof. D. M. Kulkarni receiving the Certificate



#### BITS Pilani, K K Birla Goa Campus Team won CIMA global business challenge national finals

Team Tatva, comprising Akshay Goel, G.Shri Harsha, Shivam Salhotra and Sakhi Agarwal, under the mentorship of Dr. Basavadatta Mitra, from BITS Pilani, K K Birla Goa Campus won the CIMA ( Chartered Institute of Management Accountants) Global Business Challenge 2011 National Finals held on 11 June 2011 in Mumbai and represented BITS and India in Chengdu, China during 23-24 July in the International Finals wherein National Finals participants from 16 other countries participated. This is the second consecutive time BITS Pilani Goa Campus has won the National Final of the CIMA GBC.

BITS Pilani, K K Birla Goa Campus Students at CIMA



The six teams that qualified for the national finals are NMIMS University, BITS Pilani, K K Birla Goa Campus, Stella Maris College, Christ University, Sri Guru Gobind Singh College of Commerce and IIT Delhi. This year, more than 400 teams from all over India participated in the competition. The finalists went through a rigorous selection process, which include a case study report submission and a regional final before they made it to the India Finals.

For the second in a row, BITS Pilani, Goa Campus was declared the winner by a panel of eminent judges such as Ms. Deepa Dev, Financial Controller GRBC India; Mr. Ranbir Singh, COO, JP Morgan; Mr. Anoop Sharma, Director Finance, Kellogg's; Mr. Sharat Bansal, Advisory Leader, PWC & Mr. Muthu Manickam

The CIMA Global Business Challenge is an international competition designed to bring out the best in the young business leaders of tomorrow. It started 3 years ago to provide students interested in economics and finance a platform to test and apply their theoretical knowledge to solve real world business problems. This year, it received over 1800 entries from 17 countries around the world.

Dr. Debasis Patnaik has been elected unanimously as Secretary, Goa Management Association and to three of its Committees as Member on Policy and Programme Implementation, Management Education in Goa, Marketing. Dr. Patnaik chaired Session in Goa Management Association Auspices on 29April2011

Pratham Arora presented a poster titled Biomethanation potential of Agro wastes (authors: Vidhya Prabhudessai, Anasuya Ganguly, Pratham Arora, Vijay and Srikanth Mutnuri) at the 3rd IWA Asia Pacific Young Water Professionals Conference held in Singapore during 21-24 November 2010

**Pratham Arora in Singapore** 



C. Sivaraman pursuing his Ph.D under the guidance of Dr. Srikanth Mutnuri was awarded Senior Research Fellowship by CSIR in April 2011.

Rupesh Mishra, Research associate in the department of chemistry has been selected for "Sandwich PhD fellowship-2011"of the French Government for six months to work on biosensors for environmental analysis.

Nazneen Fatema Rajani won the Google India Women in Engineering Award that aims at recognizing and rewarding the deserving women students in Computer Science and related majors, and inspiring them to become active participants and leaders in creating technology

Chetan Bansal was selected for a Research Internship during May - July 2011 at the Microsoft Research INRIA Joint Lab in Paris with a monthly stipend of 1100 euros. He worked on Web Security and Formal verification of OAuth protocol.

## significant projects

PRINCIPAL INVESTIGATOR & NAME OF THE DEPT.	TITLE OF THE PROJECT	FUNDING AGENCY, AMOUNT & DURATION
Dr. Ramesha C K EE E and E&I	Investigation of Schottky contacts to Silicon Carbide (SiC) using I-V and C-V techniques	Rs.10,77,800 Univeristy Grants Commission (UGC) New Delhi
Dr. Utpal Roy Biological Sciences	Biochemcial and genetic characterization of antimicrobial (candidiacidal) peptides produced by the strain <i>Enterococcus faecalis</i> apr 210	Rs. 7.78 lakhs University Grants Commission (UGC)
Dr. Vijayashree Nayak Biological Sciences	A New Biodegradable Polymer Scaffold for CartilageTissue Engineering	Rs. 22.34 lakhs Board of Researchin Nuclear Sciences (BRNS),Govt. of India
Dr. Sumit Biswas Biological Sciences	Structure elucidation of VC0395_300 protein from <i>Vibrio cholerae</i> (leading to an alternate method of checking Cholera)	Rs. 23.5 lakhs Board of Research in Nuclear Sciences, Department of Atomic Energy(BRNS), Govt. of India
Dr. Rabi Narayan PandaChemistry	Magnetic Properties of Metallic Nano- particles	Rs. 20 lakhs CSIR

## consultancy

Dr. Srikanth Mutnuri, Assistant Professor, Biological Sciences did a consultancy work for Public Works Department, (PWD) Margao on Studies and analysis of discharge to river Sal from konkan railway / e.s.i nallah, salpem lake, STP and enroute discharges upto Sinquetim - Margao / Navelim.

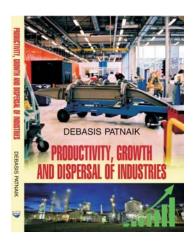
Faculty members from various disciplines have been appointed as members of National and International advisory committees / acted as reviewers for books / papers published in journals of national and international repute.

Name	Department	Journal / Member details
Dr. Anita Agrawal	EEE and E&I	Reviewed papers for International conference on Communication computing & Security,12-14 Feb 2011 held at NIT Rourkela, India and International Journal of Modelling and Simulation. Publisher: Actapress.
Mr. Nitin Sharma	EEE and E&I	Associate Editor for following Journals: Communications (ACTA Press), Journal of Electrical and Electronics Engineering (JEEE), Journal of Electronics and Communication Engineering (JECE), Journal of Electronics and Instrumentation Engineering (JEIE), International Journal of Electrical and Electronics Engineering Research and Development (IJEEERD), International Journal of Electronics, Communication & Instrumentation Engineering Research and Development (IJECIERD), International Journal of Wireless and Mobile Communications (IJWMC) Reviewer for the journals IEEE TEVC, Springer Wireless Personal communication
Dr. Pravin Singru	Mechanical Engineering	Appointed expert member of selection committee of Lecturers in Institute of Ship Building Technology, Vasco Da Gama
Prof. D. M. Kulkarni	Mechanical Engineering	Member of Editorial Board of World Journal of Mechanics (WJM)
Dr. Srikanth Mutnuri	Biological Sciences	Appointed by Dy. Collector, Margao as the Nodal Officer for the work related to contamination of water wells in Comba, Margao. Reviewer for World Journal of Microbiology and Biotechnology, Bioresource Technology and Journal of Petroleum Technology and Alternative Fuels
Prof. Sunil Bhand	Chemistry	Reviewed three manuscripts for Biosensors and Bioelectronics (Elsevier, UK), one manuscript for Applied Biochemistry and Biotechnology (Springer), one for Journal of J. Agri. Food and Chemistry (ACS, USA)
Dr. Ranjan Dey	Chemistry	Reviewed a paper for the Journal of Solution Chemistry

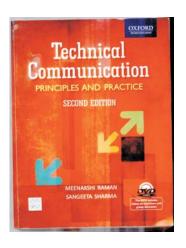
Name	Department	Journal / Member details
Dr. N. N. Ghosh	Chemistry	Member of Editorial board of the following international journals: (i) Journal of Chemical Engineering and Material Science, (ii) ISRN Ceramics.
Dr. Debasis Patnaik	Economics	Reviewed 3 papers for Journal of Diaspora Initiatives and Journal of Manpower Planning
Prof. Meenakshi Raman	Humanities and Management	Member of editorial board of AIMS International; editorial chair for two journals (Journal of English and Literature; International Journal of English and Literature) of Transstellar Journal Publications and Research Consultancy Private Limited; reviewed five papers for the AIMS International Journal of Management (AIMS international, USA) and ten papers for AIMS 8 <sup>th</sup> International conference proceedings; five papers for IJEAPS (International Journal of Educational administration and Policy Studies, Nigeria)

## inprint

Dr. Debasis Patnaik, Productivity, Growth and Dispersal of Industries, 2011, New Delhi: DPH Pvt. Ltd.



Meenakshi Raman and Sangeeta Sharma, Technical Communicaation: Principles and Practice, Second Edition, 2011, New Delhi: Oxford University Press



## quark

Quark 2011, the fifth edition of annual technomanagement festival of the Campus was hosted during 3-5 February 2011. With Mr. Kris Ramachandran a BITS Pilani alumnus and Advisor for the Aditya Birla Group's Higher Education Project as the Chief Guest and the Directors of all campuses as the guests of honour, the inauguration ceremony witnessed the mind blowing performance of the Music Club. A man with a sense of humor and admirable insight into the student psyche, Mr. Kris Ramachandran delighted the audience with few of his experiences as a student at BITS.

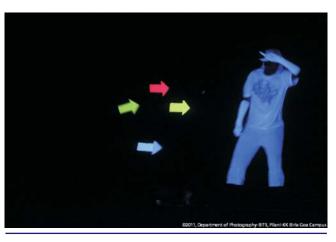
Quark hosted events in eight categories covering the domains of engineering, pure sciences and business. Action packed events like Robo- Kombat and Burnout attracted a huge crowd. BITS Model United Nations, spanning over all three days of the festival, attracted tremendous outstation participation. Events in the corporate panel, QuEST and Intellect were hugely successful as well. According to Priyanka Unnithan (BITS Goa), winner of QuEST-"The events were meticulously planned and there was a lot of enthusiasm amongst the participants. Despite being a tech-fest, Quark catered to everyone and there was never a dull moment"

#### **BITS MUN**



Several workshops were organized by tech firms like Nvidia (CUDA Parallel computing), Cypress Semiconductors (PSoC) and Mu Sigma (Analytics). Especially popular was the Workshop on Fractals by Prof. Jonathan Wolfe. Says Namita Paul, attendee at the Ornithopter Workshop organized by Aerotrix-' The

#### Mime



organizers of the workshop were very helpful, and though the workshop was long, time seemed to fly by! Plus, we now have a self- constructed Ornithopter to show off!' A crowd- favourite at Quark 2011 were the Aurora nights, featuring amazing performances by the Dance, Music, Fine Arts and Mime clubs of BITS Pilani, K. K Birla campus. Dr. Jonathan Wolfe's fractal show was one of the chief highlights of the Aurora nights.

On Feb 6th, BITS Pilani, Goa campus hosted TEDxBITSGoa, an independently organized TED like conference operated under a license from TED. Under the theme of "Exploring Transformation", TEDx had an impressive speaker profile including entrepreneurs, physicists, visionaries and performers. Atul Chitnis (founder of FOSS) gave the audience an insight into the past, present and future of computer technology. Kalyan Verma (renowned wildlife photographer) hearts with his moving speech. The highly anticipated performances by Anuradha Pal (Tabla Virtuoso) and Jhelum Paranjape (Odissi Danseuse) lived up to audience expectations.

Students with their project Exhibit



## spree

With distinguished personalities Shirish Nadkarni, a former badminton champion & a celebrated commentator as the Chief Guest ,Swapnil Asnodkar, a player of the IPL team Rajasthan Royals, as the Guest of Honour and the world yogasana champion & Goa prodigy Nhehern N. Acharya as a yoga demonstrator , SPREE 2011, the Sports Festival of BITS Pilani K K Birla Goa Campus, kicked off with a bang on 26th February, 2011. The audience were also fortunate to witness the stunning freestyle football performances of Archis Patil, Adreil Fernandes and Akshay Yadav and the artistic rendition of the cultural group Vaishnavi showcasing the ten Avatars of Lord Vishnu.

The formal ceremony began with the 3-minute thrilling display of the thirteen year old Nhehern showcasing his skills as a yoga prodigy. With a variety of exacting yoga postures displaying amazing flexibility, he left the audience dumbfounded.

After the ceremonial lighting of the lamp, and unveiling of the grand Spree trophies, Mr. Aditya Chintawar, President of the Council of Student Affairs welcomed the gathering and promised an exciting SPREE. Appreciating Nhehern's performance and the students' efforts for SPREE Prof. K.E.Raman wished all the participants. Mr. Nadkarni inspired the students by sharing his experiences of overcoming several adversities in his life and urged the students to pursue their sport with full passion and not to give up in difficult Swapnil Asnodkar read out the situations. Mr. customary sports pledge and wished all the teams a successful SPREE 2010. Mr. Sai Raghavandra the SPREE convenor presented the details of events and Mr. Aniket Reddy, the General Secretary proposed the vote of thanks.

Around 2000 students from various colleges across India participated in SPREE 2011, which is the biggest sports festival in Goa and also considered to be among the nation's biggest sports festivals.

But even the festival organisers couldn't have predicted the success that Spree '11 would be. It is customary at most sporting events to use the phrase "nail biting

**Spree 2011** 



**Spree 2011** 



finishes" and the like. Well then, every such cliché would have to be used to describe the matches at Spree. The BITS cricket team played every one of the matches like champions and deservedly lifted the cup at the end of the tournament.

The BITS girls' basketball team too performed commendably, finishing second ultimately. The boys' basketball matches were aggressively contested and in the end NIT Trichy bagged the top honour.

But the excitement wasn't just confined to the sports fields alone. The Purple Patch rose to the occasion of the Special Nites and screened a two live matches, one an India England cricket match, the other a Manchester United-Chelsea football match and a movie on the SAC lawns much to the enjoyment of the crowd. It's fair to say that they did for Spree at night what the matches did during the day. This time, Spree saw the arrival of the Zapak Alienware gaming lounge for all the CS freaks and the opening of a gambling zone for the first time, replete with poker, bridge and the like.

With Mr.Venkata pathy Raju the Chief Guest and Prof. B. N. Jain, the Vice Chancellor as the Guest of honour, the valedictory function of Spree 2011 was held in the cricket grounds. Appreciating the festival, Mr. Raju congratulated all the participants and organizers. Prizes were distributed to winners of all events with SSN Chennai carrying away the overall trophy.

Mr. Venkatapathy Raju at the Valedictory



# caring beyond our walls Nirmaan

Keeping up the spirit of societal development, various teams of Nirmaan initiated new activities as mentioned below:

Employment Operations team at Nirmaan Goa in collaboration with Centre for Entrepreneurial Leadership worked towards empowering community based SHGs (Self-help groups) by adding business insight to philanthropic models. With commendable efforts from Kavya, Chithra, Preethi, Sindhu, Sindhura, Venugopal and Shruti the team has successfully completed the training program of 19 women Zari and 32 Women in Birla communities: the trainers were made available from Father Agnel's Ashram at Verna, Goa. The first Women's SHG named ASHADEEP comprising of 11 members in Zari was formed.

The Knowledge Operations Team has initiated two new projects focused at adult and child literacy and English speaking to further enhance their presentation and communication skills. The adult literacy team comprising of Sruthi, Fatima, Deepak, Srinivas and Rakesh under the guidance of Dr. Meenakshi Raman have enthusiastically led the effort and provided basic spoken skills to 11 women in Zari.

With a vision to encourage the idea of using technology for social good, event Bhagirath was organized during Quark 2011. The idea was to engage tribes of engineers, architects, scientists and thinkers to come up with solutions for Rural Electrification, Urban Waste Management and use of Information and Communication technology in agricultural development. 9 ideas were from 55 entries were selected for presentation and were judged by eminent personalities in the field.

**Spree Charity run** 



The winning ideas were rewarded, some of them are even getting a chance to implement in the near future. Nirmaan Goa organised a sports event on January 23rd and 30th for the kids in the nearby slum at Zari. Spree Charity Run 2011 in association with Nirmaan Goa was organized on 7 Feb 2011to support the cause of Women Empowerment in Goa.

#### **AIESEC**

AIESEC (Association Internationale des Étudiants en Sciences Économiques et Commerciales) Goa Chapter, in association with the Rotary Club of Panaji, Faber-Castell, Shetty Sons Caterers, and the Indian Navy, conducted 'Balakalakaar', an art competition for underprivileged children at BITS-Pilani K.K Birla Goa Campus on 17th April. The event saw the participation of several NGOs from all across Goa such as El-Shaddai, S.C.A.N (Stop Child Abuse Now), Children Walking Tall, Janubhai Trust and Hamara School Project. More than 500 children participated in the event. Students of Goa campus delighted the participants with their cultural programme in the evening. The Chief Guest , Commodore Ajay Chhabra (Naval Officer-in-Charge, Goa Area), emphasized the relevance and importance of NGOs, students and individual donors in helping the society. The guest of honour, Mr. Dinesh Kamath (President of Rotary Club of Panaji), and Mrs. Harshada Kerkar then gave away the prizes for the art competition, with Hamara School and Shantiniketan bagging awards across most categories. The event concluded with performances by the children of various NGOs who displayed their finest dancing skills, enthralling the young audience in the auditorium.

## creative zone

**Dance Club** 



**Dramatics Club** 



Ugadi Rangoli



Smt. Arati Ankalikar Tikekar



**Music Club** 



**Acoustic Night** 



# editorial team



From Left: Rohan, Hemanth, Dr. Judith, Dr. Shalini, Prof. Meenakshi, Vamshi, Aditya

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## **BITS** Pilani

K K Birla Goa Campus

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