

ISSUE 08

Semester-I notes 2013-14

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K K Birla Goa Campus



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lead

from the editor

Entering into its 10th year of inception, BITS Pilani, K K Birla Goa Campus was testimony to various academic and cultural events during the First Semester, 2013-14. This semester kicked off with the freshmen orientation programme and soon was followed by the memorable convocation ceremony that had exhilarated each and everyone on campus specially because of the presence of two stellar personalities: Mr. Rahul Dravid and Dr. Kumar Mangalam Birla.

Memento Presentation



With Prof. Sanjeev Kumar Aggarwal taking over as the Director, the campus witnessed a change of guard. Departments were busy with hosting national and international conferences, workshops, guest lectures, department seminars, etc. Many faculty members visited countries abroad to pursue their academic and collaborative research endeavors. Two faculty members also spent the semester at other institutions on sabbatical to further their research interests. Research scholars presented papers at conferences in India & abroad and won laurels for the campus.

Prof. Aggarwal at WAVES 2014



In the hands of our brilliant, talented and dedicated students, Waves 2013, the annual cultural festival of the campus celebrated yet another eventful edition sustaining its reputation as one of the most reputed cultural events of our nation. The Joy of Giving Week organized by Nirmaan reiterated the passion that our students have towards societal initiatives.

Inauguration of TSICON 2013



By the time this edition went for printing, the campus had received very depressing news, the sudden and untimely demise of its Director Prof. Sanjeev K. Aggarwal. We, the editorial team dedicate this edition to Prof. Aggarwal and we are sure that all of us would live up to his expectations in achieving the Vision of our Institution.

Prof. Sanjeev K. Aggarwal

Prof. Sanjeev Kumar Aggarwal joined BITS Pilani, K K Birla Goa Campus on 29th July 2013 as a Senior Professor and took charge as the Director of the campus on 13th August 2013. He received his MTech and PhD from IIT Kanpur. A reputed Professor of Computer Science, Prof. Aggarwal joined BITS Pilani, after his successful stint of about 25 years at IIT Kanpur holding important portfolios in the Institute's Administration. With his extensive research and teaching experience in the area of Compiler Design, he had presented and published a large number of papers in international forums and had handled a large number of industry/government funded projects. He worked with Tata Research Development and Design Centre, Pune from 1986 to 1990. He held the Class of 1981 Chair Professorship in Engineering and the Poonam and Prabhu Goel Chair Professorship at IIT Kanpur. Prof. Aggarwal was passionate about teaching courses in Compiler Design, Advanced Compiler Design, Compilers for Multicore Architectures, Programming languages and Software Engineering.

Within a short span of just five months on the campus, Prof. Aggarwal had won the hearts of all alike with his active administration, critical acumen and innovative ideas. His sudden and untimely demise at about 1 pm on Saturday the 11th of January 2014 has certainly left a void in academia. He is survived by his parents, wife Mrs. Vinita Aggarwal, son Keshav and daughter Anupama.

Director Prof. Aggarwal



Convocation 2013

Birla Institute of Technology and Science (BITS) Pilani, K. K. Birla Goa Campus held the convocation ceremony for the graduating students of the Class of 2013 on 11 August 2013. Padma Bhushan Rahul Dravid, former Captain of the Indian cricket team and one of the greatest batsmen in the history of cricket graced the occasion as the chief guest and was joined by Dr. Kumar Mangalam Birla, Chancellor BITS Pilani, Prof. B.N. Jain, the Vice-Chancellor, Directors of all four campuses, Prof. V. S. Rao, Prof. G. Raghurama, Prof. R. K. Mittal and Prof. K. E. Raman, members of the Senate, the faculty of Goa campus, members of the graduating class of 2013 and members of their families.

687 students were awarded their degrees on the occasion out of which 440 students received their first degrees, 149 of them, their first degree along with another degree under the dual degree scheme, 93 received higher degrees and 5 were awarded with their Ph.D. Three students, Tushar Mandar, Joshi Abhijit Mohan and Chithra were awarded gold, silver and bronze medals for securing first, second and third position respectively.

Presenting the convocation Report 2013, Prof. B.N. Jain, Vice-Chancellor, BITS Pilani reaffirmed the long-term vision to be listed as one of India's top 3 research-led technical institutes by 2015. He said, "Over 20,000 industry professionals are currently enrolled in one of 24 UG or PG programmes, the expected enrollment is expected to touch 38,000 and the current ratio of over 18 students to one faculty will be improved to 13:1 by the year 2020. This phase of our growth will be propelled by three factors: technology enablement, applied research and innovation and internationalization."

Speaking on the occasion, Dr. Kumar Mangalam Birla, Chancellor, BITS Pilani welcomed and introduced the Chief Guest, 'Mr. Dependable' Rahul Dravid. Addressing the students, Dr. Birla said, "We congratulate you on completing the first important leg of your journey and wish you luck for the next chapter of your life which will be full of challenges, opportunities, responsibilities, adventures setbacks and triumphs." Speaking of knowledge, he said that it is a never ending continuum and a person who graduates today and stops learning tomorrow is uneducated the day after. He added that learning from

mentors at workplace is important as these are the people who have rich experience and the ones we can depend on in times of doubt. He concluded his speech by saying, "You must strive to be the very best you can possibly ever be by constantly enriching yourself through new experiences, understanding your own strengths and weaknesses and working doggedly to enhance your own competencies."

In his inspiring address, Padma Bhushan Rahul Dravid said, "Being invited to BITS is both an honour and a humbling experience for me. Cricket made me a better person and taught me how to deal with success and failures." He said that there is no single way to succeed but a million ways which are unique to everyone. He added that support comes from most unexpected places and makes all the difference in our lives. Dravid emphasized on the importance of patience through another life story when he said that he had to wait for 5 years for his first international game. He concluded his speech by saying, "As I sat alone dealing with my success and failures, I got to understand myself better, the climb became everything to me and immersed myself in it. As I got closer to my mountain, I managed to remain focused and keep my eyes on the destination" and congratulated the graduating class of 2013

Prof. K. E. Raman, Director of the K K Birla Goa campus, in his address, congratulated the graduating students and presented a report on the Campus. He said, "My heartiest wishes to the graduating students and their families. As you walk out into the world to traverse your chosen paths, do not forget the importance of continuous learning. In the ever-evolving world of today, every person and organization must adapt and change. In fifty glorious years of its existence, your Alma Mater has several firsts to its name such as practice schools, a unique multi-campus education model running for past 4 decades, a dedicated technology incubator and path-breaking research projects. We are confident that you will make us proud the same way you are proud of your institute." Speaking of the campus, he added, "We are now embarking upon an ambitious growth plan over the next 7 years, wherein the student population will almost be doubled and the focus would be on post graduate and research programmes.

a confluence of ideas academia

seminars / conferences /
workshops / training programmes

Workshop on Employability Skills

30 teachers and placement officers from various engineering institutions across India actively participated in the 3-day workshop on Innovative Pedagogies for Enhancing the Employability Skills of Students organized by the Department of Humanities and Social Sciences, BITS Pilani, K K Birla Goa Campus. The participants were benefitted by the sessions on Verbal and Nonverbal communication, Small Talk, Job Interviews, Effective Presentations and Group Discussions conducted by the faculty members of the department. Presided over by Prof. Sanjeev K Aggarwal, the Director and inaugurated by Shri. Atul Pai Kane, President, CII Goa Chapter the workshop also presented three sessions by noted executives and corporate trainers. Mr. Blaise Costabir MD GMI Zarahak Moulders Pvt Ltd., and Mr. Siddesh Khurade of Persistent Systems Ltd., delivered interactive sessions on the topics, Personality & Career Success and Employers' Expectations from Fresh Graduates respectively. Mr. Amey Hegde, eminent corporate trainer conducted a dynamic and an interesting session on Motivation for the participants. As the training of students

Workshop Group



in employability skills plays a crucial role in their job search and placement, participants considered the workshop very topical and useful. Various activities which teachers can use in their classrooms were discussed and demonstrated at the sessions. Mock Presentations and Mock GDs delivered by the students of BITS Pilani, Goa were also appreciated by the participants from Engineering Colleges in Goa, Gujarat, Tamil Nadu, Andhra Pradesh, Rajasthan, and Uttar Pradesh.

TSICON 2013

The 3rd Annual Conference of the Toxinological Society of India (TSI) and 1st International Conference on "Biology of Natural Toxins" was inaugurated by Prof. Alan Harvey, Professor of Pharmacology, University of Strathclyde, on the 19th of December, 2013. Prof. Sanjeev K. Aggarwal, Director of the Campus; Prof. C. R. Maity, President TSI; Prof. Anthony Gomes, Secretary TSI also addressed the gathering. The Lifetime achievement award was presented by TSI to Prof. Anthony Tu, Professor Emeritus, Colorado State University, USA, for his immense contribution to this field. The Conference was coordinated by Prof. Dibakar Chakrabarty, Organising Secretary and Dr. Angshuman

Inaugural Ceremony



Sarkar delivered the Vote of Thanks. This conference aimed to provide a common platform for all researchers, clinicians, students, conservationists and industries working on different aspects of natural toxins of animals, microbes and plant, snake bite management and related environmental issues to discuss their research findings. The conference consisted of plenary sessions, invited lectures, oral and poster presentations. <http://www.tsicon2013.org/> With Dr. Dibakar Chakrabarty as the Organizing Secretary, the conference was

attended by around 100 toxinologists including participants from eight countries. Delegates unanimously agreed that the quality of papers presented in the conference was of very high quality. Ms. Mansi Baveja of our campus and Ms. Poulomi Dutta, of the University of Calcutta jointly won the Best Poster Award.

Advanced Workshop on Mathematical Foundation of Advanced Finite Element Methods (MFAFEM-2013)

The Department of Mathematics in collaboration with National Mathematics Initiative (NMI), National Board for higher mathematics (NBHM) and National Programme on Differential Equations: Theory, Computation and Applications (NPDE-TCA), IIT Bombay, organized a 9-day international workshop on "Mathematical Foundation of Advanced Finite Element Method" during December 26, 2013-January 03, 2014.

Workshop Participants



The workshop was inaugurated by Prof. Amiya K Pani, Institute Chair Professor, Department of Mathematics, Industrial Mathematics group, IIT Bombay. The Guest of Honor was Dr Tirupathi Gudi, Assistant Professor, Department of Mathematics, Indian Institute of Science, Bengaluru. This workshop was intended to bring together and train the researchers in the area of computational partial differential equations.

Eminent mathematicians Prof. Amiya K Pani, IIT Bombay Prof. Carsten Carstensen, Humboldt University of Berlin, Germany; Prof. Jay Gopalakrishnan, Portland State University, U.S.A.; Prof. Neela Nataraj, IIT Bombay; Dr P. Dhanumjaya and Dr. Anil Kumar, BITS Pilani, Goa acted as the resource persons for the workshop.

30 participants from different parts of India including few research scholars from Humboldt University of Berlin, Germany attended the workshop at which demonstrations on various techniques involved in finite element methods were presented. Most of the talks touched the extent of latest discoveries in the field. The informal feature of the workshop made it possible to have intensive discussions and interactive dialogues. Tutorial sessions were held all through the workshop in CC lab. Coordinated by Dr Dhanumjaya and Dr Anil Kumar, the event concluded with the valedictory ceremony on 3 January 2014.

AICTE sponsored National winter school on Industrial Applications of Mechatronics

To provide quality training to the faculty in the area of Mechatronics, Mechanical Department of BITS Pilani K K Birla Goa Campus in collaboration with Agnel Polytechnic, Verna, Goa organized 2 - weeks Winter School . AICTE sponsored the winter school and it was conducted in the BITS campus. Prof. P. M. Singru spoke on evolution and design of robots. Dr Raghavendra Naik spoke extensively on how MEMS evolved, advantages, challenges in design and fabrication of MEMS devices on silicon. Dr Sachin Waigoankar spoke on Pneumatic and Electropneumatic circuits their design and hands on implementation by the participants in the lab. Dr Rakesh Mote delivered talks on Automation, Computerized Numerical Control (CNC) in Manufacturing / Measurements, and Rapid Prototyping and Tooling (RP/RT). The participants were given hands on practical exposure to CNC and CMM machines in the workshop. Mr Gautam Bacher spoke on PLC and PLC programming with laboratory exercises. Dr Anupama K.R. spoke on Microcontrollers and its importance in automation. Dr Lucy Gudino spoke on Wireless sensor networks, their deployment and demonstration of the same in the Lab.

Prof. Singru's Address



Prof. P. M. Singru and Dr. Joseph Rodrigues ,HoD, Electronics Engineering, Agnel Polytechnic, Verna, Goa were co-ordinators of the program. Thirty nine faculty members from all over India participated in the program. Participants were taken to Bosch India Ltd, Cartini India Ltd and Chemstrol Ltd for Industrial exposure.

Visit by Japanese Team

A team from Matsudo Research Center, Hitachi, Ltd., Infrastructure Systems Company, Japan visited on 30 October 2013. Their main subject of discussion was on "Municipal or industrial wastewater treatment for India or East Asia" and their research topics are :Wastewater treatment, especially nitrogen removal from municipal wastewater ; Biological 1,4-Dioxane Wastewater Treatment using Polyethylene Glycol Gel Carriers Entrapping Afipia sp. D1 and Effect of scale up and the sludge reduction performance of bench scale MFC-WWT. The visit was coordinated by Dr. Srikanth Mutnuri, Professor In-charge for International Programmes and Collaborations.

Centre for Technical Education(CTE) Activities

CTE was established for the purpose of imparting knowledge on application oriented topics and to serve as a platform for research activities on campus. The courses offered were: 3D modelling and Analysis using Catia, C#, Web Design and Development, Introduction to Python and Application Development in Qt, Advanced Image Processing, Introduction to Electronics in Robotics. Apart from these, CTE organised various Hackathons where students from different courses were encouraged to team up and work on cross disciplinary projects. Another such attempt to encourage the spirit of technical innovation was CTE Kick-Starter which offered funding to feasible and innovative ideas. This event provided a total amount of 90,000 to eight such projects.

Students at CTE



DISTINGUISHED LECTURES AT BITS PILANI, K K BIRLA GOA CAMPUS

SPEAKER	AFFILIATION	TOPIC	DATE
Prof. Bikramjit Basu	Laboratory for Biomaterials, Materials Research Center, Indian Institute of Science	Development of Multifunctional Bioceramics and External Field Stimulated Cell Functionality Modulation: A New Paradigm	10/12/2013
Dr. A. C. Banerjea	National Institute of Immunology, New Delhi	HIV-1 Biology, Replication, Pathogenesis and Stem cell Based Gene therapy	7 /12/2013
Dr. Akshara Kaginalkar	C-DAC Pune (Associate Director & HOD, Computational Earth Sciences	Joint projects on high performance computing and applications in biology, physics, chemistry, mathematics ;joint partnership program for students to work at C-DAC.	6/12/2013
Dr. Goutam Paul	Assistant Professor, R. C. Bose Centre for Cryptology and Security, Indian Statistical Institute, Kolkata.	No Cloning Theorem and Quantum Key Distribution	6/12/ 2013
Prof. Babu Aiholi	Professor, Dept. of Economics, Goa University	Technical Analyses	14/11/2013
Dr. D. P. Kasbekar	Senior Scientists from CCMB, BITS Pilani alumnus and the editor of "the Journal of Bioscience	Chromosome rearrangements in Neurospora	4/11/2013
Prof. Keshab Das	GIDR, Ahmedabad	Industrial clusters in India Content and Policy perspectives	29/10/2013
Mr. Sudeep Chakravarti	Writer and columnist	Alien in your own land : Crisis of identity, development and democracy	18 /10/ 2013
Prof. A. S. Vasudeva Murthy	TIFR Centre for Applicable Mathematics, Bangalore	Far field boundary conditions and their numerical approximation, Searching and Sorting Million Needles in Zillion Haystacks and On the string equation of Narasimha.	11/10/2013 and 10/10/2013
Prof. Mridul Nandi	Applied Statistics Unit, ISI Kolkata	Analysis of Modes of Hash Functions.	3/10/2013
Mr. Gary Lategan	Owner of Roto Solution, UK	Importance and Ways of effective Process Control in Rotational Moulding	28 /9 2013

SPEAKER	AFFILIATION	TOPIC	DATE
Prof. A. K. Majumdar	Professor of Physics (retired), Indian Institute of Technology Kanpur	Magnetism: fundamentals, measurement techniques, and current applications".	20 -25 /9/ 2013
Dr. Anandan	Director at Microsoft Research.	Opportunities at MSR	20 /9/2013
Prof. Subhojit Roy	IIT Kanpur	From Concrete Examples to Heap Manipulating Programs	20/9/ 2013
Dr.Samit Chattopadhyay, FNA, FNASc.	Scientist G from NCCS Pune	Orchestration of gene regulation: Implications in cancer metastasis'	19 /9/ 2013
Prof. M. K. Kadalbajoo	Professor, Department of Mathematics, IIT Kanpur	Computational Mathematics-Some Challenges	14/9/ 2013
Prof. Sudhir Ghorpade	Professor & Head, Department of Mathematics, Indian Institute of Technology Bombay.	Matrices and Linear Recurrences over Finite Fields	14/9/ 2013
ATMOS Distinguished Lecture by Prof Ayanna Howard	Director, Human-Automation Systems (HumAnS) Lab Georgia Institute of Technology	Meet New Challenges Through Robotics and the Stem Professions	3/9/ 2013
Dr. Samit Chattopadhyay	Scientist F, NCCS, Pune	Orchestration of gene regulation: Implications in cancer metastasis, on	19/9/ 2013
Dr. Michel Torrijos	Head - Technology Transfer, INRA, France	Anaerobic digestion	25/09/2013
Prof. J. R. Bandekar	Secretary (BSC), BRNS, BARC and Head, Radiation Biology Division	Microbiological Aspects of Radiation Processing of Foods	23/08/2013
Prof. M. V. Pitke	Retired Professor from TIFR Mumbai.	Microwave Technology and the new Opportunities and Challenges.	19/08/2013
Dr. Arun Kumar	Department of Health Sciences University of Delaware	Targeted Drug Delivery to the Lungs	17/08/2013
Dr. Manas Saha	Consultant Orthopaedic Surgeon at J. N. Roy Hospital, Kolkata.	The current status of bone cancer in India	16/8/2013
Prof. Katti Kateesh	Professor, University of Missouri	Green Nanotechnology Connecting Western Medicine with Traditional Herbal Medicine ; Oncological Implications of Tea-Based Gold Nanoparticles for Treating Prostate and other Cancers	5/8/ 2013

visits by faculty enriching the learning experience international visits

Dr. Srikanth Mutnuri delivered a Key note lecture entitled "Terra Preta as an Alternative for the Management of Sludge from Waste Water Treatment Plant" at 1st International Terra Preta Conference at Hamburg University of Technology, 29 – 30 August 2013.

Dr. Srikanth Mutnuri



Mr. Meghanath Prabhu, Research scholar of the Dept of Biological Sciences pursuing his PhD with **Dr. Srikanth Mutnuri** attended the Indo-German Center for sustainability (IGCS) Summer school - 2013 at RWTH Aachen University, Aachen Germany from 30 June to 14 July 2013.

Prof. Debasis Patnaik, participated and Chaired Two sessions in IUAES (International Union of Ethnological and Anthropological Sciences) at Manchester, United Kingdom. He chaired the session on Rural Development from 5 to 10 August 2013. Dr. Patnaik presented a paper on 25 October 2013, on "A Systems Approach to Innovation Management" at Auckland, New Zealand in an International Conference on Business Analytics organised by Global Institute of Business research (GIABR).

Mr. Swagat Mishra presented a paper titled 'Integrated assessment modeling for Odisha's CDM projects in renewable energy- energy efficiency sectors' at the 9th Ruhr Graduate Summer School on 'Trade and Climate Policy: Using GAMS and MPSGE applications' at University of Duisburg-Essen, Germany from 3 to 9 August, 2013.

Dr. Tarakeshwar Singh visited Department of Applied Mathematics, National Chiao Tung University, Hsinchu Taiwan, during Nov. 19-22, 2013 and gave an invited talk on Hooked Skolem Graceful Signed Graphs in the 3rd India-Taiwan Conference on Discrete Mathematics held at National Chiao Tung University Hsinchu, Taiwan during Nov.19-22, 2013. This visit was financially supported by Science and Engineering Research Board, Department of Science and Technology, Govt. of India.

Dr. Tarakeshwar Singh



Mr. S. Arunkarthick, PhD student from Department of Physics received Travel Grant Award from Department of Biotechnology (DBT-CTEP), Government of India for attending an International Conference - Focus on Microscopy - 2013 in Maastricht, The Netherlands. He presented the paper titled "Photothermal Laser Scanning Microscopy" and authored by S. Arunkarthick, M. M. Bijeesh, Geetha K. Varier, Meenal Kowshik and P. Nandakumar.

invited lectures by faculty

Dr. Dibakar Chakrabarty delivered an invited talk on Venom: Death or Life? on 29th October, 2013 at the Central Institute of Fisheries Education, Versova, Mumbai

Dr. Meenal Kowshik delivered two invited talks on : (I) Naturally Occurring Nanoparticles, at the Monsoon International Workshop on Green Nanotechnology organized by Sam Higginbottom Institute of Agriculture, Technology & Science and University of Missouri, at Bogmallo Beach Resort Goa, during 6-7 August 2013 and (ii) Biocompatible silver doped hydroxyapatite and titanium dioxide nanomaterials with excellent anti-biofilm efficacy: potential candidates for bone tissue engineering

at the DST-JSPS symposium on Nanotechnology based innovation for Environmental, Energy & Biomedical Applications, at IISC, Bangalore, during 16-21 December 2013.

Dr. Sumit Biswas delivered three invited talks : (i) at Dept. of Biotechnology, IIT Kharagpur (10-11 June, 2013) on "Signatures in microRNAs associated with cancer" (ii) at the Certificate Course in Global Health, organized by Albert Einstein College of Medicine and BITS, Hyderabad, on "The Cholera Enigma", 2 July, 2013 (iii) at the First International and Third National Conference on Biotechnology, Bioinformatics and Bioengineering, organised by Society of Applied Biotechnology on 28 June, 2013 at Tirupati.

Dr. Halan Prakash, delivered an invited talk on Visible Light Inactivation of Bacteria by Ruthenium(II) Polypyridyl Complexes: Effective Removal of Complexes using Environment Friendly Adsorbents at the National Seminar on Recent advances in Photochemistry(NSPC) held at Kottayam, Kerala , organized by St. Michael's College, in association with Inter University instrumentation centre, (IUIIC), Mahatma Gandhi University, Kerala, during 5-6 December 2013.

Dr. Halan Prakash



Ms. Layla Mascharenhas was invited as Chairperson for the Technical session on "Emerging Concerns around Spirituality" at the UGC sponsored State Level Seminar on 'Spiritualism and its influence on moral value systems across different age groups' at Murgaoon Education Society's College of Arts and Commerce, Zuarinagar, Goa on 21 September 2013

Dr. Debasis Patnaik delivered three invited talks : (i) 5 September 2013 : "Climate Change Financing" at a National conference on Accounting, Financing and IT held at the International Centre Goa organized by Research Development Centre, Jaipur. (ii) 11 November

Rajasthan Chamber of Commerce and Industry and 2013 : " Role of Labor Factor in National Industrial Planning" at the International Conference on Indian economy organized by Goa Economic Association in collaboration with Indian economic Association at Goa University (iii) 21-22 December 2013 : "Deciphering the political economy of Unbalanced Growth through Industrialization Processes in India" at the National Conference on India's Political Economy in Transition: The Crisis of Governance, Democracy and Development organized by the Department of Political Science, Goa University.

Mr. Kiran D Mali was invited as a resource person for faculty development program on " ACAD based Engineering drawing course" at GMR Institute of Technology, Rajam, Andhra pradesh 24- 25 October, 2013.

Prof. Ranjan Dey delivered an invited talk on "Interaction Studies of Room Temperature Ionic Liquids (RITLs) with some Solvents at Three Different Temperatures" at the XXII Annual Conference of Indian Council of Chemists during 28-20 November 2013 held at the Karnataka University, Dharwad.

Prof. Ranjan Dey



Dr. Radhika Vatsan delivered 2 invited talks (i) on Complementarity and Uncertainty" at the KSTA-BUB lecture series in Frontier Areas of Research, Bangalore University, 27 Sept 2013. (ii) Aspects of Complementarity and Uncertainty at Quantum In-formation Processing and Applications, HRI Allahabad, 4 Dec 2013.

Dr. Chandradew Sharma delivered two invited talk as an expert speaker at the Association of Physics Teachers Workshop on Statistical Mechanics, for Physics teachers, held at BITS Pilani, K K Birla Goa Campus held during 22-23 March 2013

Prof. Meenakshi Raman conducted three sessions at

the short term training programme offered by the Academic Staff College, Goa University: (i) one session on Academic Writing on 30 August 2013 (ii) two sessions on Verbal and Non verbal Communication on 9 October 2013. 52 participants from various colleges participated. Prof.Raman delivered a Special Lecture on 21 December 2013 on the topic “Five Cs of Writing Effective Scientific Papers” at TSICON 2013, an International Conference on Biology of Natural Toxins organized by the Department of Biology, BITS Pilani, Goa Campus.

Dr. Basavadatta Mitra conducted a Workshop from 5-8 August, 2013 : Building Employability Skills amongst students of Technology, organised by the Bankura Unnayani Institute of Engineering, Bankura, West Bengal, as part of a series of Workshops under the Centre of Excellence for Development of Employ-ability Skills among students of Technology for the Global Workplace set up as part of the Technical Education Quality Improvement Programme (TEQIP), Ministry of Education, Government of West Bengal.

Dr. Vikas V Chaudhari was invited as a resource person for faculty development program on “ ACAD based Engineering drawing course” at GMR Institute of Technology, Rajam, Andhra pradesh 24- 25 October, 2013.

Dr. Vikas V Chaudhari



New Facilities

BITS Pilani, K K Birla Goa Campus got its own liquid nitrogen plant this semester to strengthen its research and teaching infrastructure. The facility became operational from November 18th, 2013. The salient features of the facility are:

- Liquid nitrogen production rate : > 20 liter/day (0.8 liters/hr)
- Storage dewar capacity : 100 liters.

- It has a 3.5 kW helium compressor for liquefying the atmospheric nitrogen after drying and filtering it.
- Model :Cryomech LNP 20 (A Quantum Design Company).
- Photoluminescence set up (He-Cd laser, USB 4000 extended range spectrometer and related optics)

Liquid Nitrogen plant



achievements

Dr. Ram Shanker Patel established international research collaboration with the group of Dr. S. P. Dash, Quantum Device Physics Laboratory, and Chalmers University of Technology, Sweden. Dr. Patel visited the Quantum Device Physics Laboratory during 1-3 July 2013 for collaborative research experiments.

Dr. Radhika Vathsan spent 6 months from 17 June to 18 Dec. 2013 on Sabbatical at Raman Research Institute, Bangalore. She has worked on two collaborative projects with researchers from RRI Theory group and Physics Department, Bangalore University. The first project is on the new approach of path integrals and histories as applied to Quantum Information theory in coordination with Prof.Sumati Surya. The second project is with Dr. A R Usha Devi of Bangalore University. She will be collaborating on work in the area of quantifying quantum information, entanglement and uncertainty using geometric principles.

Dr. Halan Prakash, Ms. Priyadarshini Parakh and Mr. Subramanian Gokulakrishnan won the Best poster award for the poster entitled 'Visible Light Inactivation of Bacteria by Ruthenium(II) Polypyridyl Complexes' at the Indo-UK Perspective on Water Quality: Threats, Technologies and Options organized by Royal Society of Chemistry, UK, held at Indian Institute of Science (IISc), Bangalore, August 13-14, 2013.

CONVOCAATION 2014



CONVOCAATION 2014



Dr. Tarkeshwar Singh visited Department of Mathematics, Indian Institute of Technology, Delhi, during 24-31 October 2013 for collaborative research.

Dr. Rashmi Chauhan was on Sabbatical for a year from January 2013 to December, 2013. She worked with Prof. Kenneth J. Shea in Department of Chemistry, University of California, Irvine, CA. She worked on plastic antibodies and used a library of twelve different synthetic polymer nanoparticles based on N-isopropylacrylamide and developed a methodology to obtain the characteristic microarray signature patterns for different proteins. These signature patterns give a fast colorimetric method for identification of a particular protein. She also developed a potential high throughput method for screening bacterial species.

Prof. Ranjan Dey was on the Judges Panel for the Chemistry Young Scientist Award (CYSA) at the XXII Annual Conference of the Indian Council of Chemists held during 28 -30 November 2013 at the Karnataka University, Dharwad.

Prof. Meenakshi Raman has been appointed as a Member of the Senate of NIT Goa. She has reviewed the syllabus for the I Year course on Professional Communication.

Dr. R P Pradhan was Chief Guest at the Annual Sports Day of Kendriya Vidyalaya No.1, Vasco-Da-Gama, Goa on 2nd Dec. 2013. Dr. Pradhan is nominated as a Vidyalay Management Committee Member since September 2013.

Dr. R P Pradhan



Mr. Nitesh Jain (2006A1PS460G) has authored a novel "The Seventh Cup" published by Cyberwit.net (ISBN: 9788182534483).

Prof. Debasis Patnaik has been elected to the Executive Committee of the Goa Management Association (GMA) for the second time with maximum votes and has been nominated as Treasurer, GMA for 2 years ; Dr.Patnaik has Chaired the Committee at GMA for Best Student Award in Management.

Ms. Mansi Baveja, Research Scholar, Dept. of Biological sciences won the Best Poster Award in TSICON2013. She was also awarded an EMBL Partnership Travel Grant to present paper in EMBL Conference on Cancer Genomics.

Mr. Mohammed Monsoor Shaik and Prof. Meenal Kowshik won the Best Paper Award for their paper "Preparation and characterization of Chitosan Nano-Silver biocomposites for wound healing applications" presented at the International Conference on Nano Materials: Science, Technology and Applications, ICNM'13, Chennai, Tamil Nadu, organized by B. S. Abdur Rahman University (India), Deakin University (Australia), and Universiti Teknologi Mara (Malaysia) during 5-7 Dec 2013.

As Harvard's largest annual student connection in Asia, the Harvard Project for Asian and International Relations (HPAIR) creates a forum of exchange and facilitates discussion of the most important economic, political, and social issues relevant to the Asia-Pacific region. Each year HPAIR organizes 2 conferences, one in Asia and one in the Harvard University. 7 Students (Abhijith Asok, Abhishek Mohta, Aditya Khanduri, Chaitali Pandit, Gaurav Jha, Mrinmay Kulkarni, Naveen Joshua, Rathin Shah and Sakshi Udeshi), were selected to attend the 2013 Asia conference which was held in Dubai. Abhijith Asok, Anmol Shrivastava and Aditya Chandak will be attending the 2014 HPAIR conference in the Harvard University.

HPAIR 2013



significant projects

PRINCIPAL INVESTIGATOR & NAME OF THE DEPARTMENT	TITLE OF THE PROJECT	FUNDING AGENCY AND AMOUNT
Dr. M. Srikanth, Biology	(i) Analysis of metabolically active bacterial species in anaerobic digesters (ii) Biotransformation of Phosphogypsum by sulphate reducing bacteria.	CSIR, Rs. 21,10,800 Environmental Biotechnology Division (DBT) Rs. 5,21,000
Dr. Kundan Kumar, Biology	Identification and characterization of abiotic stress responsive With No Lysine (WNL) kinase in rice (<i>Oryza sativa L.</i>).	SERB-DST, Rs. 22,65,000
Dr. Indrani Talukdar, Biology	Alternative splicing in signal transduction and disease: A genome wide approach.	DST-FT, Rs. 20,00,000
Dr. Anasuya Ganguly, Co-PI : Dr. M. Srikanth, Biology	Role of environmental toxin in kidney related diseases in Canacona Taluka, Goa	CSIR, Rs. 11,99,400
Dr. N.N. Ghosh, Co-PI : Dr. Mainak Banerjee, Chemistry	Preparation of Magnetically Separable, Mesoporous TiO ₂ Catalyst and Study of their Catalytic Properties	CSIR, Rs. 24,00,000
Prof. Sunil Bhand, Chemistry (Consortium PI) ; Dr. Y S Rajput, NDRI, Karnal Prof. Sudhir Chandra, IIT, Delhi	Imprinted polymer for sensing and removal of selected antibiotic and pesticide residue.	ICAR, Rs. 1,25,25,000 (BITS share Rs.54,39,110 lakhs)
Dr. Tarun Kumar Jha, Co-PI : Dr. S. K. Sahay, Physics	Neutron stars as a source of potential continuous gravitational wave emitter	BRNS, Rs. 17,00,000
Dr. E. S. Kannan, Physics	Improving the energy efficiency of solar cells by spin caloritronics.	DST-FT, Rs. 22,08,000

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. Ranjit Patil	Mechanical Engineering	Reviewed a book on Thermal Engineering authored by M M Rathore, TATA McGraw Hill Publisher
Dr. Meenal Kowshik	Biological Sciences	Reviewed papers for Biotechnology Progress, Applied Surface Science and Current Nanoscience
Dr. Halan Prakash	Chemistry	Reviewed one manuscript for the Journal RSC Advances, Royal Society publications, UK
Dr. Ranjan Dey	Chemistry	Reviewed papers for Physical Sciences Research International Journal of Solution Chemistry (Springer)
Dr. Debasis Patnaik	Economics	Reviewed a paper for Journal of Applied Manpower research
Dr. Trakeshwar Singh	Mathematics	Reviewed the book, "Thermal Engineering" written by M M Rathore, TMH
Dr. Sunil Kumar V	Physics	Reviewed a research paper for the Journal of Modern Physics, an International Journal.
Mr. Kiran D Mali	Mechanical Engineering	Reviewed one research paper each for the journals (i) International journal of acoustics and vibrations and (ii) Low Frequency Noise, Vibration and Active Control
Prof. Meenakshi Raman	Humanities and Social Sciences	Reviewed 2 papers for the AIMS International Journal of Management

waves

2013

The inaugural ceremony of Waves, the Annual Cultural Festival of BITS Pilani, K K Birla Goa Campus held on 7 November 2013 witnessed a turnout of nearly 3000 students from across the country. Beginning with a rendition by the music club of the hosts, the function continued with the welcome address by the Chief Guest and the Director Prof. Sanjeev K. Aggarwal who emphasized the importance of cultural festivals and advised the students to stay safe. This was followed by a short speech by the President of the Council of Student Affairs enlightening the crowd about the growth of the festival. Following this, the Convener, Waves 2013, declared the fest open. The fine arts club Kala, had an impromptu painting exhibition on stage followed by a moving performance of the Mime Club of the Institute. They drew light on the building values of any individual - hope, innovation and inspiration. The performance received a standing ovation from the audience. The inauguration closed with an international performance by French street performer MonsuierGusteau. He displayed his juggling skills and left the crowd in guffaws by the end of his act.

Being the fastest growing cultural festival with euphoric entertainment, captivating events, vibrant crowd and the appeal of a festive atmosphere unique only to Goa, "Waves" prides at being a social and cultural phenomenon, setting it apart from every other festival in the country. Ever since its humble inception in 2007, Waves has quickly grown to become a national level festival, witnessing participation from colleges all over the country with footfalls reaching over 60,000.

A myriad of events were lined up for Day 1 such as Drama events- The Nukkad Natak (Street play) competition and Rang Manch (Stage play). Also captivating the audience were the eliminations of the Indian Rock competition and the solo dance competition known as Sizzle. The Quiz club had also organised the Science and Entertainment Quiz followed by the Food and Beverages Quiz. The literary events comprised of Press Corps, Word Games and Contention- the Waves Debate. Moot Courts was organised for the first time and witnessed a respectable participation. For the art enthusiasts, events such as portraiture and the art marathon were also organised. One of the Big Three events- Natyanjali was held in the evening with a jam packed auditorium. The day ended

with the crowd swaying to the tunes of the famous Indian Disc Jockey- DJ NYK.

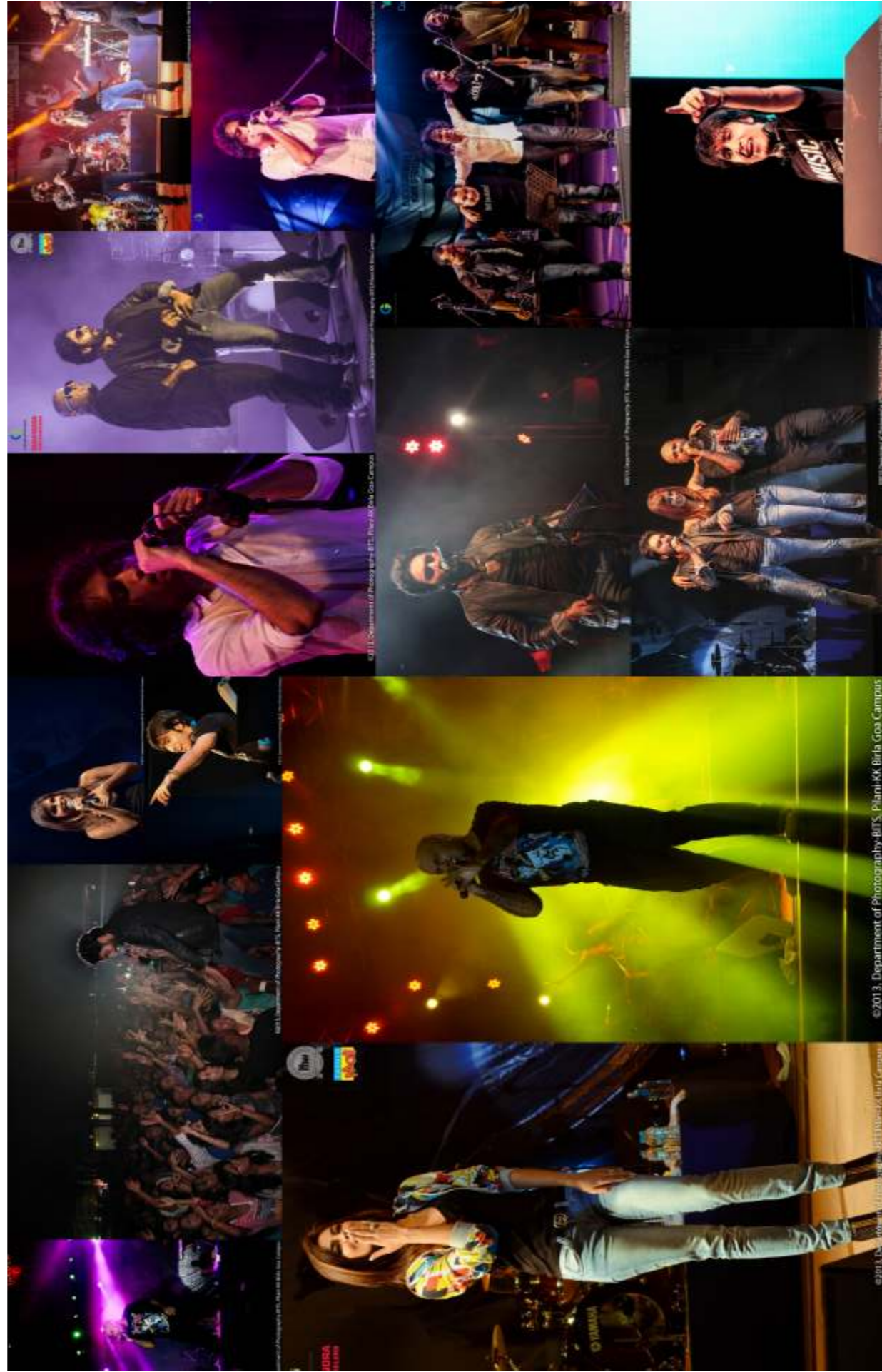
Day 2 kick started with even greater fervor with events such as Dhinchak (Bollywood Dance Competition) and Impromptu. Other equally enticing events included the Vices Quiz, the Silence of the amps, creative writing competition and solo singing. Later in the day, the much-awaited event, Mr and Miss Waves was organized which drew in a lot of cheering from the enthusiastic audience. The event was preceded by a scintillating performance by the Dance Club of BITS Goa. After showcasing their talent and going through several quirky rounds, Siddharth Santosh from Christ University was crowned Mr. Waves and Zenia from HR College was crowned Waves for 2013.

The finals of Sea Rock, one of India's largest semi-professional Rock Band Competition was held and four bands were shortlisted out of the sixteen bands which were selected from all over India. The winners were Paradox from VIT, Red Shorts from Delhi, and Dark Light from Bangalore. The prize money of Rs. 75000 was split amongst the 3 winners, and scholarship from the Swarnabhoomi Music Academy was awarded to them. The crowd was blown away by the sheer brilliance of the performances by the prominent jazz and blues act Blackstratblues, Mumbai based vocalist and playback singer Nikhil D'Souza and world renowned Indian-American percussionist Karsh Kale. There was a surprise visit by actress Kalki Koechlin, who also attended the concert.

There was not a hint of exhaustion among the audience and participants as Waves moved to its final day, Day 3. It started off with the final round of several music, dance and art events. Innumerable cash prizes and goodies were awarded and there were exciting informal events for the audience too. Students occupied the auditorium in droves for the much anticipated Big 3 event, FashP. After some brilliant display of performances, NIFT Delhi was adjudged the winner by none other than the Winner of Femina Miss India 2012, Rochelle Maria Rao. This was followed by the eliminations for Femina Miss India 2014 which saw four girls getting the opportunity for a direct entry into the regional finals. Waves 2013 ended with an enthralling performance by the highly acclaimed duo- Vishal and Shekhar. Priyanka Chopra's surprise guest appearance had the audience charged with even more energy. Vishal and Shekhar sang their popular songs, Balam Pichkari, Jee Le Zaara and Om shanti Om to mention a few. They also sang Maadari as a special request from the audience.

SNAPSHOTS OF WAVES 2014





Waves 2013 ended with the promise of coming back next year with the same fervor and organisation if not better. It has left memories that will last a lifetime for all those who were fortunate to have experienced what has now become one of India's biggest fests.

caring beyond our walls

Events: Joy of Giving Week(2nd-8th Oct) With over 9 events this time, the Joy of Giving Week of 2013 was the biggest in terms of its outreach and impact and was nothing less than a festival that happened from 2nd to 8th October here at the Goa campus.

Meal of Joy (2nd October 2013) –Lunch was served by student volunteers to all mess workers, lawn workers and the security staff as a token of gratitude in return for their services.

Wall Painting (3rd October) – Volunteers, along with the help of a local social activist Alka Damle, were involved in the activity of painting a wall near where kids are taught in our evening classes, which they followed up with writing inspirational quotes on the same. We had the involvement of the local kids in this as well.

Evening of Joy (4th October) –Kids from the age group of 10-15 years from Father Agnel's orphanage visited our campus. There was a career counselling session by Gautam Krishnan sir, an origami workshop, a computer skill learning session and a dance workshop that was conducted for them.

Cloth Collection (5th October) –Both faculty and students were asked to donate items of clothing that were in wearable condition but were no longer used by them. Even SESA Goa contributed for it as a corporate partner, both in terms of clothes and travel expenses. The collection, which amounted to around 3.5 tonnes, was sent to Goonj Organisation in Mumbai.

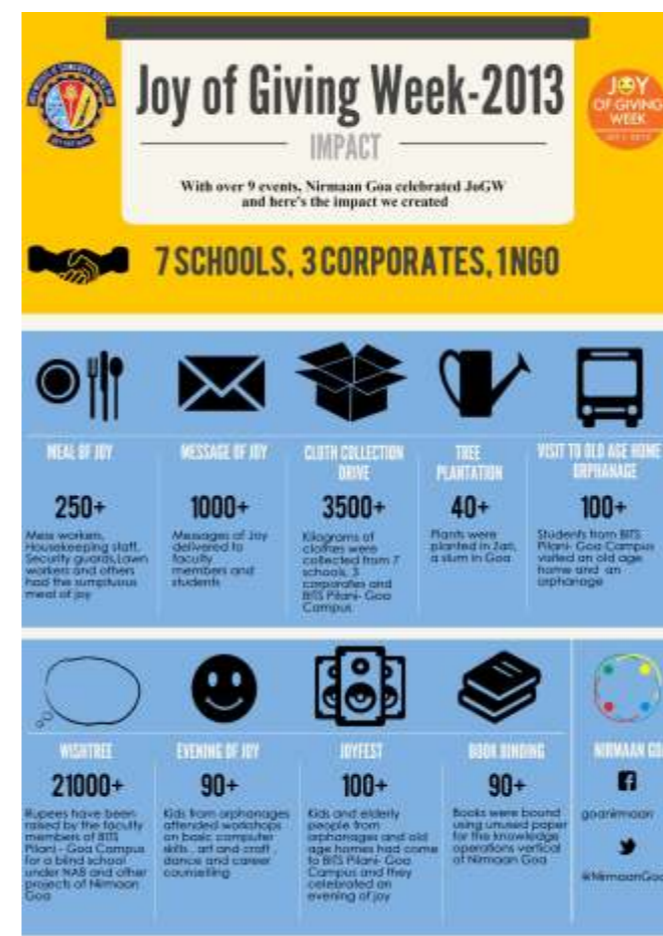
Orphanage and Old Age home visit (6th October) – Volunteers visited Our Home, Bogmalo, a home for the elderly, and Father Agnel's orphanage in Verna. We held a drawing competition in the orphanage, which was sponsored by Classmate, and also played basketball, football and frisbee with the kids. At the old age home, we talked to the elderly and even had a dance with them.

Goa Chapter

Tree Plantation and Book Binding (7th October) –We planted 40 saplings (Areca palms) were planted in Zari with the involvement of the local community. The same evening we held a book binding event was held on campus that utilised paper donated by the students and created 92 beautiful notebooks out of it.

Joyfest (8th October) –Children from Hamara School and inmates of Our Home were treated to a cultural evening that included performances by music club, aerodynamics club and the dance club on campus who altogether put up a grand show for their audience.

Faculty Cricket Match (19th October) – A cricket match was organised with 8 players a side for our faculty members in our cricket stadium. The match, like last year, was held in memory of the Late Professor Suresh Ramaswamy. Student volunteers were involved as umpires as well as commentators for the match, and it was a huge success and was really enjoyed by our faculty members.



introducing new faculty

NAME	DESIGNATION	DISCIPLINE	RESEARCH AREA
Dr. Raviprasad Aduri	Assistant Professor	Biological Sciences	Biophysics of RNA and RNA-protein Interactions ; Fluorescence and NMR spectroscopy of biological macromolecules; Understanding Flavivirus replication and translation switch at a molecular level.
Dr. Venkatesan S. Thimmakonda	Assistant Professor	Chemistry	Quantum Chemistry of Ground and Excited Electronic States; Photochemistry of molecules; Theoretical Photoelectron and Photodetachment Spectroscopy ; Vibronic Coupling
Dr. Archana Srivastava	Assistant Professor	Economics	International Trade Theories, Efficiency and Productivity Analysis, Data Envelopment Analysis and Quantitative methods
Ms. Layla M. Mascarenhas	Visiting Faculty	HSS	Culture studies, world religions, comic art and comic fiction, children's animated films and children's fiction.
Mr. Amitendu Bhattacharya	Visiting Faculty	HSS	Poetry; Non-fiction Prose; Green Studies; Victorian and Twentieth Century English Literature; Indian Writing in English; Comparative Studies and Translation
Dr. Jegatha Nambi Krishnan	Assistant Professor	Chem. Engg	Development of Micro-Nano Systems for Sensor applications.
Dr. Raghvendra Gupta	Assistant Professor	Chem. Engg	Multiphase flow and heat transfer in microchannels, in particular Taylor or Slug flow and Annular flow regimes; . Bubbles, droplets and particles and their interaction with surfaces ; Heavy oil transport ; Chemical micro-processing and microreactors ; Interface capturing methods- Volume of Fluid (VOF) and Level Set.
Mr. Atul Kumar	Lecturer	EEE	Microelectronic, Optoelectronics, VLSI Technology, MEMS, TFT and High speed Electronics

NAME	DESIGNATION	DISCIPLINE	RESEARCH AREA
Dr. Rajaram Lakkaraju	Assistant Professor	Mechanical Engineering	Direct numerical simulations of turbulent flows, highly accurate computational algorithms for general partial differential equations ; physics oriented mathematical models of complex problems of Biology and Engineering fields.
Dr. Trushar B. Gohil	Assistant Professor	Mechanical Engineering	Computational Fluid Dynamics (CFD) ; Parallel Computation ; Turbulent Flows ; Biomedical Flows; Cardiovascular Diseases ; Fluid Structure Interaction (FSI) ; DNS, LES and RANS modeling ; Code Development ; Jet Flow Control ; Industrial applications of CFD ; Wind Energy
Dr. Amar Kumar Behera	Assistant Professor	Mechanical Engineering	CAD/CAM ; Rapid prototyping ; Manufacturing systems ; Sheet metal forming Micro and nano scale systems ; Industrial sustainability ;Computational process modeling ; Mechatronics ; Quantum mechanics
Prof. Nikolay Kharchenko	Visiting Professor	Mechanical Engineering	Sustainable / Clean Energy Technologies ; Concentrating Solar Thermal and Photovoltaic Systems ; Efficient Thermal Energy Storage (TES) for Solar Energy Systems ; Oxyfuel Combustion, Carbon Capture & Storage (CCS); Innovative Aerospace Propulsion Systems ; Fuel Cell Based Technology for Power Generation and Cogeneration ; Energy Efficient Buildings ; Energy Efficient HVAC Systems
Dr. Baskar A	Assistant Professor	Computer Science	Formal Languages and Automata Theory Logic in Computer Science ; Security Protocols and Verification

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BITS Pilani
K K Birla Goa Campus

mediaspeak



There are million ways to success: Dravid tells students

Eliminations and entertainment rock the day at BITS Pilani Waves

Dravid credits cricket for making him better person

Waves 2013

इतरांरेवजी स्वतःशीच करा स्पर्धा

सिद्धि रित्तिलीय्य स्वदीन समारंभत 'द वॉर' राष्ट्र द्रविडेने दिला विद्यार्थ्यांना कानमंत्र

WAVES FEST MAKING WA

Twinkled in mal cricket

38 Students and placement officers from various engineering institutions across India participated in the Day workshop.

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Dravid and students from various engineering institutions across India participated in the Day workshop.

WAVES FEST MAKING WA

Dravid credits cricket for making him better person

WAVES 2013

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WAVES FEST MAKING WA



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