

semester-I notes 2016-17

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K K Birla Goa Campus



BITS Pilani
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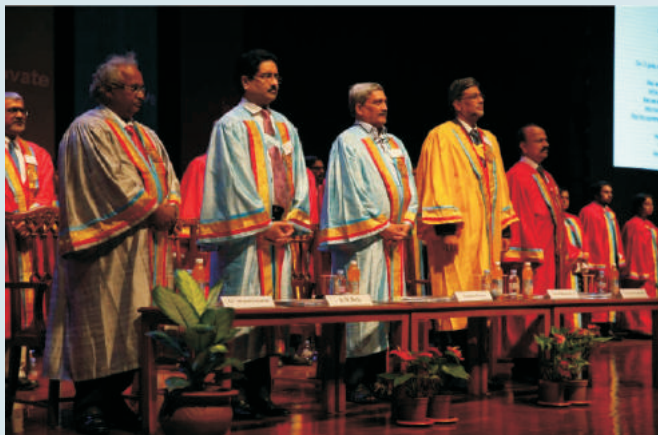
from the editor

Changes are inevitable and the First Semester 2016-17 at the Goa Campus of BITS Pilani stood as a testimony to this fact. Prof. Sasikumar, Director of the Campus was initially succeeded by Prof. R. N. Saha holding the additional charge as the Director and later by Prof. G. Raghurama who took over as the Director on 1st November 2016.



Prof. G. Raghurama

The campus witnessed the grand Convocation ceremony with the Defence Minister Shri. Manohar Parrikar as its Chief Guest, the fun and frolic of Waves 2016 that saw the footfall of thousands of students from all over India, several conferences and workshops hosted by various departments, BITSian Day celebration, etc.



Convocation 2016

Faculty members presented their research initiatives at various conferences in India and abroad, received awards and published papers in reputed journals.

Keeping up the spirit of research, they applied for funding for their research projects and could succeed in their attempts. On invitation from other institutions, they conducted workshops and delivered talks & keynote addresses. Students took up internships at institutions abroad and participated in various competitions.

The Socio-cultural Association on campus organized a Funfair which was thoroughly enjoyed by the campus community. The Joyfest, Blood donation camp, eye checkup camp, events for school children, etc., organized by the enthusiastic team of Nirmaan, received the whole-hearted support and appreciation of the BITS family.



Funfair 2016

In all, once again, the campus was vibrant with academic, research, cultural and societal activities during the semester and the team behind BITScan has been putting its best efforts to give a wide coverage to all such endeavors. The team thanks the entire BITS community at Goa Campus for extending its unflinching support and cooperation.

convocation 2016

Honorable Defence Minister at the Convocation ceremony of BITS Pilani, Goa

“Knowledge without values is futile. Technological development should work in tandem with environmental protection for the betterment of the society” said Shri Manohar Parrikar, the Honorable Minister of Defence and the Chief Guest at the grand convocation ceremony of BITS Pilani, K K Birla Goa Campus held in the magnificent auditorium of the campus on 7th August 2016. He addressed a large gathering of about 2000 people comprising the graduating students, their parents and the faculty members of the campus. The joyous occasion was graced by the presence of Chancellor Dr. Kumar Mangalam Birla, Vice Chancellor Dr. Souvik Bhattacharya and Directors of other BITS Pilani campuses in Pilani, Dubai and Hyderabad.



In his address, Dr. Kumar Mangalam Birla, Chancellor of BITS Pilani reminisced and acknowledged the support extended by Shri Manohar Parrikar in bringing up the BITS Pilani campus in Goa. Dr. Birla rightly pointed out that the holistic education that students had received in BITS places them in a privileged position, and they have

an implicit obligation and responsibility to help those who are less fortunate in the society.

This year, 616 students received their degrees, of which 12 were PhDs. Four students from Bachelor's degree programs were awarded Medals: Gold medal --Ms. Vishakha Gupta ; Silver medal – Mr. Shah Ujash Dipakbhai ; and Bronze medals – Ms. Dave Mihika Himanshu and Ms. Vasundhara Bhargava.

Prof. Sauvik Bhattacharyya, the Vice-chancellor of BITS Pilani presented an overview of the university's accomplishments and in particular highlighted its pioneering role in fostering innovation and



entrepreneurship in higher education. The Director, Prof. Sasikumar Punnekkat gave a detailed report of BITS Pilani Goa Campus, offering a comprehensive overview of the advances in research, new initiatives and collaborations of the Institute. Prof. D. M. Kulkarni, Convener of Convocation 2016, concluded the ceremony with the vote of thanks.



Appointment of New Director

Prof G Raghurama assumed charge as Director of BITS Pilani K K Birla Goa Campus on 1st November 2016

Prof G Raghurama completed his M.Sc. from Indian Institute of Technology (IIT), Madras and obtained his Ph.D. from Indian Institute of Science (IISc), Bangalore. After brief postdoctoral work at IISc, he joined BITS Pilani in the year 1987. He became a Professor in the year 2000 and is presently a Senior Professor in the EEE department.

He is an accomplished teacher, teaching and guiding students in the areas of Electronic Sciences, Instrumentation, Computer Organization, Communication Engineering, Telecommunication Networks and Management. He has published more than 40 papers in reputed journals, and conferences. He has guided 4 PhD theses, in the areas of Web Caching, VPNs, Software engineering and Cognitive radios.

He is the recipient of a research grant from Nokia in 2000, 'Faculty Champion' award from Microsoft in 2007 and has been recognized and felicitated by SkillTree Knowledge Consortium with the title "SkillTree Education Evangelist of India 2014". He was a member of the Technical Advisory Board of Cradle technologies, Pune in its initial years.

In 2007, he was appointed as Deputy Director (Academic) in-charge of academic affairs at BITS Pilani, including faculty recruitment. Prof. Raghurama had rich experience in academic administration holding positions such as Dean of Faculty Division, Dean of Admissions and Placement for several years before he took charge as Deputy Director. During his tenure as Dean of Admissions at BITS, he was a key person in the design and implementation of the computer based online test BITSAT for admission to BITS, which has become a benchmark in online testing in India. He has visited a number of reputed universities in Australia, USA and Ireland to work out collaborations with BITS Pilani.

In 2006, Prof Raghurama was appointed as the convener of the committee to evolve the new strategic plan for BITS, which led to the 'Vision 2020' project that is under implementation now. In 2010, Prof Raghurama was appointed as the Director of BITS Pilani, Pilani campus. He shifted to Goa campus in 2015 and took charge as Director of the campus in November 2016.



a confluence of ideas

academia

seminars/ conferences / workshops /training programs

Workshop on R With Application to Quantitative Finance (RAQF-2016)

The Department of Mathematics, BITS Pilani KK Birla Goa Campus organized a three-day National-level workshop on “R with Application to Quantitative Finance” during August 26-28, 2016. Starting with the introduction to R programming, this workshop was intended to provide understanding with standard quantitative finance models, and their implementation using R, also their testing with the real market data. The following academicians and investment banking experts were the resource persons:

Dr. Amiya Ranjan Bhowmick, ICT Mumbai (Topic: Introduction to R, Graphics using R, Programming with R and hands on assignments, 6 lectures)

Dr. Neelesh S Upadhye, IIT Madras (Topic: Statistics of financial time series and portfolio optimization models with lab sessions using R, 6 Lectures)

Dr. Arun Kumar Sharma, IIM Sirmaur (Topic: Equity models, Interest models and equity options pricing models and their implementation in R, 5 Lectures)

Mr. Ramanuj Lal, Partner, Alternate Risk Premia Investments, Mumbai (Topic: Theory and practices in investment models and their implementation using R, 3 Lectures)

As many as 30 participants, 15 faculties and scholars from different part of India, 15 participants including B. Tech and M. Sc. students, research scholars and faculties from our institute took part in the conference.

Lecture-cum-labs were arranged throughout the day in Computer Center Lab and DIST-FIST Scientific Computing Lab.

Dr. Mayank Goel and Dr. Jajati Keshari Sahoo convened the event and actively engaged in helping the students during lectures and in coordinating the event. Two research scholars Mr. Partha MukeshBhai and Mr. Pabitra Kumar Pradhan also actively volunteered and helped to conduct the event successfully.

Film Screening Session (26th August 2016)

The department of Humanities and Social Sciences organized a film screening and discussion session on 26 August 2016.

Film Screened: *Remembering Kurdi*

Description of the film: *Remembering Kurdi* witnesses the brief resurfacing of a census town submerged for three decades by the Salaulim dam, in Goa. Through the explorations of a young man and woman in search of their ancestral home and history, the film is an allegory for the universal quest to preserve memory and so also a sense of belonging.

Coordinated by Dr. Rayson K Alex, Prof. Geetha B and Mr. Solano Da Silva, the session attracted about 300 students and faculty members. After the screening, Prof. Geetha initiated discussion with the crew members.



Participants of RAQF 2016

National Symposium on Digital Humanities: Perspectives and Challenges (9th September 2016)

Department of Humanities and Social Sciences organized a National Symposium on Digital Humanities: Perspectives and Challenges, the first of its kind in India organized by any university on 9th September 2016.

Digital Humanities or DH is a domain of study that embraces all those techniques and methodologies such as image processing, network analysis, data visualization, etc., drawn from computer science to understand and approach humanities texts. In other words, DH provides an intellectual, innovative and creative fusion between the two disciplines of computer science and humanistic studies.

Aimed at bringing together scholars, writers, and artists from across India to discuss the role of Digital Humanities in Indian higher education, the symposium featured seasoned academicians and artists undertaking Digital Humanities projects in a higher education context: Professors Supriya and Sukanta Chaudhuri from Jadavpur University, Professor Venkat Rao of EFLU, Dr. Padmini Ray Murray of Srishti University, and Orijit Sen, Mario Miranda Chair Visiting Professor, Goa University. The symposium also featured a panel discussion on “Will DH undermine the importance of traditional arts program?” mediated by Dilip D'Souza, writer, journalist, and an alumnus of BITS Pilani. In addition to BITS faculty and students, thirty participants from universities across India participated in the event.

Prof. R. N. Saha, Acting Director of Goa Campus who inaugurated the event appreciated the efforts and urged the department to discuss the possibility of initiating a



Digital humanities symposium

degree programme in DH. Prof. Bharat Deshpande, HoD, Computer Science emphasized the importance of DH as an interdisciplinary domain. In his message to the symposium audience, Prof. Souvik Bhattacharya, the Vice Chancellor mentions that DH efforts have led to the emergence of new formats and new forms; the likes of video mash-up, game design, multi-player narratives, and online exhibits are becoming exciting novel exercises for the participants and the learners

Inauguration of Goa Chapter of Indian Institute of Metals (IIM) at BITS Goa (25th September 2016)

Prof. Indranil Manna, President of Indian Institute of Metals (IIM) & Director, IIT Kanpur along with Dr. Biswajit Basu, Vice President, IIM & Head, Aditya Birla Science and Technology Co. (ABSTC) Ltd., in presence of Mr. S. S. Mohanty, former President, IIM, inaugurated the Goa Chapter of IIM at BITS Goa. Other distinguished guests for the inaugural function included Mr. Sadhan K Roy, Secretary General, IIM Kolkata; Dr. Vilas Tathawadkar, Chairman, IIM Mumbai Chapter & Senior Vice President, ABSTC; Dr. P K Banerjee, President and CTO Hindalco; and Mr. Manoj Chari, IIM Mumbai Chapter, ABSTC, Mumbai.

In his inaugural address, Prof. Indranil Manna appreciated the interdisciplinary character of the new chapter with members from various disciplines (Mechanical, Chemical, Chemistry, Biology and Electrical and Electronics Engg.). He shared the core issues associated with the IIM activities such as conducting annual AGM, enhancing industry participation, preparing calendar of events, and participating in publishing with IIM Journals. He also



Inauguration of IIM Goa Chapter

suggested aligning of academic curriculum to the Industry needs by offering new PG diplomas with BSc input to attract bright students.

Mr. S S Mohanty shared his experience as past president and emphasized role of IIM as interface between Industry and Academia. Dr. Biswajit Basu highlighted the need to identify growth areas. He mentioned that Goa Chapter was proactive to engage with IIM and also gearing up to bid for hosting the National Metallurgist Day (NMD) in 2017 together with Mumbai Chapter. Prof. Ashwin Srinivasan, Deputy Director, BITS Goa spoke on the role of metals spanning in diverse areas and also shared the historic use of Indian steel in making Swords in Spain.

In the beginning, Prof. D M Kulkarni, Chairman of the Chapter welcomed all guests and presented the goals of the chapter. He proposed to enhance the university-industry link and increase the research focus and technological activities in Goa. He also introduced the Chapter members along with their research areas. Mr. Sadhan Roy made a detailed presentation on the history and growth of IIM. He spoke about major activities of IIM such as NMD awards, ATM event and IIM awards to scholars/ scientists in details. Prof. Sunil Bhand, Secretary, Goa Chapter proposed the vote of thanks.

Workshop On Environmental Management Systems (20th-21st October 2016)

Department of Chemical Engg, BITS Pilani K K Birla Goa campus, Goa, in collaboration with Goa State Pollution Control Board organized two-day workshop on Environmental Management Systems for Industries in Goa on 20 & 21 October 2016 at the campus.

The workshop aimed at providing a platform to the working professionals in Goa for enhancing their

knowledge about the best management practices the area of reducing pollution of all forms. The Chief Guest Mrs. Alina Saldanha, Honorable Minister for Dept of Science and Technology, Govt of Goa in her speech emphasized the role of industries in sustainable development. She mentioned that industries must contribute towards clean water & sanitation; affordable & clean energy; innovation & infrastructure development; sustainable cities & communities; responsible consumption & production; and actions on climate change. She added that we must harness solar energy and non-conventional energy sources for power generation.

Mrs Saldanha urged the need for taking more efforts to preserve and conserve water resources which are otherwise getting polluted due to large anthropogenic activities. She also mentioned that the hotel industry in Goa is expected to address the pollution issue by laying stress not only on legal compliance but on recycling and reuse of waste by investing in modern technology for sustainable tourism. The Scientist from Goa State Pollution Control Board, Prof Mohan Girap, Guest of Honour for the workshop, highlighted the amendments in exiting environmental laws and induction of new environmental regulations for e-waste.

The Director, BITS Pilani K K Birla Goa Prof R.N. Saha, said that local environmental problems should be dealt jointly by academic institutions and industries supported by concerned Government agencies. The coordinator of the workshop, Prof S D Manjare, introduced the theme of the workshop and outlined the importance of proactive measures along with reactive measure for environmental pollution control. Prof S SBaral presented the report on department activities and highlighted the avenues for academic and research collaboration with industries in Goa. On this occasion officials from Goa State Pollution Control Board, Goa Biodiversity Board, experts from various consultancies were present.

Workshop on Molecular Dynamics: Basics & Application (19th-21st November 2016)

Department of Chemical Engineering in association with the Indian Institute of Chemical Engineers (IICChE) Goa Regional Centre conducted a three-day workshop on 'Molecular Dynamics: Basics & Application'. The



Ms. Alina Saldanha at Environmental Management System



Molecular dynamics workshop

Chief Guest Prof. Vilas G. Gaikar, Bharat Petroleum Chair Professor of Chemical Engineering Department of Chemical Engineering, Institute of Chemical Technology (ICT), delivered the keynote address on 'Basics of Molecular Modeling and its Applications in Separation Processes'.

The three-day workshop comprised of a lecture session on Day 1 and practical hands-on training on relevant software on Day 2 and Day 3. Day 1 started with a keynote lecture by Prof. Gaikar followed by a lecture on "Introduction to Molecular Dynamics" by Ms. Meena Singh who was also a resource person for this workshop. The lectures were followed by an interactive session with participants. Training was provided to participants for the next 2 days with regard to use of Molecular modelling software "Gromacs". The workshop attracted about 25 participants from the Departments of Chemical Engineering, Physics, Chemistry and Biology.

Recent Advancements in Chemical Sciences and RSC Research Scholar Meet-2016 (13th November 2016)

Department of Chemistry organized the Symposium on Recent Advancements in Chemical Sciences and RSC Research Scholar Meet-2016. The main objective of this symposium was to provide a platform to the research scholars working in different fields of chemistry for exchange of ideas and show case their research activities to the eminent scientists and get necessary guidance from them. 50 research scholars attended this event.

Prof G Govil of TIFR- Mumbai [President of RSC-West India Chapter and Shanti Swarup Bhatnagar award winner (1978, Chemical Science)] who inaugurated the



Inauguration of the Meet

Symposium, described the different activities of Royal Society of Chemistry (UK) in India particularly in the west region of India and presented a talk on use of X-ray and NMR as tools to characterize different compounds. Prof. G Raghurama presented a brief description about BITS Pilani and KK Birla Goa campus ; Prof. Anil K. Singh (IIT Bombay) depicted his work on recent drug discovery and related research areas while Dr. Grover (IISER Pune) gave a detailed overview on the safety concerns in Chemistry labs and what safety measures scientists should take during performing chemical experiments. Prof. B. R. Srinivasan (Goa University) discussed about Chemistry Department of Goa University and his work on structure of different chemical compounds. Dr. N N Ghosh presented a brief description of Chemistry Department of BITS Goa and his research work Nanomaterials and their applications.

At the poster session, students of Goa University and BITS Goa presented their research work. In the poster competition Ms Akanksha Saini, working under Prof. Ranjan Dey, Mr Debabrata Moitra, working under Prof. N NGhosh and Ms Prajyoti P. Gauns Dessai working under Dr. V.M.S. Verenka of Goa University secured the first, second and third prize respectively. The quality of research work presented by the PhD students of Goa University as well as BITS Goa was highly appreciated by the eminent scientists present in this symposium.

BRNS-ACACI Twelfth School on Analytical Chemistry (SAC-12) (15-22 November 2016)

Department of Chemistry BITS Pilani KK Birla Goa Campus and Analytical Chemistry Division, Bhabha Atomic Research Centre (BARC) under the aegis of Association of Environmental Analytical Chemistry of India (AEACI) organized the twelfth School on Analytical



Inauguration of SAC-12

Chemistry (SAC-12) during November 15–22, 2016. Convened by Prof Sunil Bhand and Dr. R.K. Singhalv(BARC Mumbai) and coordinated by Prof AP Koley as the organizing secretary, the workshop attracted 60 researchers from National institutes as well as DAE units. Prof. G Raghurama, Director BITS Pilani KK Birla Goa Campus, Dr B N Jagtap and Dr. BD Naik, Head of the Analytical Spectroscopy Division BARC inaugurated the workshop. During the workshop both theory and experiments were offered every day at BITS Goa as well as NIO Goa. 6 faculty members from BITS Goa, 6 from DAE and 2 from NIO Goa offered experiments and special lectures. The workshop ended with a seminar and quiz. The Board of Research in Nuclear Sciences (BRNS) sponsored the workshop.

Goa Physics Researcher's Meet (9-December 2016)

The Physics department arranged a day-long meeting of Physics researchers in Goa on 9th December, 2016. The meeting had around 50 participants from various institutions in Goa. The keynote address was delivered by Prof. Mandar Deshmukh of TIFR, Mumbai. This was followed by short talk by some of the participants and a poster session by PhD students.



Poster presentation at the Meet

4th International Conference on Advanced Oxidation Processes: AOP-2016 (17-20 December 2016)

The 4th International Conference on Advanced Oxidation Processes (AOP-2016) was held at BITS Pilani, K K Birla Goa Campus, during 17-20 December 2016 [Convener: Prof. Halan Prakash]. AOP-2016 conference was organized in association with the Society of Environmental Chemistry and Allied Sciences (SECAS) and attracted delegates from USA, Columbia, Brazil, Ireland, France, Netherlands, Cyprus, South Korea, Japan and India comprising faculty, research scholar, students, and industry professionals. The conference theme was focused on chemical and biological oxidative decomposition of organic and inorganic contaminants and the fundamental understanding of degradation mechanism.



Inauguration of AOP 2016

Prof. G Raghurama inaugurated the conference. Prof. B S M Rao, President, SECAS, and Prof. Anjan Chattopadhyay, Head of Chemistry Dept. presented the first copy of the proceedings to the Chief Guest, Prof. Michael R. Hoffmann, California Institute of Technology, USA.

There were 5 keynote addresses, 16 invited talks, 10 short talks and about 75 posters and young investigators' oral sessions. Mr. Panjak Seksharia, Kalpavriksh, and Mr. Parag Rangnekar, Goa also delivered talks.

During the inaugural session Prof. Aravindakumar, General Secretary, SECAS briefed the history of AOPs. Prof. Halan Prakash, Convener, presented the technical program and also mentioned that the contributed research articles, and reviews for the special issue AOP-2016 would be published by the reputed Journal of Environmental Chemical Engineering (JECE), Elsevier publications.

Visit by International Dignitaries

❖ A team of European Union delegation to India representing Research and Innovation cooperation between Europe and India visited the campus on 23 September 2016. Representatives from countries namely, France, Germany, Denmark, Norway, Sweden and Italy held discussions with the Director and Senior faculty members on the research opportunities in various areas.



Meeting with European Union delegation

❖ Prof. B.V.R. Chowdari, Senior Executive Director, President's office, Nanyang Technological University (NTU), Singapore and Prof. Bo Liedberg, Dean, Interdisciplinary Graduate School, NTU addressed the Faculties and Students on 29 September, 2016.

❖ Prof. Philip Diamond, Director General of Square Kilometer Array visited the campus along with other SKA dignitaries on 10 of November, 2016. Prof. Diamond delivered a public lecture titled: "From Dawn of Time to Life in Universe: How SKA will change our perception of the cosmos"



Prof. Philip Diamond addressing faculty & students

❖ Participants of *Bharat Ko Jaaniye Yatra*, organized by Ministry of External Affairs, Government of India visited BITS Pilani K K Birla Goa Campus. The group of nine representing the countries of South Africa, USA, Mauritius, Ireland, Qatar and Netherlands were given a demonstration of how Tele-presence facility connects all four BITS campuses in real time through audio and video. Prof. Ashwin Srinivasan, Prof. Srinivas Krishnaswamy, Prof. Mridula Goel, Mr. Akshay Sonankar and Mr. Shaikh Saif interacted with them.



Participants of Bharat Ko Jaaniye Yatra

distinguished lectures

Date	Speaker	Designation	Topic
16 Sep '16	Prof. Anjali A. Karande	IISc Bangalore	Feasibility of using Glycodelin in the management of graft rejection
16 Sep '16	Dr. Pratik Swarup Dash	Head (Coal & Coke Making Research Group), R&D, Tata Steel	Dull Grey to Sparkling Black
19 Sep '16	Dr. Srinivasa Kaveri	Director, CNRS Office for Science and Technology, India, Embassy of France	Antibodies : The story of Good and Bad Samaritans
28 Sep '16	Mr. Rahul Basu	Founder & CEO, Ajadé and is now a member of Goa Foundation; Mines, Minerals & People; India Network for Basic Income and the GoenchiMati Movement.	Who owns Minerals? How could they be managed? The GoenchiMati Proposal
4-5 Oct '16	Prof. Philip Jaeger	Managing Director of Eurotechnica GmbH, Germany	1. Interfacial properties at elevated pressures in processes of enhanced oil and gas recovery 2. Production of Antibactericidal Biomaterials by a combined supercritical extraction and impregnation process
5 Oct '16	Prof. A. K. Nandakumaran	Professor, Department of Mathematics, Indian Institute of Science (IISc) Bangalore	Qualitative Analysis of Ordinary Differential equations
6 Oct '16	Prof. Vidya Shah	Composer, Musician and Writer , New Delhi	Indian Women and Their Journeys from the Salon to the Studio
8 Oct '16	Dr. (Mrs.) Mukti Acharya	Retd. Professor, Department of Applied Mathematics, Delhi Technological University	Balanced Signed Graphs and Applications in Social Psychology

distinguished lectures

Date	Speaker	Designation	Topic
21 Oct '16	Dr.Gopal Kundu	Scientist 'G', National Centre for Cell Science, Pune.	Notch1-MAPK Signalling Axis regulates Cancer Stem Cell-Mediated Melanoma Growth and Angiogenesis
12 Nov '16	Prof. C. R. Pradeep	Former Professor, Department of Mathematics, Indian Institute of Science, Bangalore	Algorithmic techniques and puzzles
18-22 Nov '16	Prof. V. Sree Hari Rao	Executive Director, International Center for Interdisciplinary Research Innovation, Hyderabad,	1. Science with a Humane Face - Infectious Diseases -A Social Commitment 2. Periodic Solutions for Dynamical Systems 3. Mathematical Support for a New Perspective of Image Construction Technology.
21 Nov '16	Prof Paul Bishop	Dean of Engineering Sciences at University of Rhode Island	(i) The Future of Environmental Micro sensing (ii) The Impact of the Water: Energy Nexus on Water and Energy in the Near Future
23-25 Nov '16	Prof. Florent Chazarenc	Ecole des Mines de Nantes, France	(I) Use of treatment wetland systems for water pollution control design and implementation (ii) Treatment wetlands for domestic wastewater treatment: Intensification vs. Extensification what are the trends for the future?
10 Dec '16	Prof. Komatsu Takao	Professor, School of Mathematics and Statistics, Wuhan University, Wuhan, P. R. China,	Euler Numbers and Related Numbers and their Applications
12 Dec '16	Prof. Horst Koppel	Professor, University of Heidelberg, Germany	Conical intersections of potential energy surfaces: a paradigm for nonadiabatic excited-state dynamics

Visits by faculty

Enriching the learning experience

International Visits

Dr. Shalini Upadhyay and Dr. Nitin Upadhyay jointly authored the paper *A Multi-Criteria Decision Framework to Measure Spiritual Intelligence of University Teachers* which was presented by the latter at Asan, South Korea ITQM and Hoseo University, South Korea during 16-18 August 2016. Another paper *Investigating Foreign Language Learning: Examining Anxiety Associated with English Language Acquisition in the Asian ESL Context* authored by Shalini Upadhyay and Ranjit Rodrigues was presented by the latter at the TESOL conference hosted by TESOL and University of Mataram in Lombok, Indonesia during 11-13 August 2016.

Prof. Saroj Sundar Baral presented one poster (G. Surendran and S.S. Baral, *Treatment of Cr(VI) contaminated wastewater by Sorghastrum nutans (L) Nash (natural grass.)*) and one oral presentation (Saroj S. Baral, P. Venkateswara Rao and G. Surendran, Pretreatment of organic composite waste mixtures for enhanced biomethanation) in the 11th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), in Lisbon, Portugal, during Sep 4-9, 2016.



Prof. Baral at Lisbon



Prof. Baral & Prof. Manjare at Uni. of Aveiro

Prof. Saroj Sundar Baral and **Prof. S D Manjare** visited University of Aveiro, Portugal on 6 Sept, 2016 for discussions on research collaboration.

Prof. Srikanth Mutnuri delivered a presentation on Biodegradation of Paracetamol from Industrial wastewater by *Pseudomonas mendocina* at 13th IWA Specialized Conference on Small Water and Wastewater Systems and of the 5th IWA Specialized Conference on Resources Oriented Sanitation, 14-16 September, 2016 Athens, Greece.



Prof. M. Srikanth at IWA

Dr. Amitendu Bhattacharya presented a research paper titled "A Poet of/ for India: The Rediscovery of Kabir through the Translations by Rabindranath Tagore and Arvind Krishna Mehrotra" at the ASIAN TRANSLATION TRADITIONS CONFERENCE organized by the Monash Asia Institute and the School of Languages, Literatures, Cultures and Linguistics at Monash University Melbourne, in partnership with the Universiti Kebangsaan Malaysia, and hosted at the Monash University Malaysia Campus, from 26 to 29 September 2016.

Prof. Meenakshi Raman presented a paper *Importance of Effective Communication in Healthcare Settings: Students' Perspectives* at the 81st Annual International Conference of ABC (Association of Business Communication). Albuquerque, New Mexico, USA during 19-22 October 2016



Prof. M. Raman at the conference

Dr. Amalin Prince presented a paper "Efficient Implementation of Empirical Mode Decomposition in FPGA Using Xilinx System Generator" at the 42nd IEEE Industrial Electronics Conference (IEEE IECON2016), held at Florence, Italy, during October 24-27, 2016. He was also the Session Chair for Dialogue Session 6 at the conference.



Prof. Prince at the IECON 2016

Dr. Ram Shanker Patel presented his work on Electron-electron scattering dominance in MoTe₂ crystals at low temperatures at the 61st Annual conference on Magnetism and Magnetic Materials, New Orleans, Louisiana, October 31 - November 4, 2016.



Dr. Patel at MMM 2016

Prof. R P Pradhan presented a paper- *TPP & Factory Asia: Case of India Trade Creation or Trade Diversion?* - at the East Asian Economic Association (EAEA) Bandung, Indonesia during 05-06 November 2016.

Dr. Mayank Goel Visited Tokyo, Japan to present research paper entitled: "Portfolio Risk Management using Signed Graph" in "International Conference on Computational Physics, Mathematics & its Applications" (ICCPMA 2016) held during November 7-8, 2016.



Dr. Mayank Goel at ICCPMA 2016

Dr. Reena Cheruvalath presented a paper- *Meta-moral cognition and social relationship: A theoretical perspective* - at the International Conference for Social Sciences and Humanities hosted by International Journal of Arts and Sciences. University of London, UK during 08-11 November 2016

Dr. Anoop George presented a paper- *Engaging With Modernity: Revisiting The Ontology Of The Self As A Meaning Giving Being* -at the International Conference for Social Sciences and Humanities hosted by International Journal of Arts and Sciences. University of London, UK during 08-11 November 2016

Dr. Rayson K Alex presented a paper- *Nature-culture-sacred continuum in the ecodocumentary, Have you Seen the Arana?* -at the International Conference on Transmediating Culture(s) hosted by the Department of English, University of Szczecin, Poland during 17-19 November 2016

Mr. Solano Da Silva jointly authored a paper *Urban commons in the Neoliberal Global Order: Commoning as Counteraction* with Palmer, Henrietta & Low, Iain (2016). The paper was presented at *17th N-AERUS Conference: Governing, Planning and Managing the City in an Uncertain World. Comparative Perspectives on Everyday Practices* held during 17-19 November 2016 at the School of Public Administration (SPA) at University of Gothenburg, Gothenburg, Sweden.

Prof. Judith Braganca presented a paper '*Biosynthesis of polyhydroxyalkanoates by Halophilic Archaea*' at the 11th International Congress on Halophilic Microorganisms, Halophiles 2016 in San Juan, Puerto Rico from May 22nd to May 27th 2016. She was awarded the DBT-CTEP Travel Grant for the same.

Prof. Ranjan Dey visited National University of Singapore (NUS) and Nanyang Technical

University(NTU), Singapore in July 2016 and visited some of the SMART Labs at U Town, NUS Singapore funded jointly by MIT, TUM, NUS and other funding agencies. He also visited the Chung Yuan Christian University at Taipei, Taiwan on 28 June 2016; held discussions with the Associate Dean & Distinguished Professor and Chaplain, Prof. Hui Ming Wee and Heads of Departments of various Branches to foster various joint collaboration possibilities with BITS Pilani K K Birla Goa Campus



Prof. Dey at Chung Yuan Christian University

Prof. Srikanth Mutnuri also delivered an invited talk on "Empowered septic tank for decentralized wastewater systems" at Transformative Technologies portfolio, July 18 -22, 2016, Seattle, USA, organized by Bill and Melinda Gates foundation.



Prof. Dey at NUS, Singapore

invited talks by faculty

❖ **Dr. Subhadeep Banerjee** was invited by the Goa Public Service Commission (GPSC) to be the subject expert for interviews conducted at the GPSC office on 2.6.2016, for recruitment to the post of Assistant Professor in organic chemistry in various govt. colleges.

❖ **Prof. Geetha B** was invited to be a panelist at the panel discussion on Censorship in Cinema organized as a part of the Seminar on Cinema hosted by Christ University, Bangalore during 04-05 August 2016.

❖ **Dr. Rayson K Alex** delivered a talk Nature-culture-sacred Continuum as Ecocultural Ethnography: My Experience with the Mudugar at the University of Warsaw, Poland on 21 November 2016.

❖ **Prof. R P Pradhan** delivered the keynote address on Between Soft State & Emerging Giant: India's Narrative of Democracy, Development & Good Governance National Seminar on Democracy, Development and Good Governance, organized by the Department of Political Science, Neelamadhav Mahavidyalaya, Kantilo, Odisha,

❖ **Prof. Meenakshi Raman** delivered the keynote address 'Writing : An Essential key to Academic and Professional Progress' at the Seminar on Writing Centre: An Instrument to improve writing skills of students Organized by Chowgule College, Goa on 12 August 2016. Prof. Raman also delivered the inaugural address Isabella or The Pot of Basil : Psychological Face of Love at the inaugural ceremony of Sanskriti, literary club at MES College, Goa on 14 September 2016. She



Prof. M. Raman at the workshop

conducted a two-day workshop on Elements of Effective Scientific and Technical Writing for 40 research scholars at IIT Ropar on 28 and 29 November 2016.

❖ **Prof. Pravin Singru** delivered the keynote address "Interdisciplinary Research: Sensors in Pediatric ICU" along with Dr. Deopujari, Child Hospital, Nagpur at the 18th National Conference on Pediatric Critical Care, organized by IAP-Intensive Care Chapter, Mumbai on 12 November 2016. He delivered a lecture focused on MEMS Based Pressure Sensor used in Endo-tracheal tube.

❖ **Dr Mayank Goel** was the Resource person/ Invited speaker and Chief Guest for the two day national seminar on "Applied Statistics and Quantitative Finance" organized by the Post Graduate Department of Statistics, Govt. Victoria College Palakkad, Kerala, during 08-09 December 2016.



Dr. Goel at Gudlavalleru Engineering College

❖ **Prof. Meenal Kowshik** delivered the invited talk on Biogenic Selenium and Tellurium Nanoparticles from Halophilic Microorganisms and Their Applications, in the 5th International Conference on Research Frontiers in Chalcogen Cycle Science and Technology organized by UNESCO-IHE and NITK Surathkal, during 19-21 December 2016. She also delivered a talk on *The impact of nanotechnology on biotechnology*, to undergraduate students of Chowgule College of Arts and Science, Margao-Goa on 26 August 2016

❖ **Dr. Aruna G** presented a guest lecture on "Distributed Data Mining Design and Applications in today's Information Era" on 28 December 2016 in Gudlavalleru Engineering College, Andhra Pradesh.



Dr. Aruna G. in Gudlavalleru Engineering College

Dr.Srikanth Mutnuri delivered two invited talks: (i) "Decentralized biogas digesters for waste management" at the ISTE workshop on Engineering Management Strategies for Sustainable Development" at Don Bosco College of Engineering, Goa on 10 May 2016.(ii) "Types of hazardous wastes, their treatment and disposal" at the One- Day Seminar on Hazardous and Medical Waste organized by Goa Chamber of Commerce and Industry on 19 February 2016.

Consultancy

The department of Humanities and Social Sciences offered a training programme in Technical Writing to the frontline officers and managers of CIPLA Biotec, Verna, Goa during 12 July-05 October 2016. With Meenakshi Raman as the chief consultant, the programme introduced various elements of effective writing and the techniques of writing effective technical / scientific reports to the 30 participants. Dr.Shalini Upadhyay, Dr. Layla Mascarenhas and Dr.Meenakshi Raman acted as the resource persons and handled the classes conducted in the company premises. Dr.Ganapathy Muthukumar, Quality Consultant at CIPLA Biotec coordinated the programme.



Training programme at Cipla Biotech

achievements

❖ **Prof. Basavadatta Mitra** has been appointed since July, 2016, as the Team Leader for one of the verticals Project-based Evaluation, under Education Committee, Goa Chamber of Commerce and Industries, responsible for auditing Internship Programmes of State Engineering Curriculum

❖ **Prof. Meenakshi Raman** has been appointed for the second term (2016-2019) as a member of Board of Studies, Goa University, for English

❖ The paper "Kinetics, Isotherm and Mechanism study of Treatment of Cr(VI) contaminated wastewater by *Sorghastrum Nutans* (L) Nash-natural grass") presented by **Prof. Saroj Sundar Baral** won the Best Poster Presentation award at the 11th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), in Lisbon, Portugal, during Sep 4-9, 2016.

❖ The research paper "Process technology for removal of chromium by using sludge from pig iron industry") jointly authored by G. Surendran & Saroj Sundar Baral, and presented by Mr. G. Surendran at CHEMCON-2016, IIT-Chennai during 27-30 December 2016, received the best paper award for the session Oral Presentation.

❖ **Prof. P.M. Singru** won the best paper award for his paper "Modeling of a Magneto-Rheological (MR) Damper using Genetic Programming" presented at the 12th National Workshop on "Industrial Problems in Machines and Mechanisms, IPROMM 2016" held at Visvesvaraya National Institute of Technology Nagpur during 22-23 December 2016 organized by the Association of Machines and Mechanism, India.



Prof. Singru at IPROMM 2016

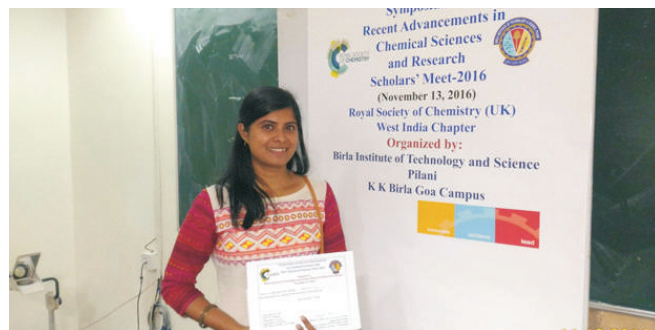
❖ The 2014 volume, *Culture and Media: Ecocritical Explorations* (co-edited by Dr. Rayson K. Alex) was selected as the best seller of September 2016 in UK. The book *Ecodocumentaries: Critical Essays* (co-edited by Dr. Rayson K. Alex) was published www.palgrave.com/us/book/9781137562234. Dr. Alex directed a video on BITS Pilani, K.K. Birla Goa Campus screened at Convocation 2016.



❖ **Prof S.D. Manjare** was appointed as the distinguished scientist for the Scientific Advisory Board of the Conference on Sustainable Development of Energy, Water and Environment Systems, which is the 12th in this series of conferences, October 2016. Goa State Pollution Control Board appointed Prof S.D. Manjare on 22 January 2016 as a Member of expert appraisal committee to assess the environmental impacts of the proposed project on marina facilities at north of Zuari river, near village Nauxin, Goa.

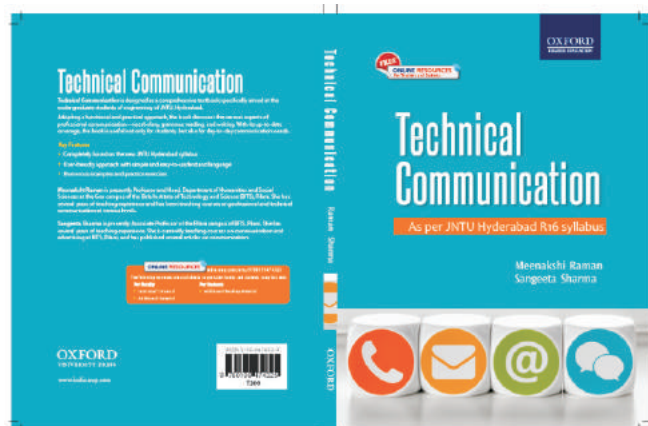
❖ **Ms. Parul Sahu** and **Prof. Srinivas K.** won the Best Poster award under the category 'Heat Transfer' for their paper "Study of U-tube Scraped Crystallizer for Desalination" at the 69th Annual Session of IChE, CHEMCON 2016 held in Chennai, India.

❖ **Akanksha Saini**, Research Scholar, Department of



Chemistry, secured the First Prize for her research work co-authored by Prof. Ranjan Dey presented at the Royal Society of Chemistry (RSC) Symposium on Recent Advancement in Chemical Sciences and Research Scholars Meet organized at BITS Pilani, Goa Campus on 13 November 2016.

❖ The book *Technical Communication (As per JNTU Hyderabad R16 Syllabus)* authored by Prof. Meenakshi Raman and Prof. Sangeeta Sharma was published by Oxford University Press, New Delhi in Nov. 2016.



Cover page of the book

❖ Prof. Alex Rayson with Dr Susan Deborah published a book *Ecodocumentaries: Critical Essays*, which was published by Palgrave Macmillan (Springer) London and New York 2016. (ISBN 978-1-137-56224-1)



Cover page of the book

DST-FIST Grant to Department of Mathematics

The Department of Mathematics received DST-FIST support of Rs. 37.5 lakhs from the Department of Science and Technology for a period of 5 years to establish Scientific Computing Laboratory. The grant funded the procurement of Mathematical Software MATLAB (unlimited user-license), and MATHEMATICA (20 user's license); computers, Networking Facilities, and research books.

significant projects

Name of Principal Investigator Sanctioned	Title of the project	Funding Agency	Amount and duration
Prof. Srikanth Mutnuri (PI) Biological Sciences and Dr. Nitin Sharma, (Co-PI) EEE Dept. & Cranfield University UK	Analytics Sensor Test-Kit for advanced process control	Bill and Melinda Gates Foundation	US\$135,000 Rs. 84.00 lakh 2 years
Prof. Srinivas Krishnaswamy (PI) Dept. of Chemical Engineering & Prof. Aniruddha B. Pandit (Co-PI, ICT) ICT, Mumbai	Unmixed reforming(UMR)" of Methane for Hydrogen Production	DST, SERB	Rs. 56.11 lakh 3 years
Dr. Asima Shaukat Dept. of Chemical Engg.	Visco-elastic, visco-plastic and thixotropic behavior of biogreases and its influence on lubrication (tribiological performance)	DST SERB Young Scientist Award	Rs. 54.67 lakh 3 years
Prof. Utpal Roy (PI) Department of Biological Sciences & Prof. Arunaloake Chakrabarti (Co-PI, PGIMER, Chandigarh)	Exploration of Antifungal Lead Molecules from the Wild-type <i>Bacillus subtilis</i> RLID 12.1– purification and molecular characterization along with optimizing production.	DBT	Rs. 48.69 lakh 3 years
Prof Sunil Bhand (PI) Department of Chemistry Multi Institute Consortia Project BITS Pilani K.K. Birla Goa Campus Amity Institute of Nanotechnology, Delhi, Indian Agricultural Research Institute ICAR	Nano-based detection of organophosphate pesticides using metal-organic framework conjugates	NASF, ICAR	BITS-Pilani Goa share Rs. 43.08 lakh Total cost of project Rs. 177 lakh 3 years
Dr. Nitin Sharma Department of Electronics and Electrical Engineering	Development of SDR based GNSS receiver	ISRO	Rs. 33.00 lakh 2 years

significant projects

Name of Principal Investigator Sanctioned	Title of the project	Funding Agency	Amount and duration
Prof. Mainak Banerjee Department of Chemistry	A Comprehensive study on mechanochemical sp ² C-H bond activation in five-membered heteroaromatics in a Ball- Mill: Can 1st row transition elements be a potential replacement of late transitional elements a question to investigate	DST, SERB	Rs. 30.57 lakh 3 years
Prof M Srikanth (PI) Dept. of Biological Sciences & California Institute of Technology, Caltech USA	Onsite electrochemical wastewater treatment and recycling technology	Bill & Melinda Gates Foundation	US\$ 42,759 Rs. 29.00 lakh 2 years
Prof. P.Bhavana Department of Chemistry	Steric and conformational influences on the performance of nonplanar and highly functionalized phenyl- and heteroaryl- porphyrins in the sensing of anions and heavy metal ions	DST, SERB	Rs. 28.22 lakh 3 years
Dr. Malabika Biswas Department of Biological Sciences	Studies on the gene regulation involved in the lytic-lysogenic switch in staphylococcus aureus temperate bacteriophage phi11	DST SERB	Rs. 20.46 lakh 3 years
Dr. Debasis Das Department of Computer Science	Secure vehicular communication and routing in future intelligent transportation systems (ITS)	DST, SERB Early career research award	Rs. 19.81 lakh 3 years

bits-pilani alumni affairs division

BITSians Day

The third edition of 'BITSians Day' was celebrated on 5th of August, 2016. It was a spectacular day that witnessed the entire BITSian community showcase their BITSian pride by wearing any of the BITS T-shirt. On this day, a BITS-RUN (Marathon) was held on BITS Pilani K K Birla Goa Campus where the on-campus students turned out in huge number to celebrate this special day with great zeal and fervor! BITSians Day now forms a significant and important segment of BITS Pilani!



Alumni Summit

Keeping in mind its resolute mission to keep the alumni of BITS connected to their Alma mater and to maintain the integrity and strength of the vast alumni community, BITS Alumni Affairs Division – Student Team Goa conducted the second edition of Alumni Summit on 28th of August, 2016. The speakers reminisced about their life back at BITS campuses and their journey thereafter.

Seven speakers who were invited for BITS Alumni Summit 2.0 are:

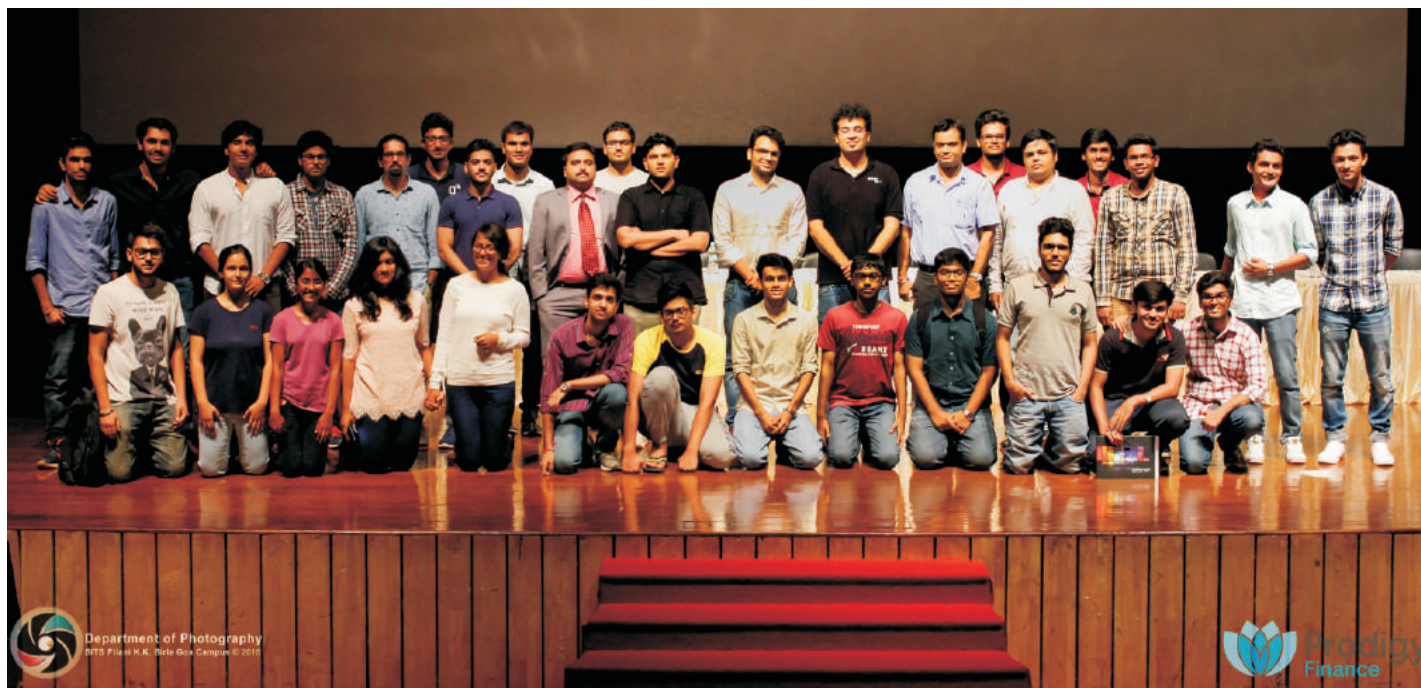
- ❖ Mr. Kartik Aneja, CEO and Co-Founder at NayiDisha Studios.
- ❖ Mr. Rishabh Goel, Associate Relationship Manager at Prodigy Finance
- ❖ Mr. Ankit Taparia, Co-Founder of Teramatrix Technologies
- ❖ Mr. Sanchit Sethi, CEO and Founder of StayUncle
- ❖ Mr. Prakhar Bindal, CEO & founder of NameCart(formerlyAxiom)
- ❖ Mr. Bhaskar E V, Under-Secretary to Ministry of Finance, Government of India
- ❖ Mr. Nikhil Tavora, Former Match Coordinator & Operations Executive at FC Goa



The Alumni Summit in progress

Prof. Suresh Ramasamy Memorial Award 2016

The project idea 'Cosmic Ray Flux Measurement & Analysis' carried out by the students Sanket Deshpande, Lucky Kapoor, Pankaj Tiple and Vibhav Joshi was selected for Prof. Suresh Ramaswamy Memorial Award 2016-17.



Participants at the summit

Embryo & On-campus talks

Alumni Affairs Division of BITS Pilani K K Birla Goa Campus organized 7 Embryo & On-campus talks from August – December, 2016. Details are as follows:

Date	Speaker's Name & Designation	Title Of The Talk
06 Aug, 2016	Mr. N S Parthasarathy Co-founder, President, COO and Board Member of Mindtree Limited	Entrepreneurship
29 Aug, 2016	Mr. Rishabh Goel Associate Relationship Manager at Prodigy Finance	How to finance your masters abroad?
09 Sep, 2016	Mr. Mark Bowden Founder, TruthPlane	Stand Out, Win Trust and Gain Credibility
10 th Sep, 2016	Mr. Dilip D'Souza Writer & Journalist	The Deoliwallahs
30 Sep, 2016	Ms. Vaishnavi Ananthanarayanan INSPIRE Faculty Fellow at IISc, Bengaluru	Anchors weigh in on cytoplasmic dynein regulation
06 Oct, 2016	Anmol Sahoo Priyanshi Vadalía Dharinee Bhandari and Rishabh Sethunathan	GRE Champs: Students of BITS Pilani K K Birla Goa Campus
12Oct, 2016	Vikas Goel Graduate Student at University of Wisconsin-Madison Danish Khan Graduate Student at University of Wisconsin-Madison Siddharth Gupta Doctoral Student at University of California, Irvine	BITS2MS/PhD

teaching learning centre

Teaching Learning Centre (TLC) , which is entrusted with the task of providing induction programs for new academic staff members, conduct programs for new faculty members and TAs (from M.E. and Ph.D. programs). A teaching seminar series was also initiated.

The program conducted for TAs on 10 Sep. 2016, included modules on professional ethics, active learning techniques, student evaluation, reflective thinking and team work in teaching processes delivered by Dr. Reena Cheruvelath, Dr. Anita Agrawal, Dr. Manoj Pandey, Dr. Nilak Dutta and Dr. Varinder Singh. Prof.R. N. Saha, delivered the inaugural address.

Dr. Varinder Singh, FIC, TLC participated in the National Convention on future of Classroom teaching at Higher Education Level held at BITS Pilani, Pilani Campus during Sep 30-Oct 1, 2016.



Participants at the programme

The workshop conducted for new faculty members on 4th and 5th November 2016 was conducted during Nov. 4-5, 2016 included the sessions on roles and responsibilities of a faculty members at BITS, outcome based teaching learning, active teaching, student evaluation, feedback and reflective thinking, learning management system, academic counseling and the role of ethics for faculty members. Prof. G. Raghurama and Prof. K E Raman inaugurated the workshop and highlighted importance of effective teaching. Prof. Halan Prakash, Dr. Varinder Singh, Dr. Anita Agrawal, Dr. Manoj Pandey, Prof. Dibakar Chakraborty, Prof. Raghunath Ratabole, Dr. KA Geetha and Dr. Reena Cheruvelath acted as the resource persons.

A talk “Interplay of teaching and learning : my thoughts and experiences both as a student and as a teacher” delivered by Prof. A V Kulkarni, 15 Nov. 2016 attracted about 35 faculty members.

student achievements

❖ **Ambareesh Rathi** (ID: 2012B4A4412G) underwent a six-month long research internship at TU Delft, Netherlands. He worked on the EU H2020 project FALCON, consisting of 12 partners from 8 European countries. He was the only intern from India, also the youngest among all, selected for this role. He worked in the Design Engineering department under project leader Dr. Wilfred van der Vegte, Assistant Professor, Industrial Design Engineering, TU Delft. As a result, based on his work, he was offered a PhD position in the laboratory.

❖ **Devansh Raj** (ID: 2012B1A3662G) has received the opportunity to work as an intern at the Max Planck Institute for Developmental Biology, Germany, under the guidance of Dr. Ralf J. Sommer as a part of the off-campus thesis for semester 2, 2016-17.

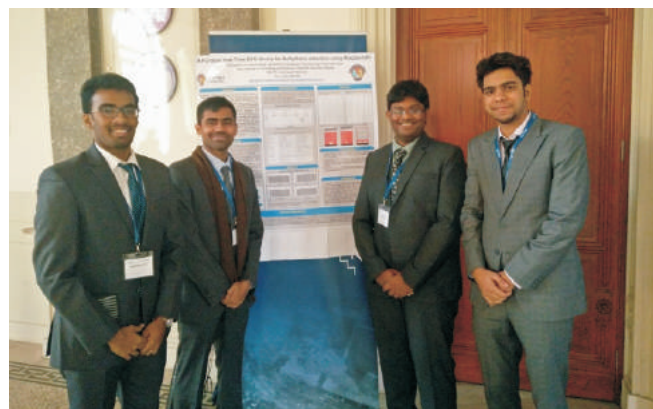
❖ **Rachit Gupta** (ID: 2013A3PS201G) received the Mitacs Globalink Scholarship (2016) for an internship at the University of Manitoba. He worked at Nano-Systems Fabrication Laboratory under Dr. Cyrus Shafai of University of Manitoba, Winnipeg, Canada. His work primarily focused on designing of MEMS Sensors and Systems for High Voltage Infrastructure Monitoring. Rachit visited Manitoba from 01 June to 23 August 2016.



Rachit Gupta at University of Manitoba

❖ **T Sai Ruthvik** (2013A8TS489G), **Advait Balaji** (2013B1A7656G), **Valliappan C A** (2013A8TS478G) and **Piyush Dhingra** (2013B3A7710G) presented a paper titled "A Portable Real Time ECG Device for Arrhythmia Detection Using Raspberry Pi" at the

Mobihealth Conference held in Milan, Italy during 14-16 November, 2016. They worked under the guidance of Dr. Veeky Baths, Department of Biological Sciences.



Students at University of Manitoba

❖ **Amit Agarwal** (ID: 2014A7PS403G) was successful in writing a research paper titled "PRESGen: Petri net model construction from high level language" under the guidance of Prof. Soumyadip Bandyopadhyay and Prof. Santonu Sarkar in November, 2016. The paper was accepted in POPL 2017 SRC (Student Research Competition).

❖ **Mihir Naik** (ID: 2015B4A8518G) and **Rishi Raj Grandhe** (ID: 2015B3A7544G) won the novice finals of the team event of The PES Debate 2016, which was held in PES University in Bangalore from 28-30 August, 2016.

❖ The BITS Pilani K K Birla Goa Campus football team, BITS FC registered as a club under the Goa Football Association and participated in the Goa Football Association 3rd division league. BITS FC got promoted to 2nd division after finishing Runners-Up in the league.



BITS Pilani K K Birla Campus Football Club

waves 2016 :tides of time

Touted as one of the nation's fastest growing cultural festival, BITS Pilani Goa's 'Waves' turned 10 earlier this month as the 'complete 72 hour experience' concluded with the last of the special nights on November 6, 2016. With 35 events spanning 10 different panels, the famous Waves Big-4 and scintillating professional nights, Waves 2016 commemorated its tenth anniversary by completely redefining the 'college fest' experience and by providing revellers with what can truly be called, an experience of a lifetime.

Leveraging the powerful tools that are nostalgia and memories, Waves 2016, themed 'Tides of Time' aimed to take attendees back into time, and rekindle their warm and endearing childhood memories through a wide selection of competitions and performances alike. A spirited array of events in literature, music, dance, dramatics and arts provided for the perfect cultural confluence, as the headlining Big-4 events – personality

contest Mr. and Mrs. Waves, fashion parade FashP, group dance competition Natyanjali, and India's biggest semi-professional band showdown Searock saw some of the nation's most talented youngsters battle it out on the grand Waves stage. Mr and Ms Waves was judged by none other than Raghu Ram of Roadies' fame.

Waves 2016 - Tides of Time, besides showcasing how the world of music, cartoon, cinema, etc. has evolved from the 90s, also portrayed how Waves as a whole has grown into one of the country's most awaited cultural fests and a one of a kind experience facilitated by the relentless efforts of the students that comprised the Organizing Committee. Waves witnessed a footfall exceeding 40,000 and participation from colleges across the nation, transcending geographical barriers.

A grand inauguration ceremony and enthralling performances by the Mime Club and Kala, BITS Goa



marked the beginning of the 3 day extravaganza as the convenor flagged off the fest. With events scheduled through the night, Waves 2016 ensured that the fest was always abuzz with activity and that attendees never faced a dull moment.

For the intellectuals, Contention and Moot Court witnessed cutthroat debaters making eloquent speeches and logical arguments, while Culturals and Informals abound in hordes as flash events such as Poetry Slams, Open Mic and JAMs kept up the momentum. The very special Waves Open Quiz, photography and art contests, and innumerable more such events were conducted all day long. Sizzle and Just Duet pit the best dancers against each other, while Drama and Mime enthusiasts were in for a treat too with events like Skime, Rangmanchand Nukkad Natak promising to engage. And if the plethora of events and the nights weren't enough, wandering magicians, exotic performers, thrilling Virtual Reality related activities in The Adventure Zone and flash mobs were just a few of the multiple fascinating delights that popped up to keep one busy.

In addition to the plethora of events and the exuberant special nights performances, Waves also saw a host of informal events, workshops and activities including the popular Waves Ball, impromptu flash mobs, stimulating Virtual Reality set-ups, food challenges and lots more that topped off the Waves experience.

What participants took back from the festival was not limited to the live performances and the competitions they participated in but the truly eclectic and exhilarating atmosphere that the festival managed to create for three extremely memorable days.

Coalescence '16

Coalescence'16, one of India's finest e-summits, was organized during 03-05 September 2016. With a great footfall comprising of start-up enthusiasts from all over the country, the event proved to be a stepping stone to a thriving start-up culture.

Coalescence witnessed workshops on Branding and Marketing and the Art of Bootstrapping. The final round included Novatia, the B-plan competition. The following four start-ups participated in the start-up exhibition, "Start-Up Expo".

AthleticGo: A site that is dedicated towards making the world fitter. It locates the fitness centers near the user, thus making the process of hunting for places very easy.

Mediffee: A group of people, dedicated at providing a health care price search and passionate about providing affordable and transparent healthcare to people.

NativeFolks: A platform that organizes trips to rural India; targeted at diminishing the boundaries between the cultures and lifestyles, by allowing the travelers to experience rural India in a way that has never been done before.

Pawfect: A social enterprise which creates premium soft toys that have impeccable attention to detail, engineered to be best for the environment and health, and crafted with love by the destitute, deaf and dumb.

The first part of ACT began with an inspirational talk by Mr. Rajat Sharma: Chairman and Editor-in-Chief, India



Mr. Rajat Sharma at Coalescence 2016



T.V., who narrated his journey from a house with only one room to his own T.V. channel, India T.V. and inspired the audience by asking them never to give up, no matter however tough the situations would be. In a very interactive Q and A session, Mr. Sharma answered the audience's questions in his own impressive style. He concluded by saying, "All of you will reach great places in life. I request you to take the responsibility of the education of a child who doesn't have the means to study, just like me."

An equally interesting panel discussion followed Mr. Sharma's talk. Eminent personalities like Mr. Ajeet Khurana (CEO of SINE, Mentor and Angel Investor), Mr. Ashwin Srivastava (CEO, Idein Ventures), Mr. Nikhil Singh (Chief Financial Officer, Jugnoo) and Mr. Radhesh (IBM Entrepreneur Activity Head, India) discussed about the so called "Start-up Bubble in India". Day 1 ended with a fun-filled event called "The Bullion Beatdown".

The enthusiasm was still on its peak on Day 2. The workshop on "How to build an app in 4 minutes" proved to be a major hit among the attendees. The results of the B-plan competition were announced. 'Saathi' secured the first place while "Tile Bazaar", the second. Four other start-ups were placed in the category of promising

startups, namely getParked, Ribbon Robotics, FSM Change Agents and Drone Nation.

The second part of ACT hosted eminent speakers like Tushar Vashisht, (Co-founder and CEO of Healthy Me), Radhakrishnan Pillai (director, Chanakya Institute of Public Leadership, Mumbai), Bhuvan Bam (Singer, Youtuber, well-known for B.B. ki Vines), Danish Sait (Indian Radio Host, TV Presenter, Actor), Sairee Chahal (Founder, CEO at Sheroes), Nikhil Kamath (Co-founder and Director, Zerodha) and Atul Kulkarni (Two time National Award winning actor). The conference concluded with a melodious performance by B.B. ki Vines.



Mr. Atul Kulkarni at Coalescence 2016

"The simplest acts of kindness are by far more powerful than a thousand heads bowing in prayer"

--Mahatma Gandhi

Nirmaan had a remarkable gamut of activities executed through its operational wings responsible for the activities related to knowledge, health and employment.

- ❖ Students from BITS celebrated Independence Day with kids in Zari.
- ❖ Students wrote messages to teachers thanking them for the important role they play in their lives.
- ❖ Blood donation camp organised with assistance from Goa medical college.
- ❖ Eye check-up camp organised in Birla with the help of Lenscraft
- ❖ Message of Joy which gave students a chance to write messages to fellow BITSians.
- ❖ Joy of Giving week 2016 was Nirmaan's flagship event with many activities and huge participation.
- ❖ The Special children school visit was organised on 2nd October with around 65 students volunteering and visiting St. Xavier's academy in Old Goa.
- ❖ Evening of Joy was organised on 4th October with various workshops being organised by Kala, football team, Aero D, Skateboarding club and Dance club.
- ❖ No Food wastage day was organised on 5th October.
- ❖ Beach clean-up drive was held on 6th October. Students went to 4 beaches (Bogmallo, Baina, Utorda and Benaulim) and cleaned the beaches as part of second anniversary of the Swacch Bharat Abhiyaan.



Beach cleaning

❖ Sky full of Joy was organised on 7th October in Lamani colony just after Happy Street. Nirmaan collaborated with Celestia to bring a telescope and give the children and the residents a glimpse of the endless universe.

❖ Joyfest concluded the Joy of Giving week on 8th October'2016. Children from Zari, Lamani and four other orphanages participated. The chief guest for the event was Padma Shri Norma Alvares.



Students with children from Zari

- ❖ Old age home visit was organised on 9th October.
- ❖ A fund raising event was held during all the days of the Joy of Giving week. Shree Gajalaxmi snacks, Monginis and Aditya caterers night canteen participated by donating a small share of their profit they got from the sale of popular food items on campus.
- ❖ Meal of Joy involved BITSians serving lunch to the working staff of the campus including mess workers, gardeners, housekeeping staff and security guards in the C-mess. Around 300 people were served.



Students serving lunch to staff

❖ Awareness sessions aimed at creating general awareness among children and others to inform things unknown to them.

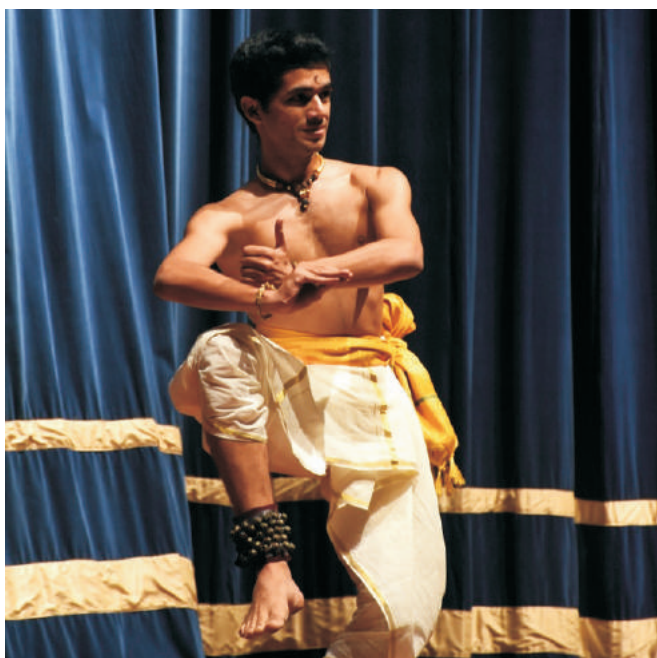
Sursangam 2016

Srutilaya, the classical music and dance group of BITS Pilani, K.K. Birla Goa Campus, in association with Indian



Rudra Veena by Ustad Bah'ud-din Dagar

Council of Cultural Relations organized Sursangam 2016, a tribute concert in the fond memory of Professor Suresh Ramaswamy, in the Auditorium on 15 Oct 2016. Sursangam was an enthralling evening with the recital of the Rudra Veena by Ustad Bah'ud-din Dagar. Born to the celebrated Rudra Veena player, Zia Mohiuddin Dagar, Bah'ud-din Dagar's music reflects the rich Dagarbaani musical lineage and the sui generis Dhrupad style. Accompanying Bah'ud-din Dagar on the Pakhawaj was the renowned Pandit Sanjay Pant Agle. BITS alumni also presented a short Carnatic recital during the event. Shreecharan S. on vocals accompanied by Ramanujan N. on mridangam took the stage along with Pranav Palande on harmonium.



Funfair 2016 on Campus

Funfair 2016, first of its kind at the Goa Campus was organized by Socio Cultural Association on 11 December



Inauguration of the Funfair 2016 by the Director

2016 at the Children's Park. Many cultures, many cuisines, many regions, many languages, so diverse yet so united were successfully exhibited during funfair. A total of 17 food stalls from different regions such as Maharashtra, Punjab, Gujarat, Odisha, Assam, Goa, etc., were put up by the campus residents. This funfair also showcased the creative side of the community through various crafts stalls. There was enthusiastic participation from all the campus residents and the event was a grand success.



Winners of the stalls

Going forward, the association plans to conduct various activities such as e-magazine for employees and their families, Sports Meet and various other forms of competitions, with much more vigor and enthusiasm.

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.

Faculty	Department	Editorial/ Review
Dr. Amalin Prince A	EEE and E&I	Reviewed papers for Journal of Engineering in Medicine, Journal of Energy Management and Journal of Applied Biotechnology and Bioengineering. Reviewer for the IEEE 6th International Conference on Power and Energy (PECON 2016)
Dr. Tirtharaj Dash	CSIS	Reviewed full research articles for Information Fusion, Paladyn Journal of Behavioral Robotics and Ain Shams Engineering Journal.
Prof. P.M. Singru	Mechanical Engineering	Reviewed two papers in Elsevier Journal “Measurements” and “Mechanical Systems and Signal Processing”
Prof. Meenal Kowshik	Biological Sciences	Reviewed manuscripts for the journals: Radiation Physics and Chemistry, ACS Applied Materials & Interfaces; Oncology Letters; British Microbiology research Journal; Biotechnology Progress; Journal of Nanomaterials; Current nanoscience; Environmental Science and Pollution Research; Science of Advanced Materials; Biochimie Open; Current Pharmaceutical Biotechnology
Prof. Ranjan Dey	Chemistry	Reviewed articles for Journal of Molecular Liquids; Journal of Chemical Thermodynamics; International Journal of Thermophysics; Journal of Solution Chemistry; 5TH Global International Conference of Material science and Engineering (CMSE), TAIWAN Oct 2016; Indian Journal of Chemistry; Journal of Indian Chemical Society
Dr. Rayson K Alex	Humanities and Social Sciences	Reviewed article entitled “Human Adaptation: Cultural Ecology and <i>The Namesake</i> by Jhumpa Lahiri” for <i>Interdisciplinary Studies in Literature and Environment</i> , a journal published by Oxford University Press (2016) Reviewed article entitled “The Myth of Yakshi and Its Impact on the Culture of Kerala” for the journal entitled <i>Folklore</i> published by Taylor and Francis (2016)

introducing new faculty

Name	Designation	Discipline	Research Area
Amal Siju	Lecturer	Mechanical Engineering	Manufacturing Engineering (Machining Tribology)
Ruma Ghosh	Asst. Professor	EEE	VLSI Fabrication, Nanoelectronics, Gas Sensors
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Scholars' meet at BITS Pilani

The Department of Chemical Engineering at K K Birla Goa Campus organised a symposium on 'Digital Humanities' (DH) on September 9. Prof Sukan-hadhuri of Jadavpur University, Kolkata said digital humanities refers to studying distinctive features of human endeavors. He said the relationship between computer technology and humanities.

The symposium was conducted by Prof Meenakshi Nandan, HoD and coordinator. Dr Amitendu Bhatnagar, Head of the Department of Chemical Engineering, BITS Pilani, Goa Campus, said, "If there is a will, there is a way. You want to do something, you need to take time out of your course."

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Symposium on Digital Humanities held at BITS-Pilani Goa campus

NAJ: The department of Humanities and Social Sciences, BITS Pilani, Goa Campus organised a national symposium on 'Digital Humanities' (DH) on September 9. Prof Sukan-hadhuri of Jadavpur University, Kolkata said digital humanities refers to studying distinctive features of human endeavors. He said the relationship between computer technology and humanities.

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A panel discussion during the symposium on Digital Humanities at BITS-Pilani Campus.

mentioned that DH efforts have led to the emergence of new formats and new forms. Prof R N Saha, Acting Director urged the department to work in association with the other campuses of BITS Pilani for

Mumbai with Computer Science degrees from BITS Pilani and Brown University, USA. Prof Sukanta Chaudhuri and Prof Supriya Chaudhuri from Jadavpur University Kolkata; Prof D Venkat Rao from

Dance, music, comedy at day 2 of Waves2016



BITS-Pilani alumni pay homage to late prof with memorial award

New Delhi: As a tribute to their late professor, some of the members of the BITS Pilani Alumni Association have decided to award a memorial award to the late Prof D Venkat Rao.

ing commitment and contribution to his students and colleagues. Alumni members still recall his invigorating lectures," he said.

Knowledge without values is futile, says Parrikar

BITS PILANI CONVOCATION CEREMONY HELD

BY A STAFF REPORTER

reporters@gomantaktimes.com

Panaji: Knowledge without values is futile. Technological development should work in tandem with environmental protection for the betterment of

Union Defence Minister on Sunday. is while speaking at the grand convocation of BITS Pilani, held in



Goa chapter of IIM to increase research focus, technological activities in State: Kulkarni

Prof D M Kulkarni is Chairman, Goa Chapter of Indian Institute of Management (IIM) Goa. He said the scope of the institute's activities includes research, education, and social service.

HERALD: What is the scope and what are the general activities of IIM?

DR: The scope of the institute's activities includes research, education, and social service.

HERALD: Can you briefly introduce Indian Institute of Management (IIM) Goa?

HERALD: What would be the relevance to Goa?

DR: IIM Goa has been a very important element of the economic growth of Goa.

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DR: IIM Goa has been a very important element of the economic growth of Goa.

Waves is back to thrill one and all

PRAKASH KAMAT

PANAJI: Waves, a three-day medley of dazzling lights, booming melodies and limitless fun in the chill, tropical environs of Goa, will begin on the campus of BITS in south Goa on November 4.

An annual cultural festival, with the theme 'Tides of Time' is expected to witness a footfall of over 40,000 on the college's scenic campus.

Celebrating its 10th anniversary, 'Waves 2016' promises to catapult one back to one's fond childhood and to nostalgic memories of the 1990s, according to the organisers.

With big names such as singer-composer Amit Trivedi and Raghu Ram of the Roadies fame, the

aficionados is Searock, the much-talked-about rock showdown with the country's best rock bands that have already blasted their way through the national eliminations.

For the intellectuals, Contention and Moot Court witness cut-throat debates making eloquent speeches and logical arguments, while Cultural and Informals abound in hordes as flash events such as Poetry Slams, Open Mic and JAMs ensure that there is never a dull moment for any Waves attendee.

The very special Waves Open Quiz, photography and art contests, and innumerable more such events are conducted all day (and all night!) long — and truly offer something for everyone to participate in.

For those in a mood to enjoy the festive spirit,



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