

Semester-II notes 2015-16

# bitscan

K K Birla Goa Campus



Department of Photography  
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**BITS Pilani**  
K K Birla Goa Campus

# from the editor

Every semester BITS Pilani K. K. Birla Goa Campus witnesses a plethora of events and the Second Semester 2015-16 was no different. Replete with a number of visits, events, initiatives, expert lectures, annual festivals and achievements, the semester has proved to have enriched the experience of faculty, students and staff of the campus.

Prof. Souvik Bhattacharya took over as the Vice Chancellor of BITS Pilani on 13 June 2016. He visited the Goa campus during 22 and 23 June and interacted with faculty members. Teams from Sweden and Portugal visited the campus and discussed the possible collaborative ventures. The campus also had the honor of receiving the Ambassador of Philippines during the semester. Experts from various academic disciplines visited the campus to deliver insightful talks to students and faculty.



The campus witnessed the pervasive spirit of conviviality at the two major annual festivals, Quark and Spree, that attracted large contingents of students from various parts of India. Several conferences, workshops and seminars organized at the campus by various departments also invited a number of participants from reputed educational institutions across India and abroad.

Several faculty members visited countries abroad to pursue their academic endeavors such as presenting papers at conferences, visiting universities under university immersion program and also under collaborative agreements. They were also invited by other organizations to deliver talks, conduct workshops, etc. Projects were sanctioned to many faculty members by various agencies to pursue research in their area of expertise.

15 students from the campus were selected for Google Summer of Code (GSoC), thus winning the honor of being the 2nd highest number of selections in India. Students secured high scores in CAT 2015, pursued internships abroad and also won accolades in the field of sports.

## Inauguration of Quark 2016



As a new initiative, a forum called Socio-cultural Association has been introduced in the campus. This forum aims at providing a platform for all the members of Goa campus to gather and meet from time to time and celebrate various festivals and events so as to strengthen the bond among faculty, staff and their families.

It is heartening to feel the ever increasing enthusiasm among the campus fraternity and also to be a part of all the campus events, activities and achievements. We, the editorial team, are sure that when you read this 13th edition of BITScan, you would also feel the same way as we do. Your continued cooperation is very important for us in making BITScan editions more and more informative and substantial in terms of its coverage.

# NEW VC for BITS PILANI

Prof. Souvik BHATTACHARYYA took charge as the Vice Chancellor of Birla Institute of Technology and Science Pilani on 13 June 2016. He will also hold the title of Senior Professor.

Joined from IIT Kharagpur, where he was Deputy Director, Prof. Bhattacharyya brings with him a record of accomplishments, substantial breadth, depth and range of academic & research experience, and strong linkages with industry.

Prof. Bhattacharyya earned his Bachelor's from Jadavpur University, his MS from the University of Cincinnati, and his PhD from Texas A&M University, all in Mechanical Engineering, specializing in Thermal Sciences. After a post-doctoral research stint at Texas A&M, he joined the faculty of IIT Kharagpur in 1991. He was Dean (Students' Affairs), a Professor of Mechanical Engineering since 2003, and Professor (HAG) since 2006. He has also held faculty positions at the University of Canterbury, Christchurch, New Zealand, at Rhein-Waal University, Germany and has been a Visiting Fellow at Texas A&M University.

In 2012 Prof. Bhattacharyya returned to his alma mater, Jadavpur University, for fifteen months as Vice Chancellor, where he led a number of reforms.

Professor Bhattacharyya is a Fellow of the Indian National Academy of Engineering (INAE), the National Academy of Sciences, India (NASI) and West Bengal Academy of Science & Technology (WAST); a Member of the Research Council of CSIR-CGCRI and the Governing Council & Executive Board of ISM, Dhanbad. He has been an expert member of the DST Fast Track Young Engineer Research Project Committee, and is a Member of the Civil & Mechanical Engineering Project Advisory Committee, SERB, and DST. He was also an Advisory Member of the International Association of Science and Technology for Development (IASTED) Technical Committee on Energy and Power Systems (Calgary, Canada) during 2000-2005.

He has served on the Editorial Boards of Energy Conversion and Management, and the International Journal of Power and Energy Systems, and is currently on the Editorial Board of Journal of Nano Energy and Power Research and an Associate Editor of the International Journal of Alternative Energy. A recipient

of the ASHRAE Best Paper Award, Prof. Bhattacharyya has published 110 international indexed journal papers and 109 articles in international conference proceedings, besides contributing five articles in edited books published internationally and a patent (granted). He has supervised 12 PhD Dissertations, and over 25 M.Tech/MS theses. He is a co-author of the celebrated Heat Transfer text by JP Holman

Prof. Bhattacharyya has been principal investigator of a large number of sponsored research projects and has worked with organisations such as Tata Steel, Coal India, DRDO, BARC, Tata Power, CESC, and WBSEDCL. He remains an adored teacher and was the first recipient of the Indian National Academy of Engineering (INAE) Outstanding Teacher award 2013.

After joining as the VC, Prof. Bhattacharyya visited Goa campus, went through various labs and facilities, interacted with faculty members and met the Heads of Department, Associate Deans and Faculty-in-charges during 22-24 June 2016.

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**Prof. V.S. Rao welcoming Prof. Souvik Bhattacharyya**





# a confluence of ideas academia

seminars/ conferences/ workshops/  
training programs

## 9th India Software Engineering Conference

9th India Software Engineering Conference, the annual conference of the India chapter of ACM SIGSOFT was organized at BITS Pilani K. K. Birla Goa Campus during 18-20 Feb 2016.

ISEC brings together researchers and practitioners from across the world to share the results of their work. The conference aimed at providing a forum for researchers and practitioners from both academia and industry to meet and share cutting-edge advancements in the field of software engineering. With Prof. Santonu Sarkar, Dept. of CSIS and Dr. Ashish Sureka, ABB Corporate Research as the General Chair ; with Dr. Sanjay Sahay, Dept. of CSIS as the Finance Chair and Dr. Sanjay Sahay and Dr. Bharat Deshpande as the local organization Chairs, the conference was sponsored by Infosys, TCS, Siemens and Persistent and supported by ACM In-Cooperation, ACM SIGSOFT, ACM India and iSoft.

Dr. Gabi Zodik: IBM Research Haifa Israel; Prof. Stefano Russo: Univ. of Naples, Italy; Dr. Adrian Nistor: Chapman University; Dr. Michael Tufano: College of William and Mary were the distinguished speakers at the conference which had included five technical sessions. The conference received 127 papers from 11 different countries and 16% of them were accepted for presentation. It was attended by over 100 participants.

## 2nd Indo-UK International Workshop on Advanced Materials and their Applications in Nanotechnology (AMAN 2016)

This workshop was organized by Department of Chemistry in collaboration with University of Leeds, UK during January 11-12, 2016 and was a part of the activities of DST-UKIERI project. Dr. Narendra Nath Ghosh and Prof Paul A Millner were the conveners of

this workshop. In this workshop Prof. Paul Millner, Univ. of Leeds, UK, Dr. Timothy, Robo Scientific Ltd, UK, Dr Joanne Louis Holmes, Metrohm UK Ltd, UK, Prof. Ratnamala Chatterjee, IIT Delhi, Dr. Sunil Jai Kumar, Head, National Centre for Compositional Characterisation of Materials Hyderabad, Prof. Sunil Bhand, BITS Pilani K. K. Birla Goa campus, Dr. C Das, BARC Mumbai and Dr. N N Ghosh, BITS Pilani K. K. Birla Goa campus delivered invited talks. 32 scientists participated in this workshop.

### AMAN 2016



## DBT-BIRAC workshop

The BIRAC workshop on Bio-Entrepreneurship, grant-writing & intellectual property management was organized by the Department of Biological Sciences, SRCD and CIIE on 18th and 19th February 2016. Speakers: Dr. Satya Prakash Dash, Head Strategy Planning & Entrepreneurship Development, BIRAC; Mr. Ankur Gupta, Senior Manager Business Development; Dr. Shirshendu Mukherjee, Senior Strategic Advisor, Wellcome Trust; Dr. Vinita Jindal, Senior Manager, IP & Technology Management, were the officials from BIRAC. The other resource persons were Dr. Nitin Shukla Tewari, NCL Scientist; Dr. Pooja Joshi, Scientist, ICT; Adv. Priyank Gupta, Partner & Patent Attorney, from Strat Juris Partners. Two BIRAC

### DBT-BIRAC Workshop



grantees also shared their experience, Mr. Deepak Raj K, Director, df3d Pvt. Ltd and Dr. Aditya Kulkarni, CTO, ATEN Porus Life science Private Limited. Our Faculty, Prof. S. Krishnaswamy, Prof. Mridula Goel (CIIE, BITS Goa) and Prof. M. Srikanth (Biological Sciences) discussed the evolving nature of Bio-innovation ecosystem at Goa. The workshop was inaugurated by Chief Guest, Dr. Jose Noronha, Chairman, Goa State Pollution Control Board, Prof. K. E. Raman and Prof. Sunil Bhand. Dr. Judith Braganca, HoD Department of Biological Sciences delivered the vote of thanks.

## Management Development Program

The Department of Economics conducted the Workshop for pnb-MetLife Executives on 12 February 2016 wherein twenty two (22) people participated. Dr. Debasis Patnaik was the resource Person for two (2) topics and delivered two Lectures on:

1. Upselling Opportunities on Existing Customer Base
  2. Relevance of Leveraging Banking Structures for Insurance Marketing.
- Two other resource persons Mr. Anil Kumar and Ms. Riyanka Swain also delivered talks on Customer Relationship Management Issues.

### Prof. Patnaik at the Management Development Program



## Training Program for Non-teaching Staff

The HR unit of the campus organized two training programs for the non-teaching fraternity as detailed below:

### Training Program on Language & Communication Skills

A 2-day training program on language & communication skills was organized for non-teaching staff members during 29 February- 01 March 2016. The program witnessed participation from 32 non-teaching employees across supervisory & assistant levels, who were primarily identified by their Controlling

Officers. The program was conducted by M/s. Eldin, Hyderabad who came in with their trainers Dr. Revathi Susarla & Ms. Sruti Mashru. On day one, the participants were exposed to basic tenets of the English language that included Nouns, Pronouns, Verbs, Tenses and Subject-Verb Agreement through facilitator- led practice sessions. Day two saw the participants engaging in interesting & fun-filled activities that revolved around driving home the concept of communication skills at work. The program culminated in a very positive feedback from the participants. The trainers also went an extra mile to identify select employees from the participants for whom tests were administered on a periodic basis as a follow up on the program.

### Language and Communication Skills Training Program



### Training Program on MS-Office

A 3-day training program on MS-Office was organized for non-teaching staff members during 15-17 March 2016. The program witnessed participation from 28 non-teaching employees across supervisory & assistant levels, who were primarily identified by their Controlling Officers. The program was conducted by M/s. CMC, Hyderabad. The participants were exposed to MS-Word, MS-Excel & MS-Powerpoint in the morning sessions on the 3 days, with practice sessions in the afternoon in the CC-Lab. The program was well-received by the participants.

### Training Program on MS-Office





## IUCAA Workshop on Observational Astronomy (08 - 12 March 2016)

Coordinated by Dr. Tarun Kumar Jha, the 5-day workshop organized by the Department of Physics benefited over 40 students of the campus. Resource persons were Bipash Dasgupta (MP Birla Institute of fundamental Research), Samir Dhurde (IUCAA), Aniruddha Deshpande (Jyotirvidya Parisansthan, Pune) & Deepak Joshee (Jyotirvidya Parisansthan, Pune). The focus was on imparting basic techniques involved in modern-day astronomy such as use of small telescopes, astrometry & photometry.

### Participants and organizers at IUCAA Workshop



## Book Exhibition

An exhibition of books was organized on the first floor of the library from 08-12 March 2016. The following publishers displayed the books: Cambridge University Press; Oxford University Press; CRC Press; Routledge; Springer; Elsevier; Academic Press; De Gruyter; World Scientific Publishing; Imperial Press; Anthem Press; Ane Books Pvt. Ltd.; Viva Books Pvt. Ltd.; Speaking Tiger Publishing. More than 3000 books were displayed. These books covered a wide range from highly specialized research oriented books to children's books, fiction and non-fiction. Majority of the books were on various engineering and science subjects. The exhibition was attended by a large number of readers among faculty, staff and students from the campus. They suggested books for the Library and also bought books for their personal use.

### Book Exhibition at Library



## BITS Goa Economics Conclave (12-13 March, 2016)

The two-day open house event hosted lectures of six eminent economists & social scientists from IIT-Mumbai (Prof.N.C.Narayanan) ; IIM- Bangalore(Prof. K Kumar); Institute of Economic Growth, New Delhi (Prof. Manoj Panda); TISS-Mumbai (Prof. Ashwani Kumar); IISC- Bangalore (Prof. M H Bala Subrahmanya) & IGIDR, Mumbai (Prof. Sudhakara B Reddy).

Mr.B.B.Sethi (GM, NABARD, RO-Goa) delivered the inaugural lecture and spoke on the role of his organization in shaping the Indian economy. Professor Sudhakara Reddy from IGIDR Mumbai spoke on the differences between the rural and urban societies, touching upon aspects such as the population explosion in modern cities. Professor N.C. Narayanan from IIT Bombay, spoke on the issue of land encroachment and waste management. Finally, Professor Ashwani Kumar from TISS Mumbai presented a talk on the impact of growth and welfare policy.

On Day 2, Professor Manoj Panda from IEG New Delhi, spoke on the GDP rate in India and provided a comparative analysis with that of other Asian countries. This was followed by presentations by Professor K.K. Kumar from IIM Bangalore, who spoke about the emergence of startups and the role of entrepreneurship in emerging economies. In the next lecture, Professor M.H. Balasubrahmanya also spoke on the issue of entrepreneurship, albeit from the perspective of Indian SMEs. The dynamics and role of Indian SMEs was discussed in this presentation. At the end of the session, Professor Pranab Mukhopadhyay from Goa University delivered the valedictory address. 145 participants attended this event.

### BITS Goa Economics Conclave





## Workshop on Film- making and Scriptwriting (18-20 March 2016)

The Department of Humanities and Social Sciences organized a 3-day Workshop on Film- Making and Script-writing aimed at introducing the various aspects of making films and preparing scripts for the same.

The resource persons for the workshop were : Abhaya Simha, National Award winning film maker and alumnus of FTII, Pune (his first film Gubbachigalu (Kannada) won the National Award for the Best Children's film (2008) and was screened in several National and International Film festivals and N.A.M. Ismail, Journalist and Scriptwriter, Chief Sub-Editor of prajavani.net (his story was adapted into the award winning film Gubbachigalu).

The workshop kicked off on 18 March with two pre-workshop talks: Introduction of Film as a Medium and Image aesthetics in Digital Era delivered by Mr. Abhaya Simha and Mr. N.A.M. Ismail respectively. The participants comprising of 40 students and faculty members watched the films displayed and discussed with the resource persons about the techniques used in film making and script writing. They were given hands on experience in these areas through the team projects allotted to them. Their projects were discussed and certificates of attendance were issued at the end of the workshop.

Convened by Dr. Geetha B and coordinated by Dr. Rayson K Alex and Dr. Amitendu Bhattacharya of the department, the workshop received wide appreciation from the participants.

## Workshop on Career in Civil Services: Empowering For Change (Perspectives From Within) (05 April 2016)

The one-day workshop invited speakers Mr. Ameya Abhyankar, IAS, Special Secretary to The Chief Minister and Secretary, information Technology; Mrs. Nila Mohanan, IAS, Collector and District Magistrate, North Goa; Dr. Sachin Shinde, IAS, Collector and District Magistrate, South Goa. Director, BITS Pilani K K Birla Goa Campus, welcomed the audience assembled in the telepresence room of the campus while Dr. Debasis Patnaik of the Department of Economics elaborated on the Rationale of the Programme and introduced the speakers who shared their invaluable civil services experience with the audience. Mrs. Nila Mohanan, addressed the need to understand the degree of sensitivity required to address the issues related to globalized and liberalized world. Dr. Sachin Sindhe, IAS, spoke extensively on the Challenges of Civil Sector and how to prepare oneself for the Road Ahead. Their talks were followed by question answer session and the workshop ended with the vote of thanks proposed by Dr. Debasis Patnaik.

**Mrs. Nila Mohanan speaking at the Workshop on Career in Civil Services**



## Inauguration of Goa Regional Center, Indian Institute of Chemical Engineers

The Department of Chemical Engineering, BITS-Pilani KK Birla Goa Campus was sanctioned to establish the Goa Regional Centre of the premier national body of Indian Institute of Chemical Engineers (IICChE). As the first milestone, the Department jubilantly celebrated the inauguration of the IICChE Goa Regional Center on 6th April 2016.



On this auspicious occasion, Prof. Man Mohan Sharma, Padma Bhushan, Padma Vibhushan, Former director of ICT, Mumbai inaugurated the session as Chief Guest.

The theme of the event was "Chemical Engineering: Towards Green and Sustainable Future".

**Prof. Punnekkat felicitating Prof. Man Mohan Sharma at IICChE Goa Regional Center Inauguration**



Indian Institute of Chemical Engineers (IIChE), established in 1947, is a nationally and internationally recognized organization. It is a confluence of streams of professionals from academia, research institutes and industry. It is recognized by the Department of Science and Technology, Government of India, as a Scientific and Industrial Research Organization. The activities of the Institute are spread across the country through its 33 Regional Centres and 58 Student Chapters, apart from the HQ located at the Jadavpur University campus, Kolkata.

The list of invited delegates from academia and industry for the inaugural event included:

Prof. Man Mohan Sharma, Padma Bhushan, Padma Vibhushan (Chief Guest)

Dr. Satish Ramnath Shetye, Vice Chancellor, Goa University, Goa ;

Prof. Faisal Khan, Memorial University Newfoundland, Canada (Overseas Partner);

Mr. Jose Manuel Noronha, Chairman, Goa Public Service Commission, Goa ;

Mr. R. S. Dwarakanath, Director, Syngenta India, Goa ;

Dr. P. V. Pathak, Member Secretary, Goa Energy Development Agency(GEDA), Goa;

Dr. Vinod Nowal, Dy. Managing Director, JSW, Jindal Steel Bellary & Mumbai;

Mr. Ranjit Singh Chugh, Chief Manufacturing Officer,ZuariIndustries, Goa;

Dr. R. R. Sonde, Executive Vice President, Technology R & D, Thermax, Pune;

Prof. Aniruddh Pandit, ICT, Mumbai;  
Mr. Hardev Singh, Head, Hindustan Unilever Ltd., Goa.



## Three-Minute Thesis Competition

A 15000-25000 words First Degree Thesis or Higher Degree Dissertation requires one hour presentation, while a 70000-100000 words PhD Thesis requires 4-5 hours presentation. What about 3 minutes for a student to present his/her exciting research? The first 3Minutes Thesis (3MT) competition was held at The University of Queensland, Australia in 2008 and subsequently, it has become very popular across the world.

A 3-minute thesis competition was organized at the campus on 14th April, 2016, for its B.E., M.E. and Ph.D. students to showcase their exciting research in First Degree Thesis, Dissertation and PhD Thesis.

The objective of this competition was to create a platform where a student can effectively explain his/her research in three minutes, in a language appropriate to a non-specialist audience.

Around 22 B.E., M.E., and PhD students took part in this competition which was divided into two categories: I. First Degree/ BE (9 students) and II. Higher Degree/ ME & Doctoral Degree /PhD (13 students). Students were quite enthusiastic while presenting their research work and their future vision. The presentation topics covered almost all areas of frontiers research in Engineering, Science and Arts.

### Three-Minute Thesis Competition





The winners were awarded cash prize and certificate.  
Winners : FD: Mr. Rajat Mishra (2011B4A7564G)  
PhD: Mrs. Pinky Pawaskar(2008PHXF404)

Runners Up: FD: Mr. Sundar Ganesh  
(2011B5A4313G)  
PhD: Mr. Yogesh Walawalkar  
(2012PHXF016G)

## Workshop on Cadence, Mentor Graphics & Synopsys ( 16 - 20 May 2016)

Electronic gadgets and circuits and their role in defining industrial growth and in creating trained technical manpower cannot be over-emphasized. BITS Pilani K. K. Birla Goa Campus has been dedicated to this cause for over a decade now and has brought up in the national map the country, the state and the surrounding region in terms of employment opportunity, high quality industrial growth to supplement the agro-based economy and give a boost to state of art research by exposing the human resource to the available technology. The workshop was thus a vital step forward to this end – not only for skill development but also formaking in India.

### Inauguration of Workshop on Cadence, Mentor Graphics & Synopsys



With Prof. Sasikumar Punnekkat , Director; and Mr. Ruchir Dixit, Lead, India Technical Organization of Mentor Graphics as its Chief Guests at the inaugural and valedictory functions respectively, the workshop was focused towards the use of three EDA-tools namely Mentor Graphics, Cadence and Synopsys – which collectively have a market share of nearly 90% in VLSI and designs for ASIC. This workshop was distributed over five days of which one-day-and-a-half- each was dedicated to hands-on training in one of the

3 aforesaid software. It gave a flavor of industry oriented VLSI design by creating awareness of present scenario, and helped the participants crack technical issues and understand design technicalities. The workshop would enable the participants to use Mentor Graphics, Cadence and Synopsys for VLSI teaching ; to apply these tools in micro/ nano-electronics research in academic institutions; to create awareness to pursue research in VLSI teaching and designing. Resource persons at the workshop were Mr. Pradeep Salla, Mr. Thryambak Chandilya, Mr. Vikas Gupta and Mr. Sreedath from Mentor Graphics who spoke on Functional Verification ; Design-for-Test; Physical Verification; System Design respectively. Mr. Mohd. Sayem Hussain and Ms. Navneet Kaur from Synopsys spoke on Analog Flow and Digital Flow and Analog Mixed Signalling. Mr. Shashank Shekhar from Cadence spoke on ASIC Training, CIC Flow Training. The workshop was attended by 40 participants comprising of faculty members and researchers from engineering institutions.



## Workshop on ABAQUS Simulia

Department of Mechanical Engineering organized a two day workshop on ABAQUS Simulia. It was scheduled on 27th & 28th Feb. 2016. Resource person from EDS Technology provided the training. ABAQUS Simulia package offers powerful and complete solutions for both routine and sophisticated engineering problems covering a vast spectrum of industrial applications.

# Department Days

## Department of Chemical Engineering

The Department of Chemical Engineering celebrated their third Annual Department Day on 06 April 2016. Activities comprising of poster sessions and other student programs were presented. Dr. K Maruti Ram, Head, R&D and Scientific Services, JSW presented an invited talk.

## Department of Mathematics

The Department of Mathematics and MATHLETES, student wing of MSc mathematics celebrated its third Department Day on 10 April 2016. Prof. S Arumugam, Adjunct Professor, Department of Mathematics, BITS Pilani K K Birla Goa Campus gave a special talk on Srinivasa Ramanujan on this occasion. Apart from our students, children from seven reputed schools, including NCS, Dabolim, Kendriya Vidyalaya I & II participated in the day long program.

MATHLETES, Student association of mathematics conducted the following events:

Math; Sudoku and other puzzles; Math trivia Quiz; Numb3rs; PiQ and Olympiad; MathFest 2016 ; Problem solving in Graph Theory; Rigorous; Problem solving in Complex Analysis ; Problem solving in Group Theory ; Demonstration on Rubik's cube ; Lecture on Geometry.

The program ended with the distribution of prizes and participation certificates by the chief guest.

## Visits by International Dignitaries

A number of international dignitaries visited the campus. Notable amongst them are Prof. Graeme Fairweather, Executive Editor, Mathematical Reviews, American Mathematical Society, U.S.A, and Prof. Ross King, University of Manchester, UK.

- A delegation from Memorial University, Canada, visited the Department of Chemical Engineering for collaborative research and academic activities.
- A delegation from Royal Institute of Technology (KTH), Sweden visited Goa campus during Jan 2016 to explore research and educational collaboration opportunities
- Philippines ambassador, Her Excellency Ma. Teresita C. Daza, and a delegation visited BITS Goa campus in April 2016

- A collaboration proposal of Mälardalen University, Sweden (MDH) with BITS-Pilani had been selected under the Linnaeus Palme Program of Swedish Government to promote international exchanges within the computer science and related disciplines. Dr. Radu Dobrin from MDH visited BITS - Goa campus during April 2016 and BITS Team visited MDH in July 2016 to explore possibilities of student/teacher exchanges.
- A delegation from University of Aviero & University of Porto, Portugal visited the campus during July 2016 to explore potential venues for collaborations.



# distinguished lectures

Name	Designation	Topic	Date
Prof. Saurabh Dube	Professor of History, College of Mexico	Subjects of Modernity	13 January 2016
Mr. Giri Prabhakar	Head, Parallel Systems Lab at Siemens Research.	Computing at Siemens in the Networked Era - an Introduction to Parallel Computing and Research at Siemens	22 January 2016
Prof. Ashwin Srinivasan	Deputy Director & Senior Professor, CS&IS, BITS Pilani, K. K. Birla Goa Campus	Research in Science and Research in Engineering	20 January 2016
Prof. Rukmini Bhaya Nair	IIT Delhi	Chat Rooms and Class Rooms : Technology, Teachers, Education & the Evolution of English in Twenty-first Century India	04 February 2016
Prof. Ravi Shankar	Founding Editor and Executive Director of Drunken Boat and Chairman, Connecticut Young Writers Trust	Digital Publishing	05 February 2016
Prof. C. Pandu Rangan	Former Head of the Department of Computer Science, IIT- Madras	Mathematical Thinking, Computational Thinking and Algorithmic Thinking	8 February 2016
Prof. V. Sree Hari Rao	Executive Director, International Centre for Interdisciplinary Research & Innovation, Hyderabad	1. Inspire, Invigorate, Innovate : The Present and Future challenges 2. Stimulations in Simple Dynamical Systems 3. Cross-Diffusion in Ecology A Modelling Perspective	10,12 & 13 February 2016
Prof. Amitava Bhattacharya	School of Mathematics, Tata Institute of Fundamental Research Mumbai	The Art of Counting	11 February 2016

Fr./Mrs. Shubhada Choudhury	Deutscher Akademischer Austausch Dienst (DAAD)	DAAD Info Session	15 February 2016
Dr. Hans Richnow	Head, Department of Isotope Biogeochemistry, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany	ProVIS - Visualization of microbial mediated biochemical processes	February 2016
Professor C. Pandu Rangan	Former Head of the Department of Computer Science, IIT-Madras	Advanced Algorithmic Techniques Cryptography and Challenges	16 & 19 February 2016
Dr. Ohmsatya Ravi	Managing Director, Agency MBS Strategist, Nomura India	Fixed-income portfolio management	19 February 2016
Dr. Sudhir. C.	Assistant Professor, Goa University	Plasmonics Light at the nanoscale	20 February 2016
Dr. Padmanabh Rataboli, MD, MBBS	Ethics Expert, Director Professor, Department of Pharmacology, Goa Medical College, Bambolim, Goa	Role of Institutional Ethics Committee	24 February 2016
Prof. Suresh M. Hegde	Department of Mathematics & Computational Sciences, National Institute of Technology, Karnataka	A Solution of the Erdos-Faber-Lavasz Conjecture	04 March 2016
Prof. Graeme Fairweather	Executive editor, Mathematical Reviews, American Mathematical Society, U.S.A.	Sixty Years of Alternating Direction Implicit (ADI) Methods - A Personal Retrospective	08 March 2016
Prof. Ross King	Department of CS , University of Manchester	1. Automating Chemistry and Biology using Robot Scientists 2. Computing Exponentially Faster: Implementing a Nondeterministic Universal Turing Machine Using DNA	04 & 08 March 2016



Dr. Larisa Soldatova	Department of CS , Brunel University London	Probabilistic Annotation Framework: Knowledge Assembly at Scale with Semantic and Probabilistic Techniques	9 March 2016
Prof. Feda Yousef Al-Tamimi	Associate Professor of Linguistics and Speech Sciences at Jordan University of Science and Technology	Medical Machines in Language-Speech Assessment	15 March 2016
Dr. Sandeep Chaudhary	Assistant Professor, Department of Chemistry, Malaviya National Institute of Technology, Jaipur	Recent Advances in Antimalarial Peroxide- based Natural Product, Artemisinin: A Nobel Medicine for Malaria	21 March 2016
Prof. Debajyoti Nandi	Visiting fellow, Chennai Mathematical Institute	Representation Theory + VOA = Partition Identities	22 March 2016
Prof. Bijay K Agarwal	Saha Institute of Nuclear Physics, Kolkata	Journey from Terrestrial Nuclei to Extra-terrestrial Neutron Stars.	22 March 2016
Dr. B. Satyanarayana	TIFR, Mumbai	India-based Neutrino Observatory: India's Very Own Mega Science Project	23 March 2016
Prof. Mythily Ramaswami	Professor, TIFR Centre for Applicable Mathematics, Bangalore	1. Some Problems from Stabilization of Fluid Flows 2. The Story of Optimal Control	1 & 2 April 2016
Prof. Sudhir Krishna	Professor, NCBS Bangalore	Understanding Heterogeneity, Stemness and Metastasis in Human Cancer Progression"	14 April 2016

Prof. B. P. Pundir	Emeritus Professor, IIT-Kanpur	Emission and Control	26, 28 & 30 April 2016.
Prof. Suresh Arya	Program Director, Division of Cancer Treatment and Diagnosis, National Cancer Institute, National Institutes of Health, USA	<ol style="list-style-type: none"> <li>1. What is Synthetic Biology? Synthetic Genetic and Epigenetic Circuits</li> <li>2. Synthetic Biology by iGEM Students Variability and Transcriptional Noise</li> <li>3. Codon Optimization &amp; Designer Proteins</li> <li>4. Genomic Engineering and Synthetic Life, Extinct Ancestor and New Dawn, Genetic Engineering and Caspase/Cas Hopes &amp; Fears - Deterministic Evolution?</li> <li>5. HIV and Synthetic Biology</li> </ol>	30, 31 March; 1,2 and 4 April 2016
Prof. Deshdeep Sahdev	IIT, Kanpur	<ol style="list-style-type: none"> <li>1. Was our Cosmic Dawn Extra-Dimensional?</li> <li>2. Towards a Technological Renaissance in India: Case-Study of an Innovative Hi-tech Start-up</li> </ol>	02 and 04 April 2016
Prof. Arumugam	Member, Program Advisory Committee - Mathematical Sciences, Science and Engineering Research Board (SERB)	Preparation of Research Project Proposals to Funding Agencies	8 April 2016



# visits by faculty

## enriching the learning experience

## international visits

**Dr. Anil K. Pundir**, Department of Mathematics, participated in the 8th International congress on Industrial Congress and Applied Mathematics (ICIAM-2015) held at China National Convention Center Beijing, China from August 10 to August 14, 2015.

**Dr. Anoop George**, Department of HSS, presented a paper - The Good Sense of the Modern: Revisiting Heidegger's Social Ontology - at The Asian Conference on Ethics, Religion, & Philosophy (ACERP 2016), held at the Art Center, Kobe, Japan from 31 March to 03 April 2016 organized by The International Academic Forum (IAFOR), Japan

**Dr. Reena Cheruvalath**, Department of HSS, presented a paper - Internet Neutrality, Social Justice And Ethics: A Kantian Perspective - at The Asian Conference on Ethics, Religion, & Philosophy (ACERP 2016), held at the Art Center, Kobe, Japan from 31 March to 03 April 2016 organized by The International Academic Forum (IAFOR), Japan

**Prof. William Henry Spates**, Department of HSS, presented a paper "Contact Zones: Chios, the Mahonesti, and the Formation of English Long-Distance Trading Companies in Richard Hakluyt's Diverse Voyages and Principal Navigations" at the 10th IDEA Conference, Istanbul, Turkey, April 2016

**Dr. Gauranga Charan Samanta**, Department of Mathematics, presented a paper entitled "Bulk Viscous Universe in Modified Gravity Presented" in 10th Spontaneous Workshop on Hot Topics in Modern Cosmology which was held at Institut d'Etude Scientifique de Cargèse (IESC) Corsica, 09 – 14 May, 2016 Cargese, France. Dr. Samanta received a travel grant of Rs. 98,365 from SERB-DST, Govt. of India to present this paper.

**Dr. Aruna Govada**, Department of CS & IS, presented a paper Covariance Estimation for Vertically Partitioned Data in a Distributed Environment at the 17th IEEE Software / ACIS Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, Shanghai, China, during 30 May - 01 June 2016

**Dr. Venkatesan Thimmakondur**, Department of Chemistry delivered a talk "Molecules in Laboratory and in Interstellar Space?" in the International Symposium on Molecular Spectroscopy on June 23, 2016, University of Illinois at Urbana-Champaign, IL, USA.

**Prof. Dipankar Pal**, Department of EEE and E&I, visited Bali (Indonesia) during 08 – 12 May 2016 to present a tutorial as a facilitator in the IEEE Tensymp (IEEE-Annual-Conference of the Circuits-&-Systems-Society (CAS) in Region-10 (Asia-Pacific).

**Prof. Santonu Sarkar**, Department of CS & IS, organized the first full-day workshop on Software Engineering Methods for Parallel and High Performance Applications (SEM4HPC), Kyoto, Japan, May 31, 2016, which was collocated with the prestigious 25th International Symposium on High Performance Parallel and Distributed Computing.

**Prof. Sarkar (second from left) at SEM4HPC**



**Dr. Amitendu Bhattacharya**, Department of Humanities and Social Sciences, visited Cape Town and Stellenbosch in South Africa to present a paper "Universities at the Crossroads and the Humanities at a Dead-End: What is the Way Forward" at the 17th Triennial Conference of the Association for Commonwealth Literature and Language Studies (ACLALS) from 10 to 15 July 2016.

**Dr. Bhattacharya at the ACLALS conference in South Africa**



**Mr. Solano Da Silva**, Department of HSS, visited Cape Town, South Africa as an invited external expert for a workshop held during 30 May- 03 June in connection with an ongoing project on urbanisation. The project included field visits that sought to understand the dynamics of urban commons in the city.

**Mr. Da Silva (first from right) in Cape Town, South Africa**



**Prof. Narendra Nath Ghosh** of Dept. of Chemistry visited University of Birmingham, UK during 19th July- 28th July 2016 to conduct collaborative research with Professor Gerard Fernando for the ongoing Newton Research Collaboration Programme awarded by The Royal Academy Of Engineering (UK). Prof. Ghosh also visited University of Leeds, UK on 24 and 25 July 2016 and delivered a talk on Synthesis of Nano-materials as a part of the activities of his visiting professorship at University of Leeds.

**Prof. N. N. Ghosh in the UK**



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

# invited lectures by faculty

**Dr. Venkatesan Thimmakondur**, Department of Chemistry, delivered three invited talks on "Molecules in Laboratory and in Space?" at (i) Computational and Theoretical Chemistry Group (CATCO) Seminar, Southern Methodist University, Dallas, TX, USA, 15 January, 2016 (ii) Department of Chemistry, Pondicherry University, Pondicherry, India, 08 February 2016 (iii) School of Advanced Sciences, Vellore Institute of Technology, Vellore, Tamil Nadu, India, 09 February 2016.

**Dr. Thimmakondur at the CATCO seminar in Dallas**



**Prof. Meenal Kowshik**, Department of Bio. Sciences delivered a talk on 'Nanotechnology- Applications in Biology and Medicine' during the plenary session at the International Seminar on "New Frontiers in Microbiology and Applied Biology" held on 7th and 8th January 2016, at Institute Menezes Braganza, Panaji, Goa.

**Prof. Kowshik at Institute Menezes Braganza, Panaji**



**Prof. Dipankar Pal**, Department of EEE and E&I, presented (i) a tutorial on: "Effort Delay and Appropriate Optimizing Techniques" at the IEEE Tensymp on 11 May 2016 (ii) the keynote address in 2nd National Conf. on Advances in Comp. Sc, Signal Processing & VLSI (NCACSPV-16): 11-12 March



2016 (iii) a guest-lecture on “A wide-Input linear range sub-threshold transistor for sub-Hz filtering” on 29 January 2016, in 2nd National Conference on Power Electronics (NCPE2016).

**Prof. Basavadatta Mitra**, Department of HSS, delivered a talk on ‘Networking the Triple Helix of Competitiveness’ as part of ‘Industry Institute Sahayog 2016’, organized by Agnel Polytechnic, Verna, Goa under Glow India Initiative of ATCE on 11 March 2016.

**Prof. Meenakshi Raman**, Department of HSS, conducted two sessions on “Integrated Language Learning through Dictogloss” and “Cross cultural variations in Communication” at the English refresher course organized by the UGC Human Resource Development Centre, Goa University on 12 and 15 March 2016.

**Dr. Aruna Govada**, Department of CS & IS, delivered a guest lecture on Distributed Data Mining at the SDM Engineering College, Dharwad on 27 April 2016.

**Dr. Debasis Patnaik**, Department of Economics, delivered a series of lectures on ‘Theoretical Aspects in Macro Economics : New Developments in Monetary Reforms’ at the Goa University during Jan-March 2016. He delivered a Census talk ‘Analysis of Census Data 2011 in Education Sector in Indian States’ in Census Office, Panjim Goa on 12 Jan 2016. Dr. Patnaik also delivered two invited talks at ONGC Office, Betul: (i) ‘Futuristic Role of Oil and Gas’ (ii) ‘Indian Public Sector Developments and Reforms Over the Years’ on 29 April 2016.

**Prof. Santonu Sarkar**, Department of CS & IS, delivered two invited talks: (i) On the current research program at the joint workshop of Siemens and TU Munchen at Siemens, Bangalore on 29 February 2016 (ii) ‘Recent Advances in Software Engineering Techniques for Heterogeneous Platform’ at NIT Surat on 11 May 2016.

**Dr. Sachin Waigaonkar**, Department of Mechanical Engineering, delivered a talk on ‘Investigations of Rotational Moulding Process Using Nanoscale Fumed Silica composites’ in the ROTOPOL 2016 at SwieradowZdroj, Poland during 1-3 June, 2016. This was the annual spring meeting for Rotational Moulding Industry in Poland.



## achievements

**Prof. Narendra Nath Ghosh**, Department of Chemistry, has received Visiting Professorship from University of Leeds, UK. Dr. Ghosh has received Newton Research Collaboration Programme award jointly with Professor Gerard Franklyn Fernando University of Birmingham, UK. This award is funded by The Royal Academy Of Engineering (UK). Prof. Ghosh has also received the Visiting Scholar award for teaching in Erasmus Mundus Joint Master Degree programme EACH - Excellence in Analytical Chemistry in University of Tartu, Estonia.

The research paper ‘Covariance Estimation for vertically partitioned Data in a Distributed Environment’ authored by **Dr. Aruna Govada** and **Dr. S.K. Sahay** Department of Computer Science, and presented at the 17th Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, Shanghai, China, held from 30 May to 1 June, 2016, is one among the 14 selected best papers and published in Volume 653 the series Studies in Computational Intelligence, pp of 151-164. [http://link.springer.com/chapter/10.1007/978-3-319-33810-1\\_12](http://link.springer.com/chapter/10.1007/978-3-319-33810-1_12)





**Prof. Ranjan Dey**, Department of Chemistry, has been appointed as Visiting Associate Professor at National Taiwan University of Science and Technology, and taught a Course titled 'Solution Thermodynamics and its Applications to Electrochemical Systems' to higher degree students in June and July 2016.

**BIRAC** (Biotechnology Industry Research Assistance Council) has approved funding of Rs. 304 Lakhs for setting up a world class Bio-incubation centre named Bio-NEST (Bio-incubators nurturing Entrepreneurship at BITS Goa campus. The focus of the Bio-incubator will be on Healthcare and Environmental Engineering.

**Prof. Narendra Nath Ghosh and Prof. Halan Prakash**

of Department of Chemistry have received Visiting Scholar award for teaching in Erasmus Mundus Joint Master Degree programme EACH (Excellence in Analytical Chemistry) in University of Tartu, Estonia. Date to be confirmed.

**Prof. Meenakshi Raman** and her team (Dr. Shalini Upadhyay and Ms. Layla Mascarenhas) at the Department of Humanities and Social Sciences has received an Industrial consultancy of Rs. 6.5 lakhs from Ms Cipla Biotec, Verna, Goa for conducting a training program for its frontline officers and managers in Technical Writing.

**Dr. Shashidhara Kotian**, Department of EEE, received the M K. POSOCO Power System Award, 2016.

**Dr. Asima Shaukat**, Department of Chemical Engineering, has received 'Early Career Research (ECR) Award' under DST-SERB (Rs 60 Lakhs).

**Dr. Jegatha Nambi Krishnan**, Department of Chemical Engineering, has received the 'Early Career Research (ECR) Award' under DST-SERB (Rs 49 Lakhs).

**Mr. Solano Da Silva** of Department of Humanities and Social Sciences has been sanctioned Rs.85,000 during July 2016 by the Centre for the Study of Developing Societies (CSDS), Delhi to conduct a Research Study on Land dispossession for a golf Course in Tiracol Goa.

**Prof. Sunil Bhand**, Department of Chemistry, has received the Joseph Wang Award from Cognizure publishers in recognition of his outstanding research work.

**Prof. Srikanth Mutnuri and Dr. Anasuya Ganguly's** (Department of Biological Sciences) Start up Bactreat Environmental Solutions LLP was awarded DBT BIRAC Sparsh grant for the project titled "Resource recovery from septage".

# Significant Projects

PRINCIPAL INVESTIGATOR & NAME OF THE DEPARTMENT	TITLE OF THE PROJECT	FUNDING AGENCY AND AMOUNT (RS. IN LAKH)
Prof. Sutapa Roy Ramanan Chemical Engineering	Synthesis of hydroxyapatite based biocompatible functional magnetic nanoparticles and Investigation of its interaction with biomolecules	UGC -DAE Consortium for scientific research, BARC. Sanctioned amount Rs.0.45
Dr. Gaurav Singh Mechanical Engineering Co investigator: Prof. Quansheng Liu, Wuhan University China	Simulation of simultaneous rock fractures at multiple scales	Ministry of Mines Rs. 30.00 lakh
Dr. Jegatha Nambi Krishnan Chemical Engineering	Ion selective sensor for arsenic detection in water medium	DSTE, Goa Rs. 2.0 lakh
Dr. Kundan Kumar Coinvestigator: Prof. Utpal Roy Biological Sciences	Screening, isolation and identification of novel antimicrobial compounds from potential mangroves of Goa	CSIR, N Delhi Rs. 20.00 lakh
Prof M Srikanth (Biological Sciences) Other institute involved INRA, France IISc, Bangalore IIT, Kharagpur NIT, Suratkal Ecole de mines, France Tata Steel Ltd, Societe Jean Voisin, France	Network on decentralized grey/waste water treatment & recycling	Indo-French water network programme of CEFIPRA Rs. 3.44 lakh
Dr. Jegatha Nambi Krishnan Chemical Engineering	Chlorine resistant nano enhanced polymer blend membranes	SERB - Start-up Research Grant Rs. 31.74 lakh
Prof. Meenakshi Raman Dr. Shalini Upadhyay Dr. Layla Mascarenhas Humanities and Social Sciences	Technical Writing Training Program	Cipla Biotec, Verna, Goa Rs. 6.651 lakh (Consultancy)
Prof Sunil Bhand (PI BITS Goa) CHEMISTRY Dr. Gautam Bacher (CO-PI), EEE Other Institutes: CDAC Kolkata Jadavpur University, Kolkata	Development of sensing systems for residual pesticide and harmful chemical detection in fruits and vegetables (Consortia Project)	R D Tata trust, Mumbai BITS Goa share <b>Rs. 53.20 lakh</b> (Total project cost <b>Rs. 2.12 crore</b> )
Prof. Srikanth Mutnuri Biological Sciences	Terra Preta Sanitation	German Technical Cooperation, GIZ, Germany Rs. 17.53 lakh

## Patents Granted (Prof. Santonu Sarkar, Department of Computer Science and Information Systems)

- Method and system for analyzing an extent of speedup achievable for an application in a heterogeneous system- S Mitra, S Sarkar, US Patent US9223571 B2
- System and Method for detecting and preventing service level agreement violation in a virtualized environment-- R Ganesan, S Sarkar, A Roy, US Patent 20,150,372,878
- System and method for job scheduling optimization- S Sarkar, N Tewari, R Bhose, US Patent App. 13/554,615
- A method, system and computer readable medium for providing a scalable bio-informatics sequence search on cloud-- Shyam Kumar Doddavula, Madhavi Rani, Anirban Ghosh, Akansha Jain, Santonu Sarkar, Mudit Kaushik, and Harsh Vachhani, US Patent App. US 13/495,753

## Patents Filed

- Dr. Halan Prakash, along with PhD Scholars Parakh Priyadarshini and Subramanian Gokulakrishnan from the Department of Chemistry and Dr. Panzade Prasad from Aditya Birla Science & Technology Company have filed for 'Supported metal complex as photo bactericidal agent' Application no. 201611017381, 18 May 2016, The Indian Patent Office.
- Dr. Singru Pravin Madanrao, Department of Mechanical Engineering along with students Gupta Apurv, Kalola Meet Govindbhai and Bana Ankit has filed a patent for 'Human powered multi-purpose machine'.

## University Immersion

**Dr. Sachin Waigaonkar** (Mechanical Engineering) visited Poznan University of Technology, Poland to conduct research in the area of Rotational Moulding and Polymer Composites at the Institute of Materials Technology. He worked with Prof. Marek Szostak on the research in the Institute of Materials Technology.

Prof. Waigaonkar at Poznan University of Technology, Poland



**Dr. Anil Kumar** (Mathematics) visited School of Mathematical and Physical Sciences, University of Newcastle (UoN), University Drive, Callaghan NSW 2308 Australia from 21 May to 22 July 2016. He worked in the area of optimal control theory which includes ordinary and partial differential equations and computation of optimal control. He worked with Dr. Bishnu Prasad Lamichhane on numerical computation of optimal control problems involving partial differential equations.

**Dr. Kumar (right) with Dr. Lamichhane at UoN, Australia**



## Industry Immersion

**Dr. Amalin Prince** (EEE&I) visited Microwave and ECE Division, Institute for Plasma Research, Gandhinagar and worked on the 'Development of Frequency Modulated Continuous Wave Reflectometer for Plasma Density Profile Evaluation'.

**Dr. Mainak Banerjee** visited Syngenta Bioscience Pvt. Ltd., Goa. He worked on total synthesis of a nematicide, penipratynolene as a part of initial know-how on agro-chemical toxophores. The research work was conducted in collaboration with Dr. Ravindra Sonawane of the herbicide group.

**Dr. Amrita Chatterjee**, Department of Chemistry, visited National Institute of Oceanography (NIO), Goa and worked on the metal speciation technique specially of heavy metals in various sediment samples.



# Student Achievements

Google Summer of Code (GSoC) are four words that stir up the feeling of passion, competition and curiosity among anyone who is even remotely interested in the goliath field of computer science. Be it the extremely selective application process, the exhausting diplomacy of the mentor - mentee communication period or the two and a half month programming spree that it tests the mettle of a college scholar and forces one to persevere the path of self-development. Those who are able to walk through this inferno are rewarded with front line experience of working in a larger than life open source project which carves a niche in ones' Curriculum Vitae and GitHub account alongwith professional kinship with other prominent players of the programming industry and the tangible benefit of \$5500 which can be used to finance ones' education, skill development or material needs.

The event requires a student to choose from a plethora of different open source organizations with different project based upon their interests and skills and either propose a project or select a project idea that the mentors think will help in the development of the given organization. The mentors themselves are active contributors of the given organization and guide all the applicants before the selection process and mentor the chosen ones after. The applicants are selected based upon their Curriculum Vitae, performance in required tasks and proposed projected timeline. After this, a bonding period takes place wherein one gets the

opportunity to interact with the community of people who are involved in the project, and clarify their doubts. Soon after begins the coding spree followed by the mid-term assessment by mentors to be followed by the latter half of project. Upon completion of the project, the candidate is evaluated again, which if satisfactory to the mentor certifies the mentee as a "GSoCer" who receives various goodies from Google soon after. The monetary reward is given in parts after each evaluation.

The following 25 students from BITS Pilani K. K. Birla Goa Campus have been selected this year as compared to the last year's number 13. The campus had the second highest number of selections in India.

For further information about GSoC, please visit the following link:

<https://summerofcode.withgoogle.com/>

The initiative 'BITS Genesis' can be held directly responsible as one of the factors leading to such a steep increase in number of candidates who got selected this year as compared to last one because of their mentorship programme, wherein people who have cleared GSoC in past; mentored the aspirants for GSoC 2016.

Name	ID No	Organization
Saurabh Mahindre	2011B2A3658G	Shogun Machine Learning Toolbox
Adheesh Bhatia	2011B4A3535G	
Sachin Paryani	2011B5A7425G	Boston University / XIA
Abhishek Kumar Annamraju	2012A3PS118G	Open Detection
Sushruth Sivaramakrishnan	2012A7PS014G	Beam Community - BarrelDB
Ipsita Samal	2012A7PS057G	International Neuroinformatics Coordinating Facility
Devprakash Harihar Satpathy	2012A8PS286G	GNOME
Gaurav Tamba	2012B1A7327G	Ruby Science Foundation (SciRuby)
Prasun Anand	2012B1A1645G	Ruby Science Foundation (SciRuby)
Akshay Narasimha	2012B4A8449G	Mc. Gill University
Bittu N	2012B5A3514G	lowRISC
Priyanka Mandikal	2012B5A7483G	Wikimedia Foundation
Bhargav Srinivasa	2013A7PS053G	Numfocus
Avyav Kumar	2013A7PS084G	OSGeo-GDAL
Anurag Rai	2013A7PS693G	AIMACode
Nisarg Shah	2013A7PS694G	KolibriOS
Ramana Subramanyam		PSF-Theano
Shraddha Barke	2013A8PS344G	Systers, an Anita Borg Institute Community
Vikas Mishra	2013B3A3497G	OGeo-PyWPS
Gaurav Narula	2013B3A7516G	GNOME
Ramchandran Muthukumar	2013B4A7541G	Numfocus
Mridul Seth	2013B4A8662G	National Resource for Network Biology (NRNB)
Shahnawaz Ahmed	2013B5A3466G	PSF-DIPY
Rohan Goel	2014A7PS014G	cBioPortal
Abhimanyu Singh Shekhawat	2014A7PS030G	KDE

**Kartik Satyanarayanan** (2013A7PS037) secured an internship at INRIA, Rennes in France. It is a research organization which specializes in Computer Science research. He was one among the 25 selected in India (the only one from the 3 BITS campuses) for the Charpak Research Internship Scholarship funded by the French Government.

**Stuti Rastogi** (ID: 2011A7PS094G) has secured admission from the following 7 universities (all in top 20 ranks) for Fall 2016:

- Carnegie Mellon University
- University of California, Berkeley
- Cornell University
- Georgia Tech University;
- University of California, San Diego ;
- University of California, LA;
- University of Southern California

**Sumit Jain** (2013A4PS385G) and his team participated in a competition SAE-SUPRA India held at Buddh International Circuit, Noida from 4 to 9 July, 2016. They designed and manufactured a formula-one type car in a budget of 9 lakhs. The event witnessed the participation of 180 teams from various engineering colleges all over India. Major Sponsors of BITS, Goa team were - Speed, Bharat petroleum, SolidWorks, Hyperwork and Student associations of BITS. Apart from these, most of the amount was self funded by team members and some SAE- Supra club seniors.

**B Rachith Aiyappa**, 2014B5A4469G, won the Mens Singles and Doubles Lawn Tennis event conducted by Cidade De Goa in association with the Goa State Tennis Association (GSTA). It was all All Goa Ranking tennis tournament conducted in Feb 2016. In the doubles event he was partnered by Tejas Shivde from Goa.

**B Rachith Aiyappa (second from left) receiving GSTA trophy**



**Abhishek Desai** (2012A4PS174G) scored 99.91 percentile in CAT 2015.

**Parth Madan** (2014B1A4787G), **Kartik Aggarwal** (2014A3PS333G), **Sagar Bildani** (2014B5A3459G), and **Shourya Bose** (2014B4A3692G) were selected for the final round of the global social enterprise business model challenge, the HULT Prize supported by the Clinton Global Initiative. They were invited to pitch their business idea at the regional finals in Dubai held during 11-12 March, 2016 in Hult Business School, Dubai.

**(L-R) Shourya, Parth, Kartik and Sagar at the HULT Prize regional finals in Dubai**



**BITS Genesis**, a club that is focused on improving the technical atmosphere of the campus, organized BITS2Startup Global Summit where successful entrepreneurs were invited to deliver talks to aspiring student entrepreneurs.

**Varsheeth Talluri** (2013A7PS045G) completed his Summer Research Internship at the University of Southern California, Los Angeles, under the Viterbi-India Program, 2016. This program is a fully funded internship organised by Indo-US Science and Technology Forum (IUSSTF), wherein 20 students from all over India are selected. Varsheeth worked on a Computer Vision & Machine Learning project titled 'Blot Image Analysis and Extraction', and was mentored by Prof. Premkumar Natarajan, Vice Dean, Viterbi School of Engineering.

# QUARK 2016

Quark 2016: A Cosmic Odyssey hosted during 5-7 February 2016 promised to be a journey like never before.

As pre-quark events, qSAT 2015, for school students of grades 8 to 12 was conducted in various cities across the country. In July 2015, qSAT was held in Bhopal, Kolkata, Mumbai, Pune, and Trivandrum. In August 2015, Quark presented a series of telepresence lectures under the TeqFlix banner, with speakers such as Dagogo Altraide (an Australian YouTuber behind the ColdfusTion channel), Dr. Mario (an astrophysicist at STScI which manages the Hubble Space Telescope), and Dr. Jill Tarter (former Director of the Centre for SETI Research). In September 2015, the Quark online blog Space-Time Musings was made public, with fascinating articles on time and space being featured on a regular basis.

The team was also very proud to announce Dr. Kiran Bedi as the ambassador for Quark's social initiative RED, through which many blood donation drives were organised.

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**Rajdeep Sardesai at Carpe Dictum in Quark 2016**



Quark 2016 began with an inauguration ceremony and after the Convener declared the fest open, Mr. Shail Maniar, VP and MD, Sabre India addressed the gathering. "Our relationship with BITS Pilani K. K. Birla Goa Campus goes back to 2005 when we started the BITS Practice School – a six month internship program, and we have sponsored Quark for the last two years. We continue to see great value in partnering with BITS and strongly believe that the next big thing or innovation in travel technology could possibly come

from India and more likely from premier technology institutions like BITS," he said.

Over the next three days, more than 1500 participants battled it out in various techno-management events as well as gaming and literary events. Workshops and exhibits drew large crowds. The speakers inspired the young minds, and the performances were a great way to end each fun-filled day. Guest Lectures by Stephan Pastis (Pearls Before Swine comic strip creator), Sanjay Jha (Indian National Congress national spokesperson), Raheel Khursheed (former Twitter India Head), Sugata Mitra (2013 TED Prize winner), Akshar Pathak (Minimal Bollywood Posters creator), Rajdeep Sardesai (former CNN-IBN Editor-in-chief), Bejoy Nambiar (Wazir, Shaitan director), and Aditi Rao Hydari (actress, dancer) were attended with immense enthusiasm. Aurora performers with Chris Cheong (Malaysian magician), Kate Chruscicka (Polish electric violinist), and Siddharth Slathia (YouTube cover singer) entertained the BITS crowd over three nights.

All in all, Quark 2016 was a tremendous success, leaving everybody involved satisfied.

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**Flash Mob at Quark 2016**







Sat. Praveen  
Courtesy: The Department of Photography (DoPY), BITS Goa



# SPREE 2016

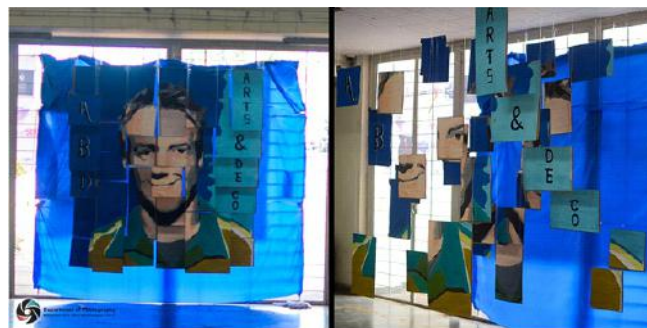
By now, BITS Goa's sports festival, Spree, needs no introduction. With massive participation from Indian colleges, state-of-the-art sports facilities, performances by some of India's biggest stars, it has cemented its name in the top sports festivals of India, and Spree 2016 - 'Where Winners Tread' was no different.

The action kicked off on day 0 itself, with some of the favourites easily winning their matches early on. BITS FC, Chogule, Motilal all breezed through their group games of football, with much fanfare from the crowds watching. Meanwhile, BITS Goa kept its winning spree on in cricket as well by winning the match against Xavier's (Jaipur) by 10 runs in a thrilling game. In the next match, much to the disappointment of the crowd, BITS Hyderabad lost to SIMS by a margin of 52 runs. In carom, BITS Hyderabad sadly faced two consecutive defeats from BITS Goa and COEP.

After an action-packed first day at the grounds, the participants enjoyed the scintillating performances from Holy Stoked, a professional skateboarding troop. It was followed by a professional footballer Tejas, who entertained the audience with his insane tricks and his chemistry with his football. All throughout, 9XM the media partner, and Times of India, the official newspaper and media partner enabled up-to-date coverage of all the events.

Day 2 continued the excitement – rightfully dubbed as “Semi-final Saturday”, the festival witnessed matches such as Maharishi vs BITS in the first of the matches in Women's Basketball. A dominant display saw the BITS secure a 28-6 victory, amidst much fanfare from the crowd. As for Men's basketball, riding on the back of impressive performances by Manish, Sahith and Vijith, among others, the home team navigated through some tricky moments, whilst bearing the searing heat to convert what once was a fragile 27-26 advantage to a comprehensive victory. In Tennis, BITS A and BITS B finished 1st and 2nd in the group stage respectively. BITS A, led by Vatsal Tolasaria and Rachith Aiyappa went up against NIT-K, while BITS B attempted to topple COEP and secured an all BITS final. And with all the excitement on the grounds, a plethora of food stalls, live screening of international matches, and movies meant everyone was entertained. The DATSUN stall in particular attracted attention, showcasing their car, and slogans which empower one-self. Apart from this, informal events like the Hogathon, RodeoBull and

Water Zorbing kept people entertained throughout the Day, while YouTube cover artist Avanie Joshi and illusionist Arjun Guru enthralled the crowd on Night 2.



Day 3 saw the deciding matches of most events and the thrill and excitement could be sensed among the crowd, especially for the events where the home teams had secured their places in the finals. Much to the chagrin of the home crowd, BITS FC lost their semi-final football match on penalties, after 0-0 draw at end of normal play. Venkateswara College, the very team which beats BITS FC, went on to win the whole tournament with another victory through penalties in the finals. Venkateswara also took home the Women's Basketball trophy, beating BITS in a well-contested match. In exciting Cricket finals between SVC and Xavier's, SVC grabbed the winning trophy, defeating Xavier's by win 5 wickets. The finals of the first edition of Squash at BITS Goa saw both teams from Manipal competing against each other. After an intense competition, MIT A won 2-0 against MIT B. For the non-sports enthusiasts, Department of Creative Works organised Scavenger Hunt, basically a Beg, Borrow or Steal event where participants had to acquire the items on the list by whatever means possible. Day 3 ended on a high note with the soul soothing performance of renowned Bollywood playback and folk singer, Angaraag Mahanta, popularly known as Papon. With his captivating baritone, he has won laurels and hearts across the nation and BITS Goa knows it. His band, Papon and the East India Company mesmerized the audience with their renditions of popular songs like Jiyein Kyun, Kyon from Barfi, Moh Moh Ke Dhaage and many others.

All in all, Spree 2016 was indeed a sporting carnival that stood testimony to some high-intensity games, good sportsmanship, exciting stalls by Yokohama, Datsun, Incrivel and Stayzilla, and the stunning performances by Papon and other entertainers.





Courtesy: The Department of Photography(DoP), BIT'S Goa



## Socio-Cultural Association

Socio-Cultural Association is formed at K. K. Birla Goa Campus in March 2016. All staff and their family members are part of this association. The main objectives of the association are to:

- Provide opportunities for social and cultural networking
- Network and collaborate with BITS affinity groups
- Create an appropriate forum to inform and promote faculty, NT staff and their family members' involvement in various activities, initiatives and efforts at the campus, regional, national and international levels.
- Arrange a biannual get together (with dinner / high tea)



Socio-Cultural Association after its inception organized Holi Milan in campus on 24th March 2016. A large number of people including children and elders have participated and enjoyed a colourful holi. The event was successful and highly appreciated. The association aims to provide common platform to all staff and their family members to come together and showcase their talents and celebrate individual achievement. In this regard, a cultural evening with gala dinner "Sangam-2016" was organised for all staff and their family members on 7th May 2016. Going forward, the association plans to conduct various activities such as e-magazine for children, Diwali Milan, Sports Meet and various other forms of competitions, with much more vigor and enthusiasm.

## Shrutilaya

'Srutilaya', the classical music and dance group of BITS Pilani Goa Campus organized an Odissi dance evening in association with Indian Council for Cultural Relations (ICCR) on 27th Feb 2016. Guru Shri Udaykumar Shetty and Smt. Soumya Shetty, the exponents of Odissi style of dance, mesmerized the audience with their performance of 'Dasavataram'. This was followed by Tyagaraja Aradhana on 28th Feb 2016, a musical tribute to Saint 'Shri Tyagarajaswami'.

**Odissi dance recital by Shri. Udaykumar Shetty and group**



## Sangam



**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.**

<b>Faculty</b>	<b>Department</b>	<b>Editorial/ Review</b>
Prof. Dipankar Pal	EEE and E&I	Editorial-Reviewer for the journal “IET Circuits, Devices & Systems”
Prof. P.M.Singru	Mechanical	Appointed Editor of Journal of Vibro-Engineering (SCI Indexed) in March 2016; Appointed Editor of Journal of Measurement in Engineering in March 2016. ; Reviewer of a. Journal of Vibro-Engineering      b. Advances in Acoustics and Vibration c. Shock and Vibration.; Reviewer of 23 <sup>rd</sup> International Congress on Sound & Vibration, July 10-14, 2016, held in Greece.
Prof. Santonu Sarkar	CS & IS	Served the program committee of the 3 <sup>rd</sup> IEEE International Workshop on Reliability and Security Data Analysis 2016; 9 <sup>th</sup> ACM India Software Engineering Conference 2016; Ad-hoc Reviewer of the Journal of Software Engineering and Practice, IEEE Tr on Cloud Computing
Mr. Tirtharaj Dash	CS & IS	Reviewer for Proceedings of the National Academy of Sciences, India Section A: Physical Sciences ; Reviewer for ACM International Conference on Informatics and Analytics (ICIA'16), India
Prof. Meenal Kowshik	Biological Sciences	Reviewed papers for Environmental Science and Pollution Research, ACS Applied Materials & Interfaces, Colloids and Surfaces B: Biointerfaces, Journal of Applied Microbiology, Journal of Advances in Biology & Biotechnology, British Biotechnology Journal,
Dr. Ram Shanker Patel	Physics	Reviewed one journal article for Scientific Reports (Nature Publishing Group, London).

Dr. Venkatesan Thimmakondur	Chemistry	Reviewed a paper entitled "Characterizing a non-classical Carbene with Coupled-Cluster Methods: Cyclobutylidene" for Physical Chemistry Chemical Physics, Royal Society of Chemistry Journals.
Prof. Meenakshi Raman	HSS	Reviewed one paper for British Journal of Education, Society & Behavioral Science (Science Domain Journal); one for Archives of Current Research International (Science Domain International); two for AIMS International Journal of Management.

## Introducing New Faculty

Name	Designation	Discipline	Research Area
Dr. Sudeep Baudha	Asst. Professor	EEE	Radio Frequency and Microwave Engineering
Mr. Chembiyan Thambidurai	Lecturer	EEE	Radio Frequency Circuit Design (RF Circuit Design)
Mr. Abhilash Kumar Tilak	Lecturer	Mech. Engg.	Fluid Dynamics and Heat Transfer Characteristics in Micro channels
Mr. Ravindra Singh Saluja	Lecturer	Mech. Engg.	Product Engineering, Manufacturing Process and Product Life Cycle Management

## editorial team

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# BITS Pilani

K K Birla Goa Campus

## mediaspeak

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### Students of BITS Pilani win regional round of Tata crucible campus quiz

BY A REPORTER  
reporters@gnmatindia.com

Panaji: Ashwin Krishnan and Meghana Gupta from BITS Pilani won the Goa regional round of Tata Crucible Campus Quiz 2016. They will now battle against the champions from eight cities at the Zone 3 finals.

Roshan Dattatri and Lucky Kaul from BITS Pilani were declared as the runners-up.

The 12th edition of

Tata Crucible Campus Quiz is a unique 20-20 game to be played on the basis of a 20 question Prelim followed by a T20 format final.

Professor Noeral Amarnani, Professor (Finance) & Chairperson, PGDM, Goa Institute of Management awarded the winners a prize money of Rs 75,000 followed by Rs 35,000 for the runners-up.

The top six teams were selected after a pre-

liminary written and a subsequent wild card round (only from the cities where it was held). Besides the winners and the runners-up, the four stage finalist teams included Sahil R and Tejan Karmali from NIT, Ashish Bansal and Anirudh Shirsat from GIM, Arpit Madan and Palak Dhawan from GIM and Tanmay Naik and Akash Kulkarni from Goa College of Engineering.

### BITS Goa to host economics conclave

The Department of Economics at BITS Pilani, K K Birla Goa Campus is organizing BITS Goa Economics Conclave from March 12 to 13 on campus. The event is set to stimulate a series of dialogues on critical development themes ranging from urban sustainability, political ecology of resource conflicts, democracy and welfare, issues of growth, development and distribution, high growth entrepreneurship, innovation, technology and SMEs.

The two-day open house event shall host lectures of six eminent economists & social scientists.

### >Odissi Dance: The Indian Council for Cultural Relations (ICCR) in association with Srutitaya, the Classical Music and Dance Group of

## BITS Pilani's 'Quark' off to rollicking start

TIMES NEWS NETWORK

Panaji: 'Quark', the annual techno-management festival of BITS Pilani K K Birla Goa Campus, Zuarinagar, will be held on campus from February 5-7, 2016. Besides events, there will be guest lectures, workshops and special nights.

The wonders of the ever-expanding universe have always been a source of fascination and intrigue. At 'Quark 2016' it was the quiz that took participants on a cosmic odyssey.

For a taste of corporate there was the Bluechip Beat-down organized by the Quark corporate panel. It is a business game with a twist.

Apart from technical and machine-oriented events, Quark also hosted other events for wannabe entrepreneurs, like Quest, where participants got a chance to pitch their business ideas in the final round to noted venture capitalists and investors. The winning idea gets funded.

Numbers (a mathematics fest to popularise math), Ganimatronics (a quiz for all geeks), Digilogica (a game of digital design), and MATKA (annual e-sports event) were some of the other exciting events.

The contest 'Design for Disaster' involved present-



Magician Chris Cheong from Malaysia with a participant

ing solutions on common disasters. C B K Moorthy announced Ranajoy Roy as the winner.

Roborace saw participants remote-controlling a 4-wheeled robot and running it through an obstacle maze. Around 30 teams from all over India participated. Robots were created by the participants.

Meet Modi and Tushar Pandey from BITS Goa won Wallstreet Revolution.

Apart from events and workshops, the speaker line-up of day one included co-founder and CEO of Mozilla, Brendan Eich, editor-in-chief of ESPNCricInfo, Sambit Bal, winner of the TED Prize in 2013, Sugata Mitra, co-founder and CTO of InMobi, Mohit Saxena, board of directors, RBI and former president, NAASSCOM, Kiran Karnik, and Malaysia's best magician and mentalist, Chris Cheong.

### BITS Pilani wins Goa round of Tata Crucible quiz

Ashwin Krishnan and Meghana Gupta from BITS Pilani won the Goa regional round of the prestigious Tata Crucible Campus Quiz 2016. They will now battle against champions from 8 cities at the Zone 3 finals.

Roshan Dattatri and Lucky Kaul from BITS Pilani were declared the winners. The winners were awarded prize money of ₹75,000 and the runner-up, ₹35,000. The 12th edition of the Tata Crucible campus quiz is a unique 20-20 game played on the basis of a 20 question prelim followed by a T20 format final.

The top six teams were selected after a preliminary written and a subsequent wild card round (only from the cities where it was held). Besides the winners and the runners-up, the four stage finalist teams included Sahil R and Tejan Karmali from NIT, Ashish Bansal and Anirudh Shirsat from GIM, Arpit Madan and Palak Dhawan from GIM and Tanmay Naik and Akash Kulkarni from Goa College of Engineering.

### BITS Goa economics conclave on March 12

PANAJI: The department of Economics at BITS Pilani, K K Birla Goa Campus is organizing BITS Goa Economics Conclave during March 12 and 13, at the campus. In the context of India embarking on series of game changing economic and entrepreneurial campaigns like 'Make in India', 'Skill India' and 'Digital India' the conclave will stimulate a series of dialogues on development themes ranging from urban sustainability, political ecology of resource conflicts, democracy and welfare, issues of growth, development & distribution, high growth entrepreneurship, innovation, technology & SMEs.

The two-day open house event will host lectures of six eminent economists & social scientists. Participation is open through registration. The event is organized in collaboration with NABARD, Goa and shall be held at BITS Goa Tele Presence Room.

BITS Pilani shines @ Shell Eco-marathon



BITS Pilani K K Birla Goa Campus will be presenting Odissi Dance Recital by Saumya Shetty and Uday Kumar Shetty on Saturday, February 27 at 5.30 p.m. at the main auditorium, BITS Pilani Goa Campus, Zuarinagar, Airport Road, Goa. Entry free.

## ALL SET, READY, GO

### Sports festival to kick off from today at BITS Pilani



BITS Pilani Goa Campus at Vasco

BY GT SPORTSDESK

Panaji: BITS Pilani, K K Birla Goa along with media partner Gomantak Times is all set to bring Spree '16, 3-day sports festival like no other, a celebration of sport and an opportunity for the fastest, strongest and the most skilled athletes from across the country to challenge their limits and emerge victorious from March 4 to 6 at BITS Pilani, Vasco from 10 am onwards.

Major events include cricket, football and basketball. The cricket matches will be held at BCCI maintained ground that has



hosted several national level tournaments such as Vijay Hazare Trophy, while the football matches will be played on a top class field maintained by Salgaocar FC.

The silver events include badminton, chess, carom, squash, table tennis and lawn tennis. In keeping with the ever-changing nature of sport, Spree too has evolved and taken steps to beyond the usual definitions of sport. Spree now boasts

of a wide range of offbeat events such as 3v3 volleyball, Ultimate Frisbee, Pool, Gully cricket, kabaddi and Futsal.

Angaraag Mahanta, popularly known as Papon, will be the headlining act, who, with his songs featured in Bajranghi Bhagyaan and Hamari Adhuri Kahaani, is one of India's biggest musical and Bollywood names. Shows (and workshops) by premier skateboarding groups and freestyle footballers will add to sports carnival. Spree will undoubtedly be one of the biggest events this March.



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