



ISSUE 26



**BITS Pilani**  
Pilani Campus

Semester-II notes 2014-15

# bitscan

Pilani Campus



# editorial

An eventful academic semester, with its own sense of charm, commenced with the convocation ceremony where 1300 students completed their journey with the pride and satisfaction of earning degree from one of the premier institutes; providing an opportunity to the students passing out to plunge into the swirl of action with the motto - Innovate, Achieve and Lead.

→ Convocation 2015



BITSAT 2015, the gateway to the Institute, was conducted successfully all over India, and 22 board toppers of their respective state boards joined different campuses of BITS Pilani. Coming from different educational backgrounds across the country, these top ranked students got admitted under the category of 'Direct Admission to Board Toppers'. All other admissions to the university campuses are based on merit as per the performance in the online test, BITSAT.

APOGEE 2015, the technical fest of BITS Pilani, was successfully conducted and completed, with 500 students from all over India displaying their technical and analytical acumen by participating in the various competitions, project and paper presentations conducted during the fest. A lot of students also attended the fest because of the excellent opportunities to learn new and exciting things about science and technology, in the form of various workshops on robotics, automobile engines, financial markets, and many more; and the awe inspiring talks by Divya Narendra, Dr. Walter Bender, Bindeshwar Pathak and David J. Peterson during the Think Again Conclave.

→ Apogee 2015



Akin to the preceding semesters, both the teachers and the students kept winning laurels to the Institute. To name one, BITS Pilani has bagged the ASSOCHAM National Excellence Award for "The Best use of ICT in Education by a University in India" by the Minister of State for Human Resource Development(Higher Education). Prof. R. K. Mittal, Prof. Rahul Banerjee, and Prof. Sangeeta Sharma received the award on behalf of BITS Pilani.

In addition to this, faculty members of the institute visited several universities and institutes in India and abroad to broaden their horizon of knowledge as well as to share their expertise with the outside world.

This time BITS Pilani was honored by the presence of Nobel Peace Prize winner Kailash Sathyarthy, who gave an inspirational talk on his struggle against child labor and other related issues, adding more value to the journey every student undergoes here at BITS.

The institute paid tribute to our late former President of India, the great leader, a renowned scientist, and a fascinating teacher Dr A.P.J. Abdul Kalam by organizing a display of his books and photographs at BITS, Library.

Yoga Day was also celebrated with great enthusiasm to mark the UNESCO declared International Yoga Day.

Hence, the semester was a result oriented one providing ample opportunities to learn, achieve and excel.

# Convocation 2015

The Convocation ceremony for First Degree, Higher Degree and Ph.D. students, graduating in the academic year 2014-15 from BITS Pilani, Pilani Campus was held on Sunday, August 16, 2015 in the auditorium of the Pilani campus.

Chief Guest Prof Ashutosh Sharma, Secretary to the Government of India, Department of Science and Technology delivered his convocation address to a Jam Packed audience of students, parents and faculty members. In his Convocation address, he stressed on how fortunate the students of BITS Pilani are because unlike many other private institutions it does not work on commercial motives.

Mr. Kumar Mangalam Birla, the Chancellor BITS Pilani, in his message to the outgoing students said, "No matter where you go next, you are going to be surrounded with the rush and swirl of creativity and innovation. Innovation will present the opportunity to translate dreams and ideas into real world successes".

→ Prof V S Rao addressing the graduates



Prof V.S. Rao, Vice-Chancellor (Acting), BITS Pilani and Prof Ashoke Sarkar, Director, BITS Pilani, Pilani Campus also addressed the august gathering and presented their reports. During this mega event, 1024 first degrees; 257 higher degrees, and 20 Ph.D. degrees were awarded.

**Gold medal** was awarded to Mr. Rohit Aggarwal (M.Sc. Hons. Economics)

**Silver medal** was awarded to Mr. Ajay Singhvi (B.E. Hons. Electrical and Electronics)

→ Mr. Ajay Singhvi Silver Medalist



**Bronze medals** were awarded to Mr. Siddharth Awasthi (B.E. Hons. Civil Engineering) and Ms. Shruti Gupta (B.E. Hons. Computer Science)

→ Ms. Shruti Gupta Bronze Medalist



→ Mr. Siddharth Awasthi Bronze Medalist



While presenting a detailed report, Prof Ashoke Sarkar, Director, BITS Pilani, Pilani campus highlighted students' achievements. He said, "In the last year, Ms. Neha Manglik secured 100 percentile in CAT 2014, being the only girl among the 16 CAT 2014 toppers. Mr. Himanshu Aggarwal, a Civil Engineering student, secured 4<sup>th</sup> rank in Engineering Services in 2014. Amrit Sharma, Rituparna Bhattacharjee and Manoj Kumar Muthyala from Chemistry department have received Post-Doctoral offers from Technion University, Haifa, Israel; Purdue University, USA; and Institute of Chemistry and Biochemistry, Freie University, Berlin, Germany respectively. At the end, Prof S.C. Sivasubramanian, Dean, Administration, BITS Pilani, Pilani campus delivered the vote of thanks.

## Nobel Laureate Kailash Satyarthi Visits BITS Pilani

Kailash Satyarthi, winner of the Nobel Peace Prize 2014, visited the campus on January 29, 2015. Accompanied by his wife Smt. Sumedha Satyarthi, he visited various sites on the campus, starting on an auspicious note with the Saraswati Temple.

Prof B N Jain, former Vice Chancellor BITS, Pilani introduced the Directors and senior faculty members of the Goa, Hyderabad and Dubai Campuses to Mr. Satyarthi.

Mr. Satyarthi also interacted closely with the students working for the National Service Scheme (NSS) and the NGO "Nirmaan". He also gave a very inspiring talk in the institute auditorium, shared his personal experiences and narrated his constant struggle against child labor and related issues all over the world. He also spoke about Bachpan Bachao Andolan (BBA) started in 1986 which physically liberated 80,000 child/bonded labourers.

3Ds i.e. Dream, Discover and Do and 6 Es i.e. Education, Employability, Entrepreneurship, Equity, Ethics and a sustainable Environment, he said, are utmost important for the growth of individuals and a nation respectively.

→ Nobel Laureate Kailash Satyarthi Visit



Mr. Satyarthi declared the registration web site of Apogee (the Annual Academic Festival of the Pilani Campus) open in the campus guest house.

→ Nobel Laureate Kailash Satyarthi Visit



## Prof B.M. Mithal Memorial Lecture

The Prof B.M. Mithal Memorial Lecture, a mark of respect to the great teacher, educationist, administrator and philosopher, initiated by the Pharmacy Department of BITS Pilani in 2001, was held on February 14, 2015. The lecture was jointly organised by Department of Pharmacy, BITS Pilani and Prof B.M. Mithal Endowment Trust, Pilani.

In this grand event, the "**B.M. Mithal Memorial Gold Medal**" and "**CNVHB Gupta Memorial Gold Medal**" were given to those students who showed exceptional performance in academics, extracurricular and departmental activities.

Lighting of the ceremonial lamp at Professor B. M. Mithal Memorial lecture

→ Dr Ian A. Cliffe Lighting lamp



Prof R. Mahesh, Dean Faculty Affairs, welcomed the audience and spoke about Prof B.M. Mithal. Prof G. Raghurama former director, addressed the gathering. At this occasion Dr Ian A. Cliffe, Vice-president and Head (Chemistry) Daiichi Sankyo India Pharma Pvt. Ltd, Gurgaon, delivered the memorial lecture on "Identifying lead compounds in early drug discovery".

The Prof B.M. Mithal Memorial Gold Medal for the best B. Pharm graduate for the year 2011-2012, 2012-2013 and 2013-2014 were given to Ms. Cheruvu Amulya, Mr. Sanjeev Agarwal, Mr. Shaurya Chanana respectively. The best M. Pharm graduate for the award of CNVHB Gupta Memorial Gold Medal for the year 2011-2012, 2012-2013 and 2013-2014 were Mr. Atul Gupta, Ms. Valavalkar Vidula Vinayak and Ms. Parmar Niyatiben Jayantibhai respectively.

The event was concluded with a vote of thanks by Dr S. Murugesan, Head of the Pharmacy Department.

Dr Ian Cliffe (Chief guest) and faculty members of Department of Pharmacy at Professor B.M. Mithal Memorial lecture held at Pilani Campus on 14 Feb' 2015.

→ Dr Ian A. Cliffe addressing the faculty



## Founder's Day

The 64<sup>th</sup> Founder's Day was celebrated at the Pilani campus on Basant Panchami, January 24, 2015, marking the iconic day. The Pilani campus was inaugurated in 1951 by the First President of India, Dr Rajendra Prasad.

→ 64<sup>th</sup> Founder's Day



The celebrations started with a floral tribute to the statue of Sri G.D. Birla, Founder and Chairman of BITS by Prof G. Raghurama, former Director, Pilani Campus and the BITS community comprising students, faculty and their families. This was followed by Thyagaraja Aradhana at New Academic Block (NAB) where Ragamalika, the classical music dance club, presented an excellent performance of sage Thyagaraja's kirtanas in the Carnatic music at style.

→ Cultural Programme on Founder's Day



In the evening students' cultural associations presented enthralling performances in the auditorium. The performances were a creative blend of traditional and modern dance and drama. Cultural associations like Maurya Vihar, Utkal Samaj, Sangam, Udgam, Kannada Vedike, Punjab Cultural Association, Gurjari, Madhyansh and many others staged their performances.

During the event, former director Prof G. Raghurama felicitated fourteen retiring non-teaching staff members. He also presented Best Performance Awards to nine non-teaching staff members and Certificates of Appreciation to nine non-teaching staff members.

→ Non-teaching Felicitation

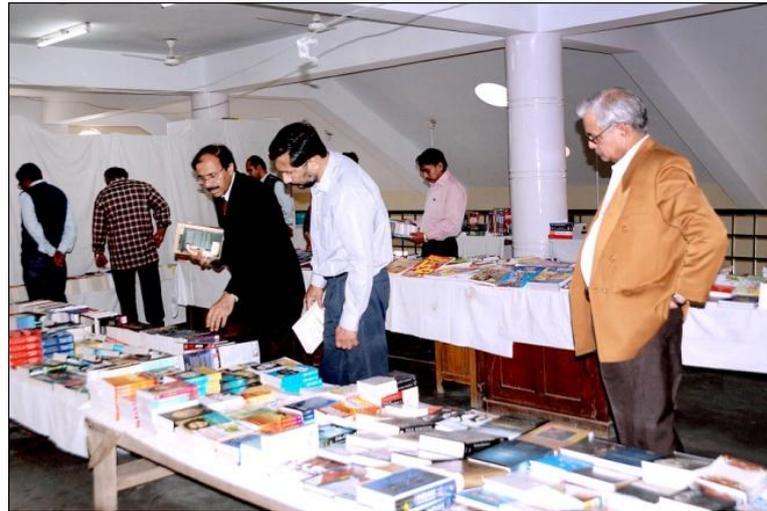


## Basant Book Festival

The Basant Book Festival was held at Akshay Supermarket during February 20 to March 4, 2015 under the supervision of Mr. Giridhar Kunkur, the Chief PMRU and Librarian. It was inaugurated by the former Director of BITS Pilani, Prof G. Raghurama and the Dean Administration, Prof S.

C. Sivasubramanian was the chief guest on this occasion.

→ Basant Book Festival at Akshay Supermarket



## Theatre Workshop in BITS Pilani

The Department of Humanities and Social Sciences, BITS Pilani and the National School of Drama (NSD), New Delhi, jointly organized a 21 day workshop on the 'Art of Designing' in theatre from December 15, 2014 in BITS, Pilani Campus. Prof G. Raghurama, former Director, BITS Pilani, Pilani Campus; Prof Robin Das, an eminent theatre personality from NSD; Prof Geetha B., former Head, Department of Humanities and Social Sciences and other faculty members, research scholars and participants were present during the inauguration ceremony. Prof Raghurama emphasized on the importance of liberal arts in technical universities. Dr Dinesh Yadav, coordinator and assistant director of this workshop, said that this workshop is the first of its kind in the entire Shekhawati Region. Prof Devika Sangwan presented the vote of thanks.

Twenty participants including ten students from BITS Pilani and ten participants from all over Rajasthan were chosen through a rigorous selection process. The training sessions were conducted by eminent theatre personalities like Prof Robin Das, Padmshree Banshi Kaul, Prof Ashok Sagar Bhagat, Shri Rajesh Tailang, Prof Amitesh Grover and many more.

## ESSAY COMPETITION

An essay competition on "Why do I love Books?" was organized for students in the Library of BITS, Pilani on February 24, 2015 by Mr. Giridhar Kunkur, Librarian and Chief, PMRU. Nearly 100 students participated in the competition.

→ Essay Competition - "Why do I love Books?"



Three winners were declared and the prize distribution ceremony was held on March 3, 2015. Gift vouchers for book purchases amounting to thousands of rupees were given to the winners and some exemplary participants. These prizes were sponsored by M/s Jain Brothers, Publishers of Technical and Scientific Books, New Delhi.

→ "Why do I love Books?" - Group Photo



The following students emerged winners of the competition:

1. Mr. Rohit Saxena - 1st Prize
2. Mr. Vijay Sankar A - 2nd Prize
3. Mr. Govind Kishore - 3rd Prize

## BITS Pilani receives ASSOCHAM National Excellence Award for Best Use of ICT- 2015

BITS Pilani has bagged the ASSOCHAM National Excellence Award for "Best Use of ICT in Education by a University in India". The award was presented by Prof (Dr) Ram Shankar Katheria, the Minister of State for Human Resource Development (Higher Education), at the 8th ASSOCHAM Education Summit & National Excellence Awards-2015 function, held at New Delhi on Saturday, April 18, 2015. It recognised BITS's leadership in using ICT in BITSAT, ERP, TelePresence-based network of classrooms across its four campuses; its efforts to introduce electronic attendance system for students, and MOOC based courses. These are in addition to web based processing of more than 1.9 lakh applications for admissions to First Degree, Higher Degree, PhD. programmes, faculty hiring, Moodle based LMS, and other traditional applications.

→ BITS Pilani awarded with National Excellence Award



Prof R. K. Mittal, Director, Special Projects, Prof Rahul Banerjee, HOD and Chief, Software Development and Educational Technology Unit and Dr Sangeeta Sharma, Associate Professor, Department of Humanities and Social Science, BITS Pilani participated in the award function and received the award on behalf of BITS Pilani.

Incidentally, BITS Pilani participated in ASSOCHAM National Excellence Awards, which were instituted for Recognizing Best Practices in Delivering Quality Education in India, for the first

time. This award came soon after bagging the prestigious "Excellence in ICT integration" award from Federation of Indian Chamber of Commerce and Industry (FICCI) during the first "FICCI Higher Education Awards 2014" ceremony held in November 2014 at New Delhi.

## **BITS Pilani Library celebrates World Book Day!**

The Central Library of BITS, Pilani celebrated the World Book and Copyright Day on April 23, 2015. It was inaugurated by Prof Ashoke Sarkar, Director, BITS Pilani.

World Book Day is a celebration of authors, illustrators, books and most importantly, of reading.

While inaugurating the display, Prof Sarkar said "Human development cannot stand without learning and books are the greatest source of learning". He also suggested that students should read more books written in Indian languages.

→ World book day celebration at BITS Pilani Library



On this occasion, the librarian, Mr. Giridhar Kunkur, said "we have taken the initiative to create an awareness of the significant contributions made by the famous literary figures in the world. The aim is also to promote reading in this digital era". BITS Pilani Library put up nearly 100 posters of renowned authors and their works and an interesting display of books. The display of posters also included the winners of Jnanpith award, the most prestigious literary honours in the country.

The Poetry Club Pegasus and Students' literary body, Matrix also displayed poems and posters showcasing students' literary skills.

## **BITS Pilani Celebrates International Yoga Day**

To mark the occasion of the International Day of Yoga, BITS Pilani and NSS BITS Pilani chapter organized a Yoga session on June 21, 2015 at Students Activities Centre (SAC) for students, faculty and staff members. An online essay competition was also organized for students on the topic "Origins of Yoga and its Relevance in Present Society".

→ Appreciation for attending International yoga day



Speaking on the occasion, Prof Asoke Sarkar, Director, BITS Pilani said "All of us might have some idea about Yoga, however to appreciate it we need to study the history- which is long and rich in content. This will certainly help us understand its utility even more in today's society and why we should practice it regularly".

→ Yoga exercise during International yoga day



Apart from this, BITS Pilani Library displayed an interesting exhibit of books at Students Activities Centre (SAC) and library.

## International Conference on Evidence Based Management (ICEBM) 2015

The International Conference on Evidence Based Management (ICEBM) 2015, the first of its kind in the Asian subcontinent, was organised by the Department of Management, BITS Pilani during March 20-21, 2015. Prof Anil Bhat, the conference chair, welcomed the dignitaries and presented the theme of the conference.

→ ICEBM - 2015



The inaugural address was given by Prof G. Raghurama, former Director, BITS Pilani, Pilani Campus. He said that while EBM would inevitably play an integral role in the future, one cannot ignore the pitfalls of the same, the other side of the coin. The first keynote address was given by Dr Hemant Merchant, Professor at the University of South Florida, St. Petersburg, USA. He discussed the art of presenting scientific evidence and highlighted the importance of effective communication in this context.

Prof B.N Jain, the former Vice Chancellor of BITS Pilani spoke on "Resource allocation to academic units in a multi-campus university engaged in teaching, research and with industry: a data-driven approach". He also pointed out the challenges in research allocation mainly associated with the apportionment of available resources. The

session was concluded with vote of thanks by Dr Leela Rani, Assistant Professor Department of Management, BITS Pilani.

→ ICEBM - 2015



## Tribute to former President of India Dr A.P.J. Abdul Kalam

To pay tribute to the late former President of India Dr A.P.J. Abdul Kalam, BITS Library organized a display of books donated by Dr Kalam during his visit to BITS Pilani, Pilani campus on 30th March 2007. The library also put up a display of photographs of Dr A.P.J Abdul Kalam's visit to Pilani campus.

→ Tribute to former President Dr A P J Abdul Kalam



## Tree plantation Drive at BITS Pilani Campus

In a move to encourage people to initiate concrete steps to protect natural environments, to make the campus green; BITS Pilani had organized a Plantation Drive on July 13, 2015. The event started with plantation of trees by the chief guests former Vice-Chancellor Prof B.N. Jain, Director,

Prof Ashoke Sarkar and nearly 60 faculty members, staff and students participated in the event and planted 100 trees.

→ Tree Plantation Drive



## Blood Donation Camp

The 34th Annual Blood donation camp 2015, jointly organized by NSS BITS Pilani and the Indian Red Cross Society, was held during January 31 to February 1, 2015 at SAC BITS Pilani. The camp was inaugurated by Prof G. Raghurama, former Director BITS Pilani. Other dignitaries present were Prof B. N. Jain, former Vice- Chancellor, BITS Pilani, Prof S.C. Sivasubramanian, Dean Administration, Chief Doctor IRCS, Dr Anupam Singhal, Program Coordinator, NSS BITS Pilani and Kartavya Khanna, President, NSS BITS Pilani.

The event received an overwhelming response from faculty members and the student community, a record total of 951 units of Blood were donated. Around 1200 people turned up to donate which indicates that around 300 rejections were made with haemoglobin content and blood pressure variations being most common reasons. The event broke its own record of BDC 2014(875 units collected), which was recognized and awarded by Dr Harshvardhan as the most successful Blood Donation Camp organized by an educational institute earlier in June 2014.

→ 54th Blood Donation Camp



# academia: a confluence of ideas

Seminars/Conferences/  
Workshops/Training  
Programmes

Enriching the learning  
experience

Visits by faculty:

**Prof Rajiv Gupta, Senior Professor, Department of Civil Engineering**, attended and presented a paper titled “Application of Genetic Algorithm in Design of Water Tanks” at the International Conference on Advances in Civil, Structural and Mechanical Engineering - ACSM 2015, conducted by IRED, USA, in Bangkok, Thailand from February 21-22, 2015. He also attended ESRI User Conference 2015 in San Diego, California, USA from July 20-24, 2015, and presented a paper titled “Environmental & Socio-Economic Impacts of Mass Rapid Transit Using GIS”, co-authored by R Srinivas, and V Swathi, under University Immersion program,

He also made a visit to the University of Virginia as a visiting faculty for Department of Systems & Information Engineering during May 19 - July 19, 2015.

**Prof K.S. Sangwan, Department of Mechanical Engineering**, attended and presented two papers titled "Environmental Impact Analysis of a Water Supply System" & "Study of an Indian University Campus, and Life Cycle Assessment of CRT, LCD and LED Monitors" during the 22<sup>nd</sup> CIRP Conference on Life Cycle Engineering at UNSW Sydney, Australia during April 7-9, 2015. He also chaired a session on End of Life Strategies during the conference. This visit was sponsored by DST, India.

Professor K. S. Sangwan was the only Indian member on the scientific committee of the 22<sup>nd</sup> CIRP Conference on Life Cycle Engineering at UNSW Sydney during April 7-9, 2015.

→ Prof K S Sangwan at 22<sup>nd</sup> CIRP conference at UNSW Sydney



Professor K. S. Sangwan presented a paper entitled "Predictive Modelling and Optimization of Machining Parameters to Minimize Surface Roughness Using Artificial Neural Network Coupled with Genetic Algorithm" during the 15<sup>th</sup> CMMO conference held during June 11-12, 2015 at KIT, Karlsruhe, Germany.

**Dr (Ms.) Anupam Yadav, Department of Humanities and Social Sciences** attended and presented a paper titled "Alternative Epistemologies and Normative Directionality" at the 10th Annual International Conference on Philosophy organized by Athens Institute for

Education and Research in Athens, Greece during May 25-28, 2015.

→ Dr(Ms.) Anupam Yadav



**Dr V.S. Nirban, Department of Humanities and Social Sciences** attended and presented paper titled "Discourse Analysis of an Online Academic Discussion" at the 4th International Conference on Communication, Media, Technology and Design organized by Eastern Mediterranean University, Cyprus, and Anadolu University in Dubai during May 16-18, 2015.

**Dr Vishal Saxena, Department of Biological Sciences** attended and presented paper titled "Apicoplast & its Metabolic Pathways: Unique drug targets in *Plasmodium*" at the College of Public Health, University of South Florida, Tampa, Florida on July 7, 2015 and also visited as visiting scholar during June 8 - July 29, 2015.

**Dr Shilpi Garg, Department of Biological Sciences** attended a workshop on Application of Bioinformatics in Biomedical Research organized by the Desert Medical Research Centre (ICMR), Jodhpur, Rajasthan during March 28-29, 2015.

**Dr Kamalesh Kumar, Department of Civil Engineering** attended and presented a paper titled "Correlation between Safe Bearing Capacity and Angle of Internal Friction of Piloni Soil" at the First International Conference on Advances in Engineering and Management Research (ICAEMR 2015), organized by HCTL Open Publications Solutions LLP in Dehradun, on July 19, 2015.

→ Dr Kamlesh Kumar



**Dr Pratik N Sheth, Department of Chemical Engineering** went to Oklahoma State University, Stillwater Campus, OKC, USA, as a Visiting Scholar under the scheme of University Immersion Program and gave a presentation on “Thermochemical Conversion of Biomass to produce biofuels” on July 15, 2015.

**Dr Praveen Goyal, Department of Management** attended and presented a paper titled “Influence of perceived CSR on Service Quality, Trust and Customer Loyalty: Insights from Indian Hotel Industry” in the 4<sup>th</sup> Asian Management Research and Case (AMRC) Conference 2015, organized at the Graduate School of Business, University Sains, Malaysia, during January 10-11, 2015.

**Dr Udayan Chanda, Department of Management** attended and presented a paper titled “Intergenerational Effects of Diffusion on CDMA and WCDMA Technologies under Direct Network Externalities” in the 4<sup>th</sup> Asian Management Research and Case (AMRC) Conference 2015, organized at the Graduate School of Business, University Sains, Malaysia, during January 10-11, 2015

**Dr Dinesh Yadav, Department of Humanities and Social Sciences** presented “The Kitchen” in the Sydney International Arts Festival, Sydney, Australia during January 21-24, 2015, and in the Auckland Arts Festival, Auckland, New Zealand during March 12-18, 2015. He also attended the Prague Quadrennial of Performance Design and Space, Kafka House, Prague, Czech Republic for an exhibition in the Indian student section, during June 18-28, 2015.

→ Prague Quadrennial of Performance Design and Space



**Prof Dalip Kumar, Department of Chemistry** presented an India-Japan joint research project with Prof Kazuhito Tanabe, Department of Energy and Hydrocarbon Chemistry, Kyoto University, under India-Japan S & T cooperation, in the Graduate School of Engineering, Kyoto University, Japan during January 05-17, 2015.

He also delivered a guest lecture on “Remarkable Linking Effect on Photocytotoxicity of Porphyrin Conjugates with DNA Binding Agents” in the Kumamoto University, Japan during January 13, 2015.

→ Prof Dalip Kumar in Kyoto University, Japan



**Mr. Giridhar M. Kunkur, Librarian** attended and presented a paper titled “Gel well with GenY: Aligning Library services to young users@BITS Pilani” at the International Conference on Managing Library and Information Systems in the Digital World: Challenges and Opportunities, organized by the T.A. Pai Management Institute (TAPMI), Manipal, during May 7- 9, 2015.

**Dr Tanu Shukla, Dr Sailaja Nandigama and Dr Rajneesh Choubisa, Department of Humanities and Social Sciences** organized an "Intensive Workshop on Research Methodology" in the Department of Humanities and Social Sciences during February 9-11, 2015. The workshop dealt with researching meanings, methods and statistical tools in research.

**Dr M.S. Soni, Department of Mechanical Engineering** visited the Clean Energy research Centre (CERC), University of South Florida, Tampa, USA, on July 31, 2015 during June 7, 2015 as a visiting scholar and gave a presentation on Spiritual Thermodynamics. He was also a visiting scholar at Columbia University, New York.

→ Dr M S Soni at Columbia University, New York



**Dr Dinesh Yadav, Department of Humanities and Social Sciences** attended the Theatre Workshop conducted in BITS Pilani, Dubai Campus during March 25 – 29, 2015.

**Prof Navneet Gupta, Department of Electrical & Electronics Engineering** presented a paper titled "Pattern Reconfigurable Antenna Using Non-uniform Serpentine Flexure Based RF-MEMS Switches" at the 36th Progress in Electromagnetics Research Symposium (PIERS), 2015, in Prague, Czech Republic organized by The Electromagnetics Academy, Cambridge, USA, and the Czech Technical University, Prague during July 6 - 9, 2015.

→ Prof Navneet Gupta



**Mr. Jitendra Kumar, Research Scholar, Department of Electrical & Electronics Engineering** presented a paper titled "Investigation on Rudimentary Geometries of Dielectric Resonator Antenna" at the 36th Progress in Electromagnetics Research Symposium (PIERS), 2015, in Prague, Czech Republic, organized by the Electromagnetics Academy, Cambridge, USA, and the Czech Technical University, Prague during July 6-9, 2015.

→ Mr Jitendra Kumar



## Invited lectures by faculty

**Prof Rajiv Gupta, Senior Professor, Department of Civil Engineering** delivered a talk on "Alignment of National Action Program on Combating Desertification to 10 years Strategy of UNCCD" at the Arid Forest Research Institute in Jodhpur on March 18, 2015. He also gave a lecture on "Mounting Solar Power Plants on Water Canal top" in One day

Technical meet on designing Economic Structures for Canal Tops Solar PV-Power Plants in the National Institute of Solar Energy in Gwai Pahari, Gurgaon on April 24, 2015.

**Prof Sangeeta Sharma, Associate Professor, Department of Humanities and Social Sciences**

was the Key note speaker in the Marketing Management session of the 6<sup>th</sup> International conference on "Creativity and Innovation Excellence for World in Motion" at The Prestige Institute of Management, Gwalior on 10<sup>th</sup> January 2015. She conducted a workshop on "Soft Skills for School Teachers" in BITS Pilani on 23<sup>rd</sup> February 2015 and also delivered an invited talk on "Effective communication: A Cutting Edge for Management Students" at Sai Ram College of Management at Chennai on 26<sup>th</sup> February 2015.

**Dr Arun Kumar, Department of Management** gave a lecture on "Development of Customer Relationship Management Framework for Indian Airline Industry" in the 4<sup>th</sup> Asian Management Research and Case Conference at the University Sains, Malaysia during January 10-11, 2015.

→ Dr Arun Kumar at University Sains, Malaysia

in the International Conference on Recent Advances in Mathematical Biology, Analysis and Applications (ICMBAA-2015)" in Aligarh Muslim University on June 6, 2015.

→ Dr Amit Kumar Verma



## accolades and achievements

**Prof Sangeeta Sharma, Associate Professor, Department of Humanities and Social Sciences**, External Academic Expert member in Board of Studies for English in School of Humanities and Social Studies, Galgotias University, Greater Noida.

**Dr Vishal Saxena, Department of Biological Sciences** reviewed a Ph.D thesis from JNU, Jodhpur in April, 2015.

**Dr Shilpi Garg, Department of Biological Sciences** reviewed a Post-doctoral application for Research Foundation Flanders (FWO), Belgium in April, 2015.

**Prof Shamsheer Bahadur Singh, Department of Civil Engineering** received the Best Paper Award at ACEE2015, Penang, Malaysia on July 29, 2015. His Biographical note has been included in Emerald Who's Who in Asia, Vol-II, dated 5/8/2015. He was the Guest of Honor at a seminar on the Mitigation of Seismic Effects on Infrastructure Projects sponsored by UGC, New Delhi and Andhra University, Visakhapatnam held on March 30, 2015. He was selected for the 8<sup>th</sup>



**Dr Amit Kumar Verma, Department of Mathematics** gave a lecture on "Monotone Iterative Technique for a Class of Boundary Value Problems" at the National Conference on Applied Mathematics: Numerical Analysis, Algebra & Computational Mathematics in Gudleppa Hallikeri College in Haveri, Karnataka on January 31, 2015. He also gave a lecture on "Monotone Iterative Technique Related to Upper and Lower Solutions for a Class of Nonlinear Boundary Value Problems

edition of Asian Admirable Achievers, RIFACIMENTO INTERNATIONAL. He was also invited as an Expert Committee Member for Comments on Honey Combing of Vivekanand Lecture Theatre Complex at MNIT Jaipur along with Prof Bishwajeet Bhattacharjee on February 24, 2015.

**Dr Arnab Hazra, Electrical & Electronics Engineering (EEE)** was awarded with the Innovative student project award (Doctoral Level) for Best PhD thesis by Indian National Academy of Engineering (INAE) in the year 2015.

**Dr Arun Kumar, Department of Management,** received the AIMS International Young Management Researcher Award, 2014 by the

Association of Indian Management Scholars at IIM Kozhikode on January 2, 2015.

→ Dr Arun Kumar



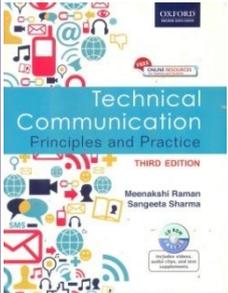
## significant projects

S. No.	Principal Investigator and Name of the Department	Title of the Project	Funding Agency	Amount and Duration
1.	Dr Ashish Tiwari, Assistant Professor, Department of Mathematics	Flow through a membrane modeled of porous cylindrical particles using particle-in-cell approach.	DST, New Delhi	INR 12,86,400 2 years
2.	Prof Sangeeta Sharma, Associate Professor, Department of Humanities and Social Sciences and Coordinator Center for Women Studies	Rural women empowerment and sustainable growth” in collaboration with MNIT, Jaipur.	DST, New Delhi	INR 30,00,000

# academic attainments of faculty

S. No.	NAME	DEPARTMENT	JOURNAL / MEMBER DETAILS
1.	Prof Rajiv Gupta	Department of Civil Engineering	<ul style="list-style-type: none"> <li>➤ Developing a project-based model of dynamic learning capability and applying this conceptual lens to the performance of collaborative infrastructure projects; CI-05-2014-0031-revised, Construction Innovation: Information, Process, Management, Emerald Group Publishing Limited, United Kingdom, 3 March, 2015.</li> <li>➤ Techno-Economic Analysis of Sustainable Water Management Techniques – A Case Study of Residential Township in India, International Journal of Environment and Sustainable Development, 26 April, 2015</li> <li>➤ Use of Bio-Briquette ash for the development of bricks. Ms. Ref. No.: JCLEPRO-D-15-01099, Journal of Cleaner Production, Elsevier, 20 May, 2015.</li> <li>➤ Integrated system approach to evaluate social, environmental and economic impacts of buildings for users of housings, Ms. Ref. No.: jclepro-d-15-01635. Journal of Cleaner Production, Elsevier, 15 June, 2015.</li> <li>➤ Performances of carbon nanotubes cement composites for storing electric energy, id m-2015-092, ACI Journals, materials, 23 June, 2015.</li> <li>➤ "A laboratory investigation on the influence of biomineralization on the production of sustainable fly ash concrete". IEIA-D-15-00105, Journal of The Institution of Engineers (India): Series A., 26 June, 2015.</li> <li>➤ Prediction of Residual Shear Strength of Corroded Reinforced Concrete Beams IJAS-D-15-00015, International Journal of Advanced Structural Engineering, 10 July, 2015.</li> <li>➤ Developing a sustainable assessment model for measuring building performance in China - A life cycle approach, JCLEPRO-D-15-01844, Journal of Cleaner Production, Elsevier, 13 July, 2015.</li> </ul>
1.	Dr Pratik N Sheth	Department of Chemical Engineering	<p>Reviewed papers for the international Journal "Renewable &amp; Sustainable Energy Reviews".</p> <ul style="list-style-type: none"> <li>➤ Integration of Microalgae Biomass Cultivation with Anaerobic Digestion System: A Biomethanation Approach</li> <li>➤ A Review of Concentrated Photovoltaics; Its Application To Nigeria</li> <li>➤ Modelling the Performance of Wind-Hydrogen Energy Systems: Case Study the Hydrogen Office in Scotland/UK</li> <li>➤ Modelling Condensation Risk on Closed Cavity Façade</li> <li>➤ Solar Water Heating System - Global Scenario, Technical Advancement, Economical Benefits - A Review</li> <li>➤ Effects of corn stover year-to-year supply variability and</li> </ul>

			<p>market structure on biomass utilization and cost</p> <ul style="list-style-type: none"> <li>➤ Disposal and Utilization of Ultra-fine Tailings- a review</li> <li>➤ Unitised reversible/regenerative hydrogen fuel cell systems: State of the art and technical challenges</li> </ul> <p>Reviewed one paper for Journal of Analytical and Applied Pyrolysis.</p> <ul style="list-style-type: none"> <li>➤ Cracking of n-hexane over hierarchical MOR zeolites derived from natural minerals</li> </ul>
2.	Dr Manjuladevi.V	Department of Physics	<ul style="list-style-type: none"> <li>➤ Reviewed a research article for the journal Nanoscale (Royal Society of Chemistry) during June 2015</li> </ul>
3.	Dr Praveen Goyal	Department of Management	<ul style="list-style-type: none"> <li>➤ Guest Editor for Special Issue on: "Evidence-Based Management Practices in Accounting and Finance" - International Journal of Management Practice</li> <li>➤ Guest Editor of Special Issue on: Evidence-based Processes in Business and Systems in International Journal of Business and Systems Research (IJBSS), 2015.</li> <li>➤ Editorial board member of Journal of Advanced Research in Operational &amp; Marketing Management</li> </ul>
4.	Dr Udayan Chanda	Department of Management	<ul style="list-style-type: none"> <li>➤ Guest Editor of Special Issue on: Evidence-based Processes in Business and Systems in International Journal of Business and Systems Research (IJBSS), 2015.</li> <li>➤ Guest Editor of Special issue on: Evidence Based Management for Services Sector in International Journal of Information Systems in the Service Sector (IJISSS), 2015.</li> <li>➤ Editorial board member of Journal of Advanced Research in Operational &amp; Marketing Management.</li> </ul>
5.	Prof Shamsher Bahadur Singh	Department of Civil Engineering	<ul style="list-style-type: none"> <li>➤ Shaik Hussain, Dipendu Bhunia, S. B. Singh (2015), "An Experimental Investigation of Accelerated Carbonation on Properties of Concrete," Engineering Journal (EJ), Accepted for Publication on September 14.</li> <li>➤ G. C.Ezeokpube, S. B. Singh and N. N., Osadebe (2015), "Numerical and Experimental Modeling of the Static Response of Simply Supported Thin-Walled Box Girder Bridges," Nigerian Journal of Technology (NIJOTECH), Vol. 34, No.4, October, pp. 685-698 (<a href="http://dx.doi.org/10.4314/njt.v34i4.4">http://dx.doi.org/10.4314/njt.v34i4.4</a>).</li> <li>➤ S. B. Singh, Pankaj Munjal, and N. Thammishetti, (2015), "Role of Water-Cement Ratio on Strength Development of Cement Mortar (Ref. JOBE48)," Journal of Building Engineering (Elsevier), DOI.10.1016/J. Jobe.2015.09.03.</li> <li>➤ S. B. Singh, Himanshu Chawla, and Pankaj Munjal (2015), "Effect of Shear Deformation on Flexural Response of Laminated Composite I-Beam" Journal of Aerospace Sciences, and Technologies, Aeronautical Society of India, Paper #887, Accepted for publication on August 18, 2015.</li> <li>➤ S. B. Singh, Pankaj Munjal, and N. Thammishetti, (2015), "Strengthening of Masonry Beam with ECC as</li> </ul>

			<p>Bed Joint," Journal of Engineering Science and Technology, School of Engineering, Taylor's University, pp. 29-39.</p> <ul style="list-style-type: none"> <li>➤ S. B. Singh and Aditi Chauhan, (2015), "Study of the Bond Behavior of Carbon Fiber Reinforced Polymer (CFRP) Bars," The Indian Concrete Journal, Vol. 89, No. 4, pp.32-40.</li> <li>➤ S. B. Singh and Thamiseti, Nikesh (2015), "Review of Design Provisions for Masonry Structures," International Journal of Earth Sciences and Engineering," Feb.</li> <li>➤ S. B. Singh and Himanshu Chawla, (2015), "Structural Response of Thin-Walled FRP Laminated Monosymmetrical I-Beams," Advances in Structural Engineering, Springer India 2015 (ISBN# 978-81-322-2186-9), DOI 10.1007/978-81-322-2187-6_155, pp.2011-2024.</li> </ul>
6.	Dr Raj Kumar Gupta	Department of Physics	<ul style="list-style-type: none"> <li>➤ Journal of Colloids and Interface Science (Elsevier)</li> <li>➤ Sensor and Actuators B (Elsevier)</li> </ul>
7.	Dr Arun Kumar	Department of Management	<ul style="list-style-type: none"> <li>➤ Article reviews for AMS Mathematical Reviews (American Mathematical Society).</li> <li>➤ Reviewed article for Applied Mathematics &amp; Computation (Elsevier Journal), and article no. A-10-503-1 for Iranian Journal of Mathematical Sciences and Informatics.</li> <li>➤ Advisory board member for UGC sponsored National Conference on Applied Mathematics: Numerical analysis, Algebra &amp; Computational Mathematics , Gudleppa Hallikeri College, Haveri, Karnataka, on January 30-31, 2015.</li> </ul>
8.	Dr Arnab Hazra	Department of Electrical & Electronics Engineering	<ul style="list-style-type: none"> <li>➤ Journal Materials Science &amp; Engineering B (Elsevier)</li> <li>➤ Manuscript "Nanocrystalline sputter-deposited ZnMgO:Al transparent p-type electrode in GaN-based 385 nm UV LED for significant emission enhancement"</li> </ul> <p>Authors: M.A. Borysiewicz*, M. Wzorek, K. Gołaszewska, R. Kruszka, K.D. Pałowska and E. Kamińska</p> 
9.	Prof Sangeeta Sharma	Department of Humanities and Social Sciences	 <p>Technical Communication- Principles and Practice. Third Edition. OUP. New Delhi. 2015.</p> <p>Authors: Meenakshi Raman and Sangeeta Sharma</p>

# Student round-up

**Mr. Sachin Saxena** (2011B1AB816P) presented a paper titled (a) " Network Design and Optimization for Multi-product, Multi-time, Multi-echelon Closed-loop Supply chain and (b) "Optimization of machining parameters to minimize surface roughness using integrated approach" at the 22nd CIRP Conference of Life Cycle Engineering, UNSW, Sydney, during April 7-9, 2015.

→ Mr. Sachin Saxena



**Mr. Sibesh Kar** (2014B5A4664P) was one of the fifty undergraduates, graduate, and PhD students selected on a global basis to attend the prestigious Wolfram Science Summer School in Massachusetts, in Waltham, Massachusetts, USA during June 29-July 27, 2015 for a research program under the mentorship of Dr Stephen Wolfram, CEO and Founder of Wolfram Research (the creator of Mathematica and Wolfram Alpha) and has completed a project titled - "Applying Cellular Automaton to Study Quantum Hamiltonians".

**Mr. Vishal Varshney** (2012A8PS303P) represented BITS Pilani, Pilani campus in e-Yantra Robotics Competition (eYRC) 2014 in the cargo sorting category, in IIT Mumbai, during March 27-28, 2015, and secured an All India Rank 4. The team members were Mr. Vishal Varshney (2012A8PS303P), Mr. Krishna Kant Garg (2012A7PS033P), Mr. Amolak Singh (2012A3PS180P) and Mr. Gaurav Ghosh (2012A3PS001P).

→ Representing e-Yantra Robotics



**Ms Rashmi Chaudhry** (2014D2TS979P) secured first position in "Poetic Warfare", APOGEE 2015 and completed the project "Documentary on Father's Day" as a team leader in APOGEE 2015, during March 25-29, 2015.

**Mr. Jashyant Sikhakoll** (2012A5PS636P) won the Best Paper Award in a Paper Presentation Competition, in APOGEE 2015, during March 25-29, 2015.

→ Prof Kumar Neeraj Sachdev presenting best paper award



# Creative zone

## Nirmaan Organisation

Nirmaan Organisation continued with its mission to educate mess workers and rickshaw pullers and other important projects with a workforce of 700 volunteers in 6 chapters across 4 states of the country.

In Natbasthi, their project Shiksha Ki Ore admitted 8 more students to various private schools in Pilani taking the total count of kids to 28, who were once engaged in child labour. Gyan Bodh provided evening tuitions to students from classes 4 to 12 in Harinagar and Baas, and recently expanded itself to Courtbasti, a place just behind Pilani Court.

→ Evening tuitions in Harinagar and Bass



In APOGEE 2015, Nirmaan conducted two events: *Dhiti* and *India Quiz*. *Dhiti*, a kernel event, looked for technical solutions to real-life problem statements from different NGOs. Mr. Bindeshwar Pathak, founder of Sulabh International, was a part of the judging panel of *Dhiti*. He encouraged the youth with his motivating speech on his journey with social entrepreneurship.

India Quiz, the second most popular event in APOGEE, was also a huge success.

→ Prof Sanjeev Kumar Chaudhary addressing the students



## APOGEE 2015

The 32<sup>nd</sup> edition of APOGEE - A Professional's Oriented Gathering of Educational Experience (APOGEE), the annual International Technical Festival of BITS Pilani, Pilani campus was inaugurated on March 25, 2015 with *The International Year of Light* as the theme. Mrs. Aruna Roy, Indian social and political activist, was the Chief Guest. Receptient of many awards like the Ramon Magsaysay Award and the Lal Bahadur Shastri Award for excellence in Public Administration, Academia and Management, she is also the founder of the *Mazdoor Kisan Shakti Sangathana*, and is one of the forerunners of the India against Corruption Movement.

→ Lightening lamp by Chief Guest



APOGEE this year has witnessed a participation of around 500 Science and Engineering students from all over the country. Various categories of projects included Automation, Communication and Network Systems, Design Appliances and Economic

Modelling and Finance. Paper presentation covered pure sciences.

A large number of workshops on Robotics, Automobile Engines, Quadcopter, Web Development, Cloud Computing, Animation, Ethical Hacking and Financial Markets were professionally organised. In *The Think Again Conclave*, speakers like Jimmy Wales, Dr Walter Lewin, Dilip Chhabria, Michael Hogedal, Meera Sanyal and many other eminent professionals and academics were invited this time. Divya Narendra, co-founder of Harvard Connect, the forerunner of Facebook; David J. Peterson, the linguist responsible for Dothraki and Valyrian languages in the popular TV series, Game of Thrones; Dr Walter Bender, former director of MIT's Media Lab and the founder President of Sugar Labs, Bindeshwar Pathak, Indian sociologist and founder of Sulabh International and recipient of the National Award Padma Bhushan were also present.

→ Apogee 2015 exhibitions



To add to the fun dimension of the technical festival, a number of demonstrations of interesting phenomena involving liquid Nitrogen, cymatics, Do Re Mi stairs and virtual air hockey had also been set up. Roy Zaltsman, the mentalist, enthralled the audience with his telekinesis, precognition, and mentalism voodoo. Other fun events included an Adventure Zone, Treasure Hunts, Literary Events and games well thought out and organised by the innumerable functional clubs on the BITS Pilani, Pilani campus.

## Interface 2015- 38th Annual Management Convention.

Interface the three-day Management Convention was organized from February 6-8, 2015, a Pan-India Management Fest where students come up with innovative business ideas and display incomparable entrepreneurial skills.

The fest comprised events and talks from various functional domains of Management viz. Marketing, Finance, HRM and Operations. The Flagship events of Interface 2015 were Business Plan and Business Quiz open to all the B-schools across the country and were big hits.

## Ragamalika

Ragamalika, the classical music and dance club of BITS Pilani has been giving brilliant performances for over 20 years and this semester was no less. This semester started with a 7 day Workshop where the participants were taught the pancaratna kritis composed by Saint Thyagaraja. On Founder's day, the club members and participants congregated to sing the pancaratna kritis and paid homage to the great composer. Another important event was the music concert "Rasanubhav" which was organised in association with WAICEE 2015 where the audience got to experience different elements of classical music.

→ Rasanubhav event



The dancers also put up an amazing performance with lamps to the scintillating tunes of the musicians during the APOGEE inauguration ceremony. Sangamam, the major production of Ragamailika saw an amalgamation of two classics – Phantom of the Opera and Swan Lake, a story woven around the trials and tragedies surrounding a cursed

princess, a spectral sorcerer and a Jilted prince. The audience was enthralled by the energetic dance, poetic narration and haunting music. With the senti concert of J Krishnamurthy, a dedicated carnatic vocalist of the club whose compositions always found a place in people's hearts, the eventful semester came to an end.

→ Performing Dance



## Foundation Day

BITSAA Pilani Resource Centre, an initiative of BITS Alumni of 1975-1976 batch, celebrated its Foundation Day on January 31, 2015, completing its third year. The occasion was marked by the participation of around 40 alumni of this batch who visited Pilani Campus during January 31- February 01, 2015.

→ BITSAA Pilani Resource Centre celebrates Foundation Day



Ms. Ruchika Sharma, Department of Humanities and Social Sciences, BITS, Pilani, Pilani Campus

compered the program. The welcome address was delivered by a BITS alumnus and Mr. Sunil Nanda, Member, Governing Council, Pilani Resource Centre. The program began with the sharing of experiences at Pilani Resource Centre with a sense of gratitude by Ms. Sunita Bugalia who has secured admission in BITS, Pilani, through the support from the centre.

→ BITSAA Pilani Resource Centre Foundation Day



Prof G. Raghurama, former Director, BITS, Pilani, Pilani Campus, in his address, lauded the efforts of alumni in changing lives of underprivileged children and the local community. Prof R K Mittal, Director, Special Projects, BITS, Pilani while recalling his long association with the centre appreciated the work of alumni in the setting up of the resource centre. Dr Chandra Shekhar, Director, CEERI, Pilani talked about the emotional decision making and the rational planning and execution involved in the projects like CEERI, Pilani and Pilani Resource Centre.

Mr. S. S. Sohta, District Collector, Jhunjhunu addressed the audience and praised the efforts of BITS alumni and Mr. Surendra Gupta, Superintendent of Police, Jhunjhunu also admired the work of BITS alumni and wished them well in their future plans.

Many people working at and associated with the Pilani Resource Centre were honored with Performance Awards by the distinguished guests. Dr Mohammad Sadiq, Mr. Sunil Sihag, Mr. Gopi Ram, Mr Narendra Saini and Ms Sulochana were the people who received the Performance Awards. Dr V K Dube, Director, Pilani Resource Centre proposed the vote of thanks.

# introducing new faculty

S. No.	Name	Designation	Discipline
1.	Pawan Kamalkishor Ajmera	Assistant Professor	EEE
2.	Dr Arnab Hazra	Assistant Professor	EEE

## editorial team



**Editor:** Dr (Ms.) Sushila Shekhawat

**Members of Editorial Committee:** Dr (Ms.) Anupam Yadav, Dr (Ms.) Somdatta Bhattacharya

**Student Members:** Perna Bhatia and Katyayani Sonti

**Special Thanks:** Madhusmita Das and Ramesh Sharma



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of igniting  
young minds

# mediaspeak



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