



**BITS Pilani**  
Pilani Campus

Semester-I notes 2016-17

# bitscan

Pilani Campus





# editorial

*The First semester of 2016-2017 commenced with a perfect amalgamation of academic excellence and research competence exhibited by both faculty and students of BITS Pilani. The semester witnessed events manifold such as the National Conference on Organic Chemistry in Sustainable Development, the Celebration of 49<sup>th</sup> Engineers' Day, the 4th Indo-German workshop on Sustainable Engineering, the National Convention on Current Practices and Future of Classroom Teaching at Higher Education Level, World Peace Day, the Celebration of Pharmacists' day, etc.*

*BITS paid tributes to all the great personalities who have contributed immensely to its growth by celebrating the Librarians' Day, the launching of Prof SSR Memorial Teaching Excellence Award and the celebration of Teachers' day.*

*Several new initiatives have also been taken up in this semester. Motivational speeches, conferences by various departments, interaction with the University of Edinburgh, UK, signing of an MOU with Cardiff University, UK, and Panel Discussions have confirmed that the students and faculty are not missing any opportunity of academic advancement on campus.*

*Faculty members attended several workshops in their respective areas and many have been awarded with prestigious awards as well. Students have also made us proud by winning several awards like the best paper award in the event CHEMCON-2016, the Aditya Birla Group Scholarships, the O.P. Jindal Engineering and Management Scholarships etc. Joy of giving week, Junoon, Introduction of India's official first aid mobile app have also been landmarks in acting as testimonies of BITS Student initiatives moving forward in the direction of societal welfare.*

*This year's Oasis has set new standards with an amazing participation, reach and excitement, that the students and participants will remember and cherish throughout their life. The semester has been full of exciting innovations, achievements, and challenges. Hope that this edition gives you a glimpse of the BITSian life.*





## Independence Day Celebration

→ Prof A.K Sarkar meets children on Independence Day



On August 15, 2016, India's 70<sup>th</sup> Independence Day was celebrated at BITS Pilani. The function took place in the M-Lawns with the rendering of the national

song "Vande Mataram" followed by the hoisting of the Indian flag by the Chief guest Prof Ashoke K. Sarkar, Director BITS Pilani, Pilani Campus. The atmosphere was charged with heightened emotions as Prof Anil Rai, along with the Gurukul students, sang patriotic songs. While everyone remembered India's brave martyrs, the celebration had a perfect ending with the national anthem.

→ Flag hoisting on Independence Day



## National Conference on Organic Chemistry in Sustainable Development

A National Conference on "Organic Chemistry in Sustainable Development: Recent Advances and Future Challenges" was organized by the Department of Chemistry BITS Pilani during August 29-30, 2016. In recent years, the development of sustainable processes

to access valuable products is one of the prime aims of modern organic synthesis. Organic chemistry is an important sub-discipline of chemical sciences that has provided remarkable and sustainable solutions to far-reaching challenges. In his inaugural address as the Chief Guest, the Vice-Chancellor, BITS Pilani, Prof Souvik Bhattacharyya proposed that more

→ Prof Maitra addressing the gathering



discussions be held on this topic. The Guest of Honor and Keynote Speaker of the conference, Prof Uday Maitra, Indian Institute of Science Bangalore, advised young researchers to practice sustainable chemistry and stressed upon the need to redesign and perform undergraduate level chemistry experimentation at micro scale. Prof Dalip Kumar, convener of the conference, welcomed the delegates and highlighted the rationale of organizing the national conference. Prof Anil Kumar, the Head of the Department of Chemistry and Chairman of the conference, shared the contributions made by the faculty members in the area of Chemical Science in recent years and the facilities available at the Department of Chemistry, BITS Pilani. Over 130 participants from different parts of the country participated in the conference where 21 invited lectures were delivered by eminent scientists along with over 80 poster presentations by young researchers working in the thematic area of the conference. The poster presentation was coordinated by Prof Ajay Kumar Saha. The acting Registrar and Dean Administration, Prof S.C. Sivasubramanian, Senior Professor, Prof Chandrashekhar and Deans, Associate Deans, Unit Chiefs, Heads of Departments and other officials were present at the inaugural function.

→ Prof Dalip Kumar welcoming the delegates



## 49<sup>th</sup> Engineers' Day 2016 Celebrations

September 15, 2016 is celebrated every year in the country as "Engineers' Day" to commemorate the birthday of the Bharat Ratna awardee Sir Mokshagundam Visvesvaraya, an eminent Indian engineer and statesman. This year's theme was "Skill Development for Young Engineers to Reform the Core Sector: Vision 2025", keeping in mind the Government of India's target to impart necessary skills to 500 million people by the year 2022, in five major sectors.

Celebrations started with the invocation and the lighting of lamp and floral tributes to Sir Mokshagundam Visvesvaraya. A four minute short film on the life of Sir Mokshagundam Visvesvaraya was shown. The theme of the day was introduced by Dr Manoj Soni, the convener of the event, followed by a panel discussion. The panelists included Prof Souvik Bhattacharyya, VC, BITS Pilani, Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus, Prof Chandra Shekhar, Ex- Director, CEERI, Dr Tapomoy Guha Sarkar, faculty, Department of Physics, and two students Ms Ramya Vadigineni and Mr Vishwesh Shrimali. The moderator was Prof S.K. Choudhary.

Prof Choudhary started the discussion with the objectives of the Skill Development Ministry and also discussed about the problems regarding the rejection of the trained

people by the industry. Prof Bhattacharyya threw light on the importance of technical skill enhancement both by the government sector and the non-government sectors through their activities. He also shared the statistics describing the employability in various sectors like IT, Basic Sciences, Pharmacy, Polytechnic, Engineering, etc. Prof Sarkar said it is not possible to impart all skills in a span of four years, and suggested the students to learn their subjects seriously. Prof Chandra Shekhar highlighted the importance of the cross-cultural and cross national skills development. Dr Guha Sarkar highlighted the importance of the role of an instructor in developing the values, skills and ideas among students. The students from the panel said that most of the engineers of our country lack communication skills and it is the duty of the Government to make them aware of it. At the end of the event, prizes were distributed for the quiz competition and the vote of thanks was proposed by Dr Soni.

→ Students receiving prize for Quiz Competition



#### 4th Indo-German Workshop on Sustainable Engineering

The 4th Indo-German Workshop on Sustainable Engineering was organized by the Indo-German Center for Sustainable Manufacturing during September 17-18, 2016 at BITS Pilani, Pilani Campus. Prof Souvik Bhattacharyya, Vice-Chancellor, BITS Pilani and the Chief Guest at the inaugural ceremony emphasized the need of sustainability in the modern era in all spheres of engineering and sciences.

→ Indo-German Workshop



Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus, welcomed the participants and exhorted the participants to practise sustainability in day to day life.

Dr Reinhard Pittschellis, Global Development Research, Head of FESTO Didactic SE, Germany was the guest of honor for the workshop. He emphasized on the need of practical knowledge for the skill development of engineering graduates. Prof Kuldip Singh Sangwan, the convener of the workshop and the coordinator of the Indo-German Center for sustainable manufacturing, introduced the theme of the workshop. Various topics related to learning factories, sustainability education, Internet of things, and Industry 4.0 were discussed by speakers from the industry and academia. 53 participants from Germany and India attended the workshop. Prof S.C. Sivasubramanian, Registrar and Dean Administration, BITS Pilani, Pilani campus and the chief guest at the valedictory session shared his views on sustainability and its importance.

→ Indo-German Workshop



#### Librarians' Day

BITS Pilani inaugurated its new state of the art self-service kiosk "SmartServe" at the Pilani Campus Central Library on August 12, 2016 to celebrate the Librarians' Day in the memory of Padmashri Dr S. R. Ranganathan, the father of Library Science in India. The SmartServe was put to action by Prof Souvik Bhattacharyya, the Vice-Chancellor, BITS Pilani.

→ Librarians' Day in the memory of Padmashri Dr S. R. Ranganathan



Along with this, many renovated spaces in the library such as E-Zone, Circulation Desk, Text Book Counter



and Reference Section were also made available to the library users.

During this occasion, Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus and many other senior faculty members, librarians from various educational institutions in Pilani as well as students and staff members were present.

The BITS Pilani is the first in the country to implement the smartserve™ 1000 Self Service Kiosk with the award winning Liber8™ software. The smartserve™ 1000 is the flag ship self-service product of Bibliotheca RFID Library Systems AG, the world leader in RFID based library automation systems. The entire library automation project was implemented by Bibliotheca's exclusive India partner, Edutech India Private Limited under the supervision of Mr Giridhar Kunkur, Librarian and Chief, Publications and Media Relations Unit.

→ Inauguration of E-zone at BITS Library



With self-service quickly becoming the backbone of library operations around the world, it was but natural that a leading Institute like BITS Pilani decided to implement this system and thereby allowing its library staff to spend more time with their Library users.

The Library users can use this kiosk for self-issue, return and renew multiple books in their name without having to seek the assistance of the library staff. The aesthetically and ergonomically designed kiosk with touch-screen user interface complements the palatial interiors of the central library.

### **Announcement of Alumni Instituted Prof SSR Memorial Teaching Excellence Award**

A teacher affects eternity and one can never tell where the influence stops. Prof S. S. Ranganathan (1940 - 2015) popularly known as SSR who taught at BITS Pilani was an epitome of teaching excellence and who demonstrated an outstanding commitment and contribution to his students and colleagues. He has been a great example of living a life for others, thus leaving an unparalleled legacy.

With the dual intention of remembering Prof SSR as well as encouraging the teaching community, a group of alumni have joined hands with BITS Pilani to institute an award called as "Prof SSR Memorial Teaching Excellence Award".

This award which is announced on Teachers' Day every year aims to honor one member of the teaching staff from any of the Indian campuses of BITS who has been teaching full time for a minimum of six semesters. The selection criteria will be decided by a joint committee constituted by the Vice Chancellor BITS Pilani which will include key alumni representatives too. The award includes INR 1 Lakh in cash, a plaque and a citation.

The Memorandum of Understanding giving the details of the award was signed by Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani and a group of alumni of BITS Pilani represented by Prof S. Seshasayee and N.S. Parthasarathy, Co-Founder, President & COO of Mindtree Limited, Bengaluru. The family members of Prof SSR conveyed that the gesture of the alumni indeed has touched them deeply and said that Prof SSR considered each and every student as his own family member. This initiative of giving back by the Alumni to their alma mater, demonstrates once again the reason why BITS Pilani continues to be amongst one among the top ranking institutions in India today.

### **Celebration of Teachers' Day & Prize Distribution Ceremony for the winners of "Design a bookmark that speaks" Contest**

Teachers are the back bone of our society and mould a student's personality from childhood to adulthood to make her future bright. To commemorate the contribution of teachers, and in memory of Dr Sarvepalli Radhakrishnan, the former President of India, BITS Pilani, Pilani campus observed the Teachers' Day under the supervision of Mr Giridhar Kunkur, the Librarian and Unit Chief of the PMRU, at BITS library.

→ Prof Natarajan addressing on Teachers' Day



At this event, the favorite books of the faculties and book marks designed by the students of BITS Pilani along with the books written by Dr Sarvepalli Radhakrishnan were

on display. On this occasion Prof Natarajan, a former faculty of BITS Pilani, announced the institution of "Prof SSR Memorial Teaching Excellence Award". He also discussed the necessary qualities of a good teacher which includes hearing out the students, giving them timely feedback keeping in mind their ability, imparting lessons outside the book, making learning interactive, and so on. He further highlighted the role and importance of teachers in our lives. Prof Chandra Shekhar also shared his experience as a teacher and encouraged the audience to build a strong teacher- student rapport.

The event "Design a bookmark that speaks" was organized for students at BITS Pilani library to celebrate the Librarians' Day and saw 64 students showcasing their creative arsenal. Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus was the Chief Guest for the event. He congratulated and appreciated the efforts taken for organizing the event and said that such activities need to be organized to keep alive the interest of students in reading books.

→ Prize winners of "Design a bookmark that speaks" contest



Mr Giridhar Kunkur, Librarian and Unit Chief, PMRU, emphasized the importance of bookmarks. Prof Devika, one of the judges, elaborated on the selection criteria adopted for selecting the winning bookmarks. She also emphasized on the importance of reading in one's life and the difference that it will make in the development of an individual.

The evaluation of bookmarks was done by a panel of judges consisting of Prof Surekha Bhanot, Prof Navneet Goyal, Prof Devika, Dr Tapomay G. Sarkar, Dr Somdatta Bhattacharya, and Ms Anamika Dasgupta.

The first prize worth Rupees 3,000 was awarded to Ms Akshika Goel, the second prize worth rupees 2,000 was awarded to Ms Roshni Chhabra, and the third prize worth rupees 1,000 was awarded to Mr Sanket Dey. Besides this, these winners also received a book titled "The Enchanting Nights", a novel by Bharath Kumar, a BITS Alumnus. 20 consolation prizes each worth Rupees 200 were also given to winning participants.

## World Peace Day

On September 21, 2016, BITS Pilani faculty, students and staff celebrated World Peace Day by praying and meditating. On this occasion, Prof Pushp Lata talked about the need of strengthening and commemorating the ideals of peace as were conceived by the United Nations when 35 years back it declared September 21, 2016 as the World Peace Day. She reinforced the message given by Heartfulness.org, which is, 'Individual Peace Contributes to World Peace'. She further emphasized upon the fact that meditation is a process that manifests our heart's intrinsic goodness. This expression of goodness makes peace dynamic and life-affirming, and in its wake, brings unity and harmony to this world. All the people present on this occasion practised relaxation technique followed by silent meditation prayer.

## National Convention on Current Practices and Future of Classroom Teaching at the Higher Education Level

The Department of Humanities and Social Sciences in association with the Teaching Learning Centre (TLC), BITS Pilani, Pilani campus, organized a two day National Convention on "Current Practices and Future of Classroom Teaching at the Higher Education Level" during September 30-October 1, 2016. About 60 participants from technical and non-technical institutions, and industries across the country participated in the event.

→ Lighting the lamp during TLC National Convention Inauguration



In her welcome address, Prof Sangeeta Sharma, the officiating Head of Department of Humanities and Social Sciences, threw light on various activities and initiatives undertaken by the department. Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani Campus welcomed the gathering on behalf of the BITS family and highlighted the importance of quality teaching, intensive teaching workshops, quality improvement systems, etc. in the area of Higher Education.

In his speech, Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani emphasized on the significance of



conversation within the departments and also highlighted the Industry immersion program, a unique feature of BITS Pilani since four decades. The Chief Guest of the occasion, Justice (Retd.) Mr Dharnidhar Jha, talked about the education system in India.

→ Prof Souvik Bhattacharyya addressing during TLC National Convention



Prof S.K. Choudhary, the convener of the event, introduced the audience to the theme of the convention. During the inauguration, eminent personalities such as Prof L.K. Maheshwari, former Vice Chancellor, BITS Pilani, Prof Santanu Chaudhury, Director, CEERI Pilani, Prof Vinay Kumar Pathak, Vice Chancellor, APJAK Technical University and others were present. At the end, Dr V.S. Nirban, Department of Humanities & Social Sciences proposed the vote of thanks.

The inauguration was followed by two days of insightful and in-depth engagement with the various facets of Higher Education and its future.

## Celebration of Mahatma Gandhi and Lal Bahadur Shastri Jayanti

→ Gurukul presenting bhajans on Gandhi Jayanti



October 2, 2016 witnessed the celebrations of Mahatma Gandhi Jayanti and Lal Bahadur Shastri Jayanti at BITS Pilani, Pilani Campus. The Chief Guest for the event was Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani Campus and the special guests present were Mrs Rakhi Sarkar, Prof S.C. Sivasubramanian, Dean Administration, and Prof S.K. Verma. Prof Sarvesh Satija, Faculty in-charge for Institution functions welcomed the gathering and shared a brief overview of the life of Mahatma Gandhi, the Father of the Nation and Shri Lal Bahadur

Shastri, a veteran freedom fighter and a true and ideal exemplary model of truth and simplicity in modern Indian historic period. The speech was followed by a wonderful performance by Blossom Kids' Zone guided by Ms Madhu Mishra and screening of documentaries on the lives of Gandhiji and Shastriji. At the end of the event, The Gurukul team presented a few favorite bhajans of Gandhiji.

→ Performance by Blossom Kids' Zone



## Visit by a Delegation and Signing of MoU with Cardiff University, UK

On November 3, 2016 a delegation led by Ms Nora Henriette De Leeuw, Pro Vice Chancellor of Cardiff University, UK, accompanied by Dr Stephen Bentley, International Dean, College of Physical Sciences & Engineering, Dr Jonathan Lees, Director of Post Graduate Studies, Prof Rudolf Allemann, Head of School of Chemistry, Dr Stefano Leoni, Reader in Computational Chemistry, Ms Bethan Caines, Partnership Development Manager and Mr. Somnath Nandy, Partnership Manager, India visited BITS Pilani, Pilani Campus.

→ Prof Souvik Bhattacharyya signing MoU with Cardiff University



The MoU, signed by Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani and Prof Colin Riordan, Vice Chancellor, Cardiff University aims at fostering joint research projects, academic partnerships, opportunities for staff visits and student exchanges, identifying opportunities for organizing joint training workshops and conferences including dedicated summer/winter schools and encouraging students from both universities to spend 2-6 months at any of the BITS campuses as exchange students. The delegation interacted with all Directors, Deputy Directors, University-wide Deans and several Heads of the Departments. The team also visited Departments of Biological Sciences, Physics and Chemistry, BITS Pilani, Pilani campus.

## Nurturance Program for National Talent Search Awardees

BITS Pilani conducted a five day nurturance program, sponsored by NCERT, New Delhi, for National Talent Search awardees during November 16-20, 2016.

→ National Talent Search Awardees



The objectives of the program were to expose the awardees to recent developments in the fields of basic sciences and technology. The program consisted of presentations by BITS Pilani faculty and visits to its teaching and research laboratories. Humanities and Social Sciences faculty led the interaction sessions on Communication and Work Ethics. A visit to the Central Electronics Engineering Research Institute (CEERI), Pilani formed a key attraction of the program.

The programme was inaugurated by Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus and he advised the participants to carve their own growth path and not be led by others or by sole considerations of pay packages. Prof Chandra Shekhar, Senior Professor Emeritus, BITS Pilani and former director CEERI, Pilani, in his inaugural address, emphasized the importance of developing leading edge science and technology in the country.

→ Student giving bouquet to Chief guest Prof A.K. Sarkar



## Prof B.M. Mithal Memorial Lecture and Award Ceremony

On November 18, 2016, the Department of Pharmacy, BITS Pilani, Pilani campus organized Prof B.M. Mithal Memorial Lecture and Award Ceremony. Prof B.M. Mithal had joined BITS-Pilani in the year 1950 and his contribution in various capacities is monumental.

Prof Hemant R. Jadhav, Associate Dean, ARD, BITS Pilani, welcomed the guests and mentioned the immense contributions made by Late Prof B.M. Mithal to the field of Pharmacy in India. Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus addressed the gathering and highlighted the developments that had taken place in BITS Pilani in the past few years and provided the future vision of the Institute to transform itself into a research-centric globally renowned university. He emphasized on the importance of academic excellence as well as creation of knowledge through research activities. Dr Anil Gaikwad introduced the chief guest of the occasion, Prof B.G. Nagavi, Dean, RAK College of Pharmaceutical Sciences, Ras Al Khaimah, UAE who shared his memories of BITS-Pilani and delivered the Prof B. M. Mithal Memorial lecture on "Pharmacy Education & Practice in UAE". He also shared that Prof Mithal was a man whom everybody admired for his punctuality and methodical and disciplined approach to work.

→ Lighting the Lamp during Prof B.M. Mithal Memorial Lecture



Prof B. G. Nagavi and Prof Ashoke K. Sarkar presented the gold medals and certificates to the best graduate students. Prof B.M. Mithal Gold medals for the best B. Pharm graduate of the year 2014-2015 and 2015-2016 were awarded to Mr Shreyansh Jain and Mr Priyank Raj, respectively. Mr CNVHB Gupta Gold medals for the best M. Pharm. graduate of the year 2014-2015 and 2015-2016 were awarded to Mr Amol Darandale and Mr Sahil Sama, respectively. In the end, Dr S. Murugesan delivered the vote of thanks.

## Interaction with University of Edinburgh, UK

Prof Ian Underwood from School of Engineering at the University of Edinburgh visited BITS Pilani, Pilani Campus on November 22, 2016. During this visit, he interacted with Prof Bhattacharyya, the Vice Chancellor, BITS Pilani, Prof Chandra Shekhar, Prof Suman Kapur, Prof Rahul Bannerjee, Prof Navneet Gupta, and Prof Raghurama and Prof Bhand from the Goa campus and Prof Srinivas and Prof Swain from the Hyderabad campus.



→ Delegates of University of Edinburgh



Prof Underwood also visited the Department of Electrical Engineering and several avenues of academic cooperation were discussed. Prof Underwood shared that the University of Edinburgh is keen to develop close academic relations with BITS Pilani and in near future the Director of International Relations of the University of Edinburgh will visit BITS Pilani to formalize and kick-start the collaborative activities.

### National Workshop on Outcome-Based Learning Using Pedagogy Framework Model

The Teaching Learning Centre (TLC), BITS Pilani, Pilani Campus organized a two day National Workshop on "Outcome Based Learning Using Pedagogy Framework Model" in collaboration with the Centre for Educational Technology, Indian Institute of Technology (IIT), Kharagpur, under the MHRD government of India funded project "Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning (Main Phase)" at BITS Pilani during November 28-29, 2016. About 60 participants, including 34 participants from outside BITS Pilani and 25 participants from various campuses of BITS Pilani (Pilani, Goa and Hyderabad) participated in the event. Several lectures were organized during the workshop addressing myriad topics related to Outcome Based Education, Learning and Instructional Objectives, Outcome-based Curriculum Design and Software Assessment and Evaluation and so on by prominent academics of IIT Kharagpur, Prof. A. K. Ray, Dr. Tamali Bhattacharyya, Dr. S. Das Mandal. The event was inaugurated by the Chief guest Prof. Anupam Basu, Chairman and Head of the Computer Science Department, IIT Kharagpur, the Guest of Honor Prof. A.K. Ray, Retired Professor, IIT Kharagpur, Prof. Souvik Bhattacharyya, Vice Chancellor, BITS Pilani, Prof. Ashoke K. Sarkar, the Director, BITS, Pilani, Pilani Campus, Prof. Rahul Banerjee, Professor In-Charge TLC, BITS Pilani, Prof. Sanjeev Kumar Choudhary, Faculty In charge, TLC, BITS Pilani, Pilani campus. Dr. Sachin Belgamvar, the convener of the workshop, in his welcome address highlighted the need and importance of the workshop. Prof. Sarkar welcomed the gathering on behalf of the BITS Pilani, Pilani campus and highlighted the importance of

the quality teaching and training of basic teaching methodology through intensive teaching workshops.

→ Discussion session during the workshop



Prof. Bhattacharyya initiated a short discussion session with Prof. Basu addressing the changing needs of teaching learning paradigms to meet the challenges of new technologies for knowledge sharing and dissemination. During the workshop, emphasis was given to several aspects of the Teaching Learning Process like training of teachers, preparation of online courses for a larger audience keeping in view different cognitive abilities of students, preparing balanced question papers, etc. Prof. Ray highlighted the purpose of teaching. During the occasion, the first newsletter of the TLC, Pilani campus, *Tāleem* was launched by the dignitaries.

### Workshop on Food Security and Safety

The workshop on Food Security and Safety was conducted during November 21-22, 2016. Prof. Rajesh Mehrotra highlighted the need of such workshops and related it to issues of expansion in the world population and limitations of the arable land bringing forth challenges in feeding not only humans but all the species we share this planet with. BITS, Pilani, India and Tel-Aviv University (TAU), Israel, joined hands to tackle such challenges and promote research in the field of enhancement of plant productivity, as the need of the hour is collaboration of the best minds and resources.

→ Prof. A.K. Sarkar with the chief guest



Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani opined that the problem of food security needs to be addressed at multiple levels in a consolidated manner. Several eminent scientists from BITS and TAU delivered erudite lectures on the present issue during the workshop. The Director of the Manna Center for Plant Biosciences and Founder of the Program in Food Safety and Security, Prof Daniel Chamovitz graced the event by his presence and stated the importance of precision agriculture in meeting the demands of the future. Dr Nir Ohad, TAU, in his plenary lecture, showed the role of a novel gene and the associated epigenetic machinery in plant growth and the possibility of tapping the same for improved plant growth. Dr Yasi, TAU, specified the importance of efficient biosensors in the management of the prevalent resources. Dr Alexander Golberg, TAU, introduced the possibility of off-shore cultivation of microalgae that could be used as food source and the various challenges involved in the same. Dr Sandhya Mehrotra, Department of Biological Sciences, presented her research work on the promising technology of introducing carbon concentrating mechanism into  $C_3$  plants that is believed to enhance plant productivity many fold. Dr Jitendra Panwar, Department of Biological Sciences, showed the impact of nanoparticles generated by cost effective yet efficient method by the intervention of fungi, on plant growth. Dr Kundan Kumar presented his work on the effect of over expression of stress responsive genes on plant productivity. Dr Shrikant Routroy, Department of Mechanical Engineering appreciated the role of an effective agriculture supply chain in reducing costs involved and wastage.

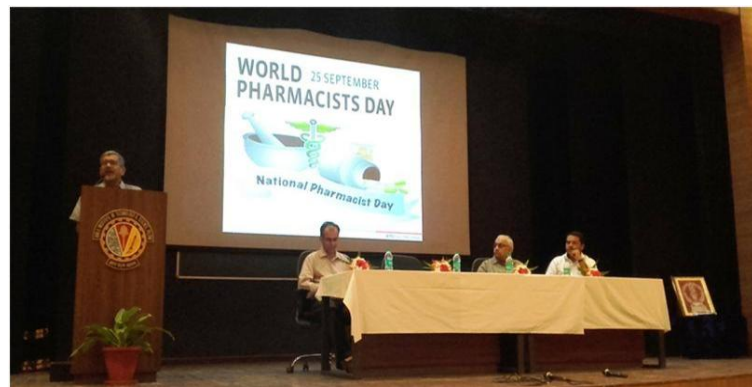
→ Chief Guest addressing the gathering



## Pharmacists' Day

International Pharmaceutical Federation (FIP) and Pharmacy Council of India (PCI) have declared September 25 as Pharmacists' Day to pay tribute and respect to the pharmacists who work tirelessly and contribute to build a healthy society. Pharmacists' day was celebrated at BITS Pilani, Pilani Campus on September 24, 2016. The welcome speech was given by the Head of the Department, Dr Anil Gaikwad. During his address, he also highlighted the progress and achievements of the department.

→ Prof A.K. Sarkar addressing on the occasion



Mr Mahaveer Singh, Department of Pharmacy, enlightened the audience about the History of Pharmacy in India and at BITS Pilani. Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani campus was the chief guest for the occasion and addressed the gathering by emphasizing the indispensable role played by pharmacists in the health care system. Prof Hemant R. Jadhav shared his thoughts on the present research trends in the pharmaceutical industry. Guest of honor, Prof Mukul Mathur, Senior Professor, SMS medical college, Jaipur delivered the lecture of the day on the theme, "Role of Pharmacist In Health Care System: Present challenges". The event was concluded with a vote of thanks delivered by Mr Lavkush Upadhyay, B.Pharm student.

## BITSAA Alumni Meet

Filled with nostalgia, over 200 Ex-Bitsians visited BITS Pilani, Pilani campus from the batch of 1987 for the Silver Jubilee Meet organised by BITSAA during November 4-6, 2016. The meet kicked off with an Alumni vs BITS basketball match held on the evening of November 4, where the alumni left Bitsians bedazzled to clinch the victory. Next up was a karaoke session titled Bhooli Bisri Yaaden where the alumni sang with pure emotions. On November 5, the alumni gathered for a photo session followed by an informal chat with current Bitsians at the sky lawns. The alumni also raised \$75000 for the education of mess workers' children. Ending this beautiful experience was a music nite which saw current Bitsians and alumni performing together as the audience danced along into an endless night. A week later, the 1962 batch came to BITS Pilani to celebrate Golden Jubilee meet. After 50 years, they toured around the campus, their aged eyes still longed to see their own deserted campus when one had to sprinkle water on the walls for any kind of air conditioning. Later that day, they had a music night organised for themselves and the alumni had the best of the time. There was a tribute of silence, for all their batch mates who had passed away.

## Events Organised by Academic Counseling Cell (ACC)

ACC, BITS Pilani, Pilani campus had organised a variety of events during July 2016 and December 2016. A few of the major events are:



On August 7, 2016, the Academic Counseling Cell conducted a lively session in the form of panel discussion for the newly admitted students of the campus at the Central Auditorium. The event was inaugurated by Prof. S. Gurunaryanan, Dean of Work Integrated Learning Programmes (WILP) who highlighted the academically vibrant culture of the campus. Prof. P. Srinivasan, Convener of ACC, introduced the various faculty members associated with ACC and also outlined the rationale behind the various activities of ACC. Subsequently, the panel discussion on "Life @ BITS & beyond" was taken up by faculty and student panelists, namely Dr. Rishikesh Vaidya, moderator of the discussion, Prof. Surekha Bhanot, Professor, Electronics & Instrumentation, Mr. Debabrata Ghosh & Mr. Rohit Agarwal, Alumnus of the campus, Ms. Shalini & Mr. Pinakin, Current students of the campus. The panelists deliberated on the various ways and means of achieving the academic success at the campus apart from enriching the overall personality development of students.

On August 26, 2016, faculty members of the ACC team visited the hostel dining halls for an interaction with students. This was arranged with the help of student volunteers of Team ACC. During these mess visits, the faculty members noted significant issues and concerns of students, especially of the first year, for later discussion and possible resolution.

→ Academic Counseling Cell Panel Discussion



A series of interactive sessions were arranged between August and October, 2016, for the ACC faculty members with Mr. Emerson Noble Scott, one of the institute counselors. The purpose of these sessions was mainly to help faculty members with the mentoring process and to exchange insights on strengthening student-teacher relationships on campus.

On the evening of September 5, 2016, ACC arranged an open-air celebration of "Teachers' (and Students') Day". Students and faculty members participated enthusiastically in this programme to share memorable classroom experiences and to discuss many facets of teaching and learning. Both teachers and students also presented musical performances at the programme.

On November 4, 2016, ACC organised a talk titled "How to Shape your Career" by Dr. Rajeshwari Narendran, Director, Academy of Human Resource Development,

India. She is also a visiting professor at Harvard Business School. In her persuasive speech, she inspired students to stay true to their ambitions as well as actively participate in community development activities.

## 8<sup>th</sup> International Conference on Intelligent Human-Computer Interaction (IHCI-2016)

The 8<sup>th</sup> International conference on Intelligent Human-Computer Interaction Conference (IHCI-2016), collectively organized by BITS-Pilani, CSIR-CEERI and IIIT Allahabad, jointly held at BITS-Pilani and CSIR-CEERI Pilani started spectacularly on December 12, 2016. IHCI is a forum for the presentation of technological advances and research results at the crossroads of human-computer interaction, artificial intelligence, and signal processing and computer vision. It brings together engineers and scientists from around the world. This year, its proceedings were published by Springer. In this edition, a total of 119 papers were submitted, out of which 29 were accepted.

→ Prof. Souvik Bhattacharyya addressing during IHCI-2016



The theme of the conference was introduced by Prof. Anupam Basu, CSE Department, IIT Kharagpur. Prof. Santanu Chaudhary highlighted the inter-disciplinary aspect of the conference and Prof. Souvik Bhattacharyya talked about the distinguishing features of BITS-Pilani and the unique blend of tradition and modernism inherent to Pilani.

→ Chief Guest, Dr. Manas K. Mandal



The chief guest, Dr Manas K. Mandal has received various research fellowships and scientific awards at both national and international levels. For his overall contribution to Psychology, he has been elected as the Fellow of National Association of Psychology in India in 2012, and for his contribution to Military Psychology, he was given the 'Scientist of the Year' award in 2006 by the Prime Minister of India. He discussed the general aspects of a conference and what an attendee should seek while attending this conference. He showed his enthusiasm to attend and learn from this particular conference.

## Center for Entrepreneurial Leadership (CEL)

Center for Entrepreneurial Leadership (CEL) is one of the seven centers of excellence existing on campus, solely dedicated to the goal of fostering a healthy entrepreneurial niche amongst BITSians. CEL has 4 projects under its belt, namely Conquest, Summer in a Startup (SiS), Startup Sphere (SS) and Rural Entrepreneurial Division (RED). Different in terms of their target audience and goals, the silver lining of weaving innovative ideas into our everyday lives runs through all four of them. Some of the hallmark events of the CEL throughout the academic year are:

Conquest is BITS Pilani's International Start-up Conclave. Conquest 2016 the 12<sup>th</sup> edition, was inundated with a surplus turnout from start-ups, replete with sectors ranging from VR to FinTech. The finale was hosted at ITC Maurya, New Delhi on August 28, 2016 which saw industry stalwarts taking up the jury and the panel discussions. The finale also enjoyed a massive media presence with correspondents from ET and Your Story being present. Project Mudra, a start-up from BITS Goa, ended up owning the stage and the crown.

→ Team Conquest



Start-up Sphere Sessions (S3) are crash courses catering to BITSians on topics of Graphic Designing, Web Development, Video Making and the likes. These sessions are attempts to bolster the numbers behind Summer in a Startup (SiS) and enhance the culture of interning in the summers of first year. The first S3 session was held on September 27, 2016 on Graphic Designing and a footfall of over 180 students was observed. Tools like Photoshop and Illustrator were used extensively and

the session had an equal participation from BITSians interested in exploring their designing acumen.

CEL also managed to conduct talks on cardinal topic of landing internships in summer for 1st year students discussing skill sets required for an internship in a start-up using S3 sessions. To top-up their accomplishments were the commence mint talk by the Bengaluru based start-up school by the same name, who delved deep into talking about their work of brewing new start-ups.

→ Conquest Finale Winners



# Academia: a confluence of ideas

Seminars/Conferences

Workshops/Training

Enriching the Learning

Visits by Faculty

Programmes

Enriching the Learning

Experience:

**Dr Neetu Yadav, Department of Management**, attended a World Symposium on Sustainable Development at Universities and presented a paper titled "Higher Education and Sustainable Development: An Exploratory Study of Indian Management Institutions" at Massachusetts Institute of Technology, USA during September 14-16, 2016.





**Prof Poonam Goyal, Department of Computer Science & Information System,** attended a conference IEEE Cluster 2016 and presented a paper titled "Spatial Locality Aware, Fast, and Scalable SLINK Algorithm for Commodity Cluster" in Taipei, Taiwan, during September 13-15, 2016. She also attended a conference DSAA 2016 and presented a paper titled "A Parallel Framework for Grid-based Bottom-up Subspace Clustering" in Montreal, Canada, during October 17-19, 2016. She also attended the conference IEEE Big Data 2016 and presented a paper titled "A dynamic distributed data structure for efficient data distribution among cluster nodes for spatial data mining algorithms" in Washington DC, USA, during December 5-8, 2016. She again attended a conference HPCC 2016 and presented a paper titled "A fast, Scalable SLINK Algorithm for Commodity Cluster Computing Exploiting Spatial Locality" in Sydney, Australia, during December 12-14, 2016.

→ Prof Poonam Goyal



**Dr Shilpi Garg, Department of Biological Sciences,** attended an International Congress on Tropical Medicine and Malaria 2016 (ICTMM-2016) and presented a paper titled "Elucidation of major components of the Suf Pathway from Plasmodium vivax" in Brisbane, Australia during September 18-22, 2016.

**Sonal Kumari, Department of Computer Science & Information System,** attended the conference on IEEE Cluster 2016 and presented a paper titled "Patial Locality Aware, Fast, and Scalable SLINK Algorithm for Commodity Cluster" in Taipei, Taiwan, during September 13-15, 2016.

**Prof Kuldip Singh Sangwan, Department of Mechanical Engineering,** attended and presented a paper titled "A Road Map to make sustainability effective in Engineering and Using learning factories for teaching sustainability" in a workshop on Product Sustainability (GPS), Rhode Island in University of Rhode Island, USA during October 5-6, 2016.

**Dr P.R. Deepa, Department of Biological Sciences,** attended the 7<sup>th</sup> World Congress on Targeting Mitochondria and presented a paper titled "Metabolic Re-

Programming in Cancer Cells: Lipogenesis, Oxidative Stress and the Mitochondrial Connect" in Berlin, Germany, during October 24-26, 2016.

**Prof Pushp Lata, Department of Humanities and Social Sciences,**

attended the 9th International Conference ICT for Language Learning organized by Pixel in collaboration with Libreria Universitaria and presented a paper titled "Redefining Pedagogy Using Technical Scaffolding for Teaching Advanced ESL Learners in Florence, Italy during November 17-18, 2016.



**Dr Rahul Singhal, Department of Electrical and Electronics Engineering,**

attended an International conference on IEEE TENCON 2016 - Technologies for Smart Nation and presented two papers titled "Performance Comparison of Probe-fed Polygonal Patch Antennas for L-Band Applications" and "Probe-Fed Regular Hexagonal Narrow-Slot Antenna with Reduced Ground Plane for WLAN Applications" on Antennas, Propagation and Computational EM in Singapore during November 22-25, 2016.



**Prof Kumar Neeraj Sachdev, Department of Humanities and Social Sciences,**

attended the 4<sup>th</sup> Annual International Conference on Philosophy: Yesterday, Today and Tomorrow (PYTT 2016) and presented a paper titled "A Virtue-theoretic Analysis of Role and Obligations of a Professional" at Global Science & Technology Forum (GSTF), in Singapore during November 28-29, 2016.



# Distinguished Lectures

1. Mr Pradeep Chittamsetty, Six Sigma Trainer, KPMG, delivered a lecture on "KPMG Six Sigma Certification" at the Department of Management, BITS Pilani during August 25-28, 2016
2. Prof C. Pandu Rangan, Department of Computer Science and Engineering, Indian Institute of Technology, Madras, delivered a lecture on "Computational Intelligence" at the Department of CS & IS, BITS Pilani on August 26, 2016.
3. Prof Chebrolu Pulla Rao, Department of Chemistry, IIT Bombay, Mumbai, delivered a lecture on "Science Behind Technology: Engineering Supramolecular Systems for Different Applications including Chemosensors" at the Department of Chemistry, BITS Pilani on September 2, 2016.
4. Mr K.T. Upadhyaya, a Trainer, delivered a lecture on "Project Management Workshop" at the Department of Management, BITS Pilani during September 9-12, 2016.
5. Prof Parameshwar K. Iyer, IIT Guwahati, delivered a lecture on "New Conjugated Materials for ptoelectronic Devices, Sensors and Theranostics" at the Department of Chemistry, BITS Pilani on September 16, 2016.
6. Dr Parwez Alam, Post Doctoral Research Fellow, Hong Kong University of Science and Technology, delivered a lecture on "Syntheses of Red to Near IR Aggregation Induced Emissive Iridium(III) metal complexes and its application in mitochondrial staining" at the Department of Chemistry, BITS Pilani on September 16, 2016.
7. Mr Manoj Kumar, Sr. Trainer & Asst. Director & Founder, Investment Banking Institute, New Delhi, delivered a lecture on "Workshop on Financial Modelling" at the Department of Management, BITS Pilani during September 23-25, 2016.
8. Prof Deshdeep Sahdev of IIT Kanpur & Quarzar Tech, delivered a talk on "Towards a Technological Renaissance in India: Case-study of an innovative hi-tech start-up" at the Department of Physics, BITS Pilani on October 14, 2016.
9. Dr Mani Chandra, Group Leader, Quazar Technologies, delivered a talk on "Supermassive Black Holes" at the Department of Physics, BITS Pilani on October 14, 2016.
10. Prof Krishnamurthy Bindumadhavan, Faculty Off-campus, BITS Pilani, Hyderabad Campus, delivered a lecture on "Financial Accounting" at the Department of Management, BITS Pilani during October 24-26, 2016.
11. Dr Rajeshwari Narendran, Director, Academy of Human Resource Development, delivered a lecture on "Make a Difference Journey: Challenges & Opportunities" at the Department of Management, BITS Pilani on November 3, 2016.
12. Prof S. K. Mehta, Punjab University, delivered a lecture on "Exploring Nanostructure Morphology and Dispersibility Using Self Assembly Driven Metallomicelles" at the Department of Chemistry, BITS Pilani on November 4, 2016.
13. Mr S. Venkatesh, Founder, CEO, Awesome Firms, delivered a lecture on "Orientation workshop on Awesome Firms" at the Department of Management, BITS Pilani on November 14, 2016.
14. Prof Santanu Chaudhury, Director CEERI, Pilani delivered a lecture on "Applied Aspects of Contemporary Machine Learning" at the Department of CS & IS, BITS Pilani on November 14, 2016.
15. Prof Krishnamurthy Bindumadhavan, Faculty Off-campus, BITS Pilani, Hyderabad Campus, delivered a lecture on "Financial Accounting" at the Department of Management, BITS Pilani during November 21-24, 2016.
16. Prof Rajender S. Verma, Cincinnati, Ohio, USA and Regional Centre of Advanced Technologies and Materials, Palacky University, Olomouc, Czech Republic, delivered a lecture on "Greener routes to Organics and Nanomaterials: Sustainable Applications of Magnetic Nanocatalysts and Modified Graphitic Carbon Nitrides in Catalysis and Environmental Remediation" at the Department of Chemistry, BITS Pilani on November 29, 2016.
17. Prof S.P. Sethi, Ex-Secretary to Government of India and Sr. Professor at National University of Singapore, delivered a lecture on "Sustainability & Finance" at the Department of Management, BITS Pilani during November 29-30, 2016.



## Invited Lectures by Faculty

**Dr Anil Kumar, Department of Chemistry**, delivered a talk on "Synthesis of Heterocyclic Compounds via C-H Bond Activation and Tandem Reactions" at School of Pharmacy, Chapman University, Irvine, USA on August 23, 2016.

**Prof Kuldip Singh Sangwan, Department of Mechanical Engineering**, delivered a talk on "Learning



Factories for Education towards Industry 4.0" in BRICS seminar on skill development for industry 4.0 at FICCI House, New Delhi, India on September 16, 2016. He also delivered a talk on "Reverse

logistics and integrated supply chain: network design and research issues" and "Assessment and evaluation of collection methods and product recovery processes in reverse logistics" in STP on Operations and Supply Chain Management, National Institute of Technology, Jalandhar on September 6, 2016. Prof Sangwan again delivered a talk on Innovative Product Design and Development in a Two- day workshop on "Emerging Trends in Manufacturing and Automation" at Amity University, Gwalior on September 29, 2016.

**Dr Virendra Singh Shekhawat, Department of Computer Science & Information System**, delivered a lecture on "Ubiquitous Computing & Context Aware Applications" at GEC, Ajmer, Rajasthan during September 26-30, 2016.

**Dr Lavika Goel, Department of Computer Science & Information System**, delivered a lecture on "Computational swarm Intelligence Techniques for Problem Solving" at the Scientific Analysis Group (SAG) lab, DRDO, Metcalfe House, New Delhi during October 3-7, 2016.

**Dr Sunil Kumar Dubey, Department of Pharmacy**, delivered a talk on "Complex Endocrine Issues" at the Endocrine Society of India, AIIMS, New Delhi on October 23, 2016.

**Mr Giridhar Kunkur, Library & Publications and Media Relations Unit**, attended the 19<sup>th</sup> National Convention on Knowledge, Library and Information Networking (NACLIN) and presented a paper as a keynote speaker, titled "InfoBITS: A Synergy Between Library and Tech-Savvy Users at BITS Pilani - A Case Study" at Tezpur University, Tezpur, Assam during October 26-28, 2016.

**Prof Sangeeta Sharma, Department of Humanities and Social Sciences**, delivered a talk on "Secret of success in Job Interviews" at TAPMI Business school, Manipal University, Jaipur on November 15, 2016. She also delivered a key note address on "Gender equality: Role of electronic media" in the First International Workshop on "Marketing, Strategy and Policy for Energy, Rural Electrification, Health and Sanitation" during November 15-16, 2016 in association with Special Interest Group (SIG) at Manipal University, Jaipur. Prof Sharma also conducted workshops, one on "Etiquette and Skill Development for Interviews" at PTP cell, MNIT, Jaipur during September 10-11, 2016 and another one on "Written Communication" to MBA Analytics students at NIIT, Nimrana on December 12, 2016.

**Dr Ajay K. Sah, Department of Chemistry**, delivered a talk on "Biological studies of D-glucose derived simple glycoconjugates" in a workshop at Delhi University on November 16, 2016.

**Dr Dalip Kumar, Department of Chemistry**, delivered a talk on "Greener Strategies for Organics and Nanomaterials: Sustainable Applications of Nano-Catalysts in Synthesis and Environmental Remediation" at Guru Jambheshwar University of Science and Technology, Hisar during November 25-29, 2016.

**Prof Anshuman Dalvi, Department of Physics**, delivered a talk on "Exploring grain boundary impedance in superionic systems: assessment of ionic liquids, ionic glasses and polymer electrolytes as possible fillers" at the 15<sup>th</sup> Asian Conference on Solid state ionics at IIT Patna on November 29, 2016.

**Prof Pushp Lata, Department of Humanities and Social Sciences**, conducted a three - day workshop on Soft Skills for Professionals for the managers of Johnson Matthey Chemicals India Pvt. Ltd., Raigad, Mumbai during December 21-23, 2017.

## Accolades and achievements

- Dr Shilpi Garg, Department of Biological Sciences**, was awarded with the DSR International Travel Award for the second time to attend a conference abroad.
- Dr Vishal Saxena, Department of Biological Sciences**, was short-listed for a Visiting Professor Fellowship under the "INSA-CAS International Bilateral Exchange/ Collaboration Program 2017" by the Indian National Academy of Sciences.
- Dr Karunesh Kumar Gupta, Department of Electrical and Electronics Engineering**, was honored with a certificate of appreciation from the journal *Measurement* for his outstanding contribution to the quality of the journal. The 'Outstanding Reviewer' is given by Elsevier to encourage and acknowledge the contributions of the reviewers.

## significant projects

S.No.	Principal Investigator and Name of the Department	Title of the Project	Funding Agency	Amount and Duration
1.	Prof Uma S. Dubey Department of Biological Sciences	Investigating the role of Aryl hydrocarbon receptors in mediating the anticancer properties associated to camel milk.	DST Rajasthan	INR 7,43,200 (3 Years)
2.	Dr Rajeev Taliyan and Dr Sunil K. Dubey Department of Pharmacy	To study the protective effects of Herbal formulation against Myocardial Ischemia-reperfusion injury in rats.	Etica Clin Pharm	INR 4,00,000 (1 Year)
3.	Dr Karunesh Kumar Gupta Department of Electrical and Electronics Engineering	Soft Computing Framework based Integrated Multi Sensor Array for Water Quality Assessment: Targeting Fluoride as major parameter.	DST, India under WTI	INR 38,70,000 (2 Years)
4.	Prof S.B. Singh Department of Civil Engineering	Seismic Vulnerability Assessment of Selected Heritage Structures in the State of Himachal Pradesh adopting output only Vibration Testing and Fragility Curves", (MoES/P.O.(Seismo)/1(296)/2016).	NIT Puducherry	INR 34,50,600 (3 Years)
5.	Prof Anil Kumar Department of Chemistry	Synthesis of novel N-fused polycyclic compounds through transition metal catalyzed cascade/C-H functionalization reactions.	DST-SERB	INR 33,00,000 (3 Years)
6.	Prof Anshuman Dalvi Department of Physics	Investigations on Li <sup>+</sup> ion conducting glass-ceramics containing NASICON structured nano crystallites	DST-SERB	INR 37,65,000 (3 Years)
7.	Prof Anshuman Dalvi Department of Physics	EXAFS Investigations on Polymer nanocomposites for conductivity-structure correlation	UGC-DAE collaborative research scheme	INR 11,00,000 (3 Years)

## academic attainments of faculty

S.No	Name	Department	Journal / member details
1.	Prof Sangeeta Sharma	Humanities and Social Sciences	Published a book Professional Communication in English: OUP: New Delhi, 2016. 



# student round-up

**Mayank Raj (2015A8PS488P)** achieved the Silver level in Worldquant training program and was awarded a position of Research Consultant at the event WorldQuant Summer Training Program during July -August, 2016.

**Vaibhav Sunil kumar Agarwal (2015A4PS220P)**, won the Avery Dennison Spirit of Invention Scholar - 2016 award in the event Avery Dennison Spirit of Invention Award ceremony-2016 breakthrough project on automobile safety. Our own Director Prof Ashoke K. Sarkar had graced the award ceremony in Bangalore, held on August 29, 2016.

→ Avery Dennison Award



**Ameesha Mittal (2014A7PS107P)** was selected for a scholarship amount of Rs 100,000 for 2016 APAC Google Anita Borg Memorial Scholarship from Asia Pacific region and invited to the Scholars' Retreat from August 30 to September 2, 2016 at the Google Hyderabad Office.

**Chandradeo Arya (2013A7PS015P) and Anuj Bansal (2013A7PS100P)** won the award to visit Data Science Research lab, San Francisco during Innovation Jockeys Season-5 on October 20, 2016 at the Leela Palace, Bangalore.

→ Students winning an award to visit San Francisco



**Kritesh Gupta (2016H149211P) and Paras Vohra (2016H149209P)** secured first position in the event MarkX organized at BIMTECH, Greater Noida on October 24, 2016.



**Vidhi Jain (2014A7PS113P)** won an award on her technical poster 'Empowering API Consumer Community: Collaborative Annotation of Web API Documentation for Semantically Structured Format' at Grace Hopper Conference India (GHCI) 2016 in the event Grace Hopper Celebration India 2016 for Women in Computing in Bangalore during December 7-9, 2016.

**Abhishek (2015H101029P), Prachi (2015H101022P) and Ramakrishna Chava (2015H101026P)**, won the best paper award in the event CHEMCON-2016 in Chennai during December 27-30, 2016.

## India's Official First Aid App Launched

Six students from BITS PILANI have created India's Official *First Aid Mobile App* in their summer internship project during May 23 - July 16, 2016 at Indian Red Cross Society, NHQ, New Delhi. On August 30, 2016, the Annual General Meeting of Indian Red Cross was held. It comprised of a ceremonial session and a business session. The Ceremonial Session was presided over by the President of IRCS and the President of India Hon'ble Shri Pranab Mukherjee at the Rashtrapati Bhavan, New Delhi and the Business Session was presided over by the Chairman of IRCS and the Union Minister of Health & Family Welfare Shri J.P Nadda at DRDO Bhavan, New Delhi. Tushar Dhalwani, the leader

of the team that developed the App participated in both the sessions. The app was launched during the Business Session by Shri J.P Nadda.

The user friendly App empowers people to take care of some of the basic medical emergencies. It has a one tap call feature to the national emergency helpline. Moreover, it has facilities to track user location using GPS of the mobile and display route to nearby hospitals in the radius of 5 Km.

The team comprises of Tushar Dhalwani (2014B2A7885P), Team Leader, Pilani Campus, Rishabh Garg (2014A7PS065P, Pilani Campus), Bhuvan Gupta (2014A7PS008G, Goa Campus), Akanksha Pandey (2014A7PS151H, Hyderabad Campus), Shrey Bansal (2014A7PS858H, Hyderabad Campus) and Rahul Mittal (2014B2A7919H, Hyderabad Campus).

→ Launch of First-Aid Mobile App



**Joy Mukherjee (2015B5A7394P)** secured second prize in Autodesk's International Design for Space Competition held on August 31, 2016. The prize includes an award of USD 750, for developing a CubeSat mission to secure and deorbit an out-of-commission satellite launched in 1958 - the Vanguard I as a salvage mission for posterity. The work has been critically acclaimed by NASA astronaut Dr Yvonne Cagle, and Co-Creator of CubeSat standard - Dr Jordi Puig Suari and also selected for the Nobel Prize Series, 2017, through a nationwide competition.

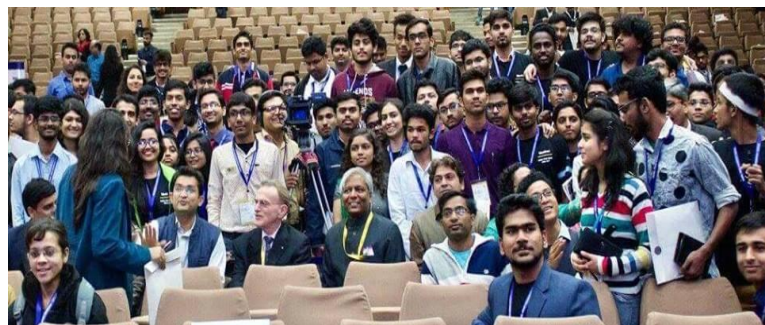
### Five Students Won O.P. Jindal Engineering & Management Scholarships

Shri O.P. Jindal, a visionary par excellence, inspired millions to follow their dreams. His ability to foresee development and the commitment to build a self-reliant nation created a paradigm shift in India's industrial scenario. A man with a humble beginning paved the way to success through sheer hard work and determination.

The O.P. Jindal Engineering and Management Scholarships OPJEMS were instituted in 2007 and they promote academic and leadership excellence. OPJEMS are awarded to meritorious students who emulate the vision and values of Shri O.P. Jindal and have the potential to become leaders in entrepreneurial excellence and innovation.

First three toppers of 2nd, 3rd and 4th years of select engineering streams, namely, Civil Engineering, Electrical Engineering, and Mechanical Engineering are chosen from engineering institutes of repute such as IITs, NITs, BITS Pilani and Delhi Technological University to compete for OPJEM scholarships. The selection process involves the evaluation of leadership behaviors through online test and personal interview for the short-listed students.

→ OPJEM Scholarship Ceremony



This year, twenty four students were shortlisted from BITS, Pilani and the following five have won the OPJEM scholarships worth Rs. 80,000 each.

1	Harsh Sharma (2014A4PS405P)	Mechanical
2	Sishir Suresh Mohammed (2015A4PS136P)	Mechanical
3	Pragyan Trivedi Priyamedh (2013A4PS063P)	Mechanical
4	Prithu Mitash (2013A4PS392P)	Mechanical
5	Prateek Arora (2014A2PS556P)	Civil

### TEAM ANANT Won First Prize

Team Anant participated in a Tech Expo ATOMS organized at BITS Hyderabad. Several teams from different universities working on long term projects were invited to showcase their models/prototypes in this competition. The event required teams to demonstrate their



models and make presentations. In a competition where 15 qualified teams from all over India participated, including the Remote Controlled Aircraft team Assailing Falcons from VIT and the Humanoid Robot team from SRM University, Team Anant bagged the first position with a monetary award of Rs. 30,000 and was highly extolled by the judges for its project.

### Three Students Won the Aditya Birla Group Scholarships

Instituted in the year 1999, the Aditya Birla Scholarship program is a way to encourage students pursuing ideals of Aditya Vikram Birla, attained through fostering outstanding academic excellence and humane leadership values.

Organized in partnership with select IITs, BITS Pilani, IIMs, XLRI, FMS and Law Campuses, the Aditya Birla Scholarships provide an excellent opportunity for scholars



to learn through networking with the country's first truly global conglomerate.

Top 20 students in terms of their entrance exam ranking at the time of admission in respective institutes are invited to apply for scholarships. Further short listed students are invited for an interview, which determines the 16 best students each from engineering and management streams and 8 from law colleges who are named as Aditya Birla Scholars.

This year, four students had been shortlisted from BITS Pilani for the 18th Aditya Birla Scholarship Program 2016-17. And finally, three students from BITS Pilani, one from each campus, was selected. The names of the students are:

1. Mr Tanay Sharma (2016A7PS019P) (Pilani Campus)
2. Mr Dinku Sarmah (2016A7PS004G) (Goa Campus)
3. Ms Sandhya Biksham Preethi Sharma (2016A7PS001H) (Hyderabad Campus)

## creative zone

### National Service Scheme (NSS)

As BITS Pilani geared up for its annual open sports meet BOSM, NSS (National Service Scheme) also organized its 5<sup>th</sup> edition of *Junoon* with a great zeal on September 10 and 11, 2016. The two-day sports fest, an event for the differently-abled was much more than what it sounded like.

→ Dr Malathi K. Holla Lighting the Lamp



Akshay Pratishthan, a Delhi based school for challenged children, *Asha ka Jharna*, a non-profit organization from Nawalgarh, Rajasthan, Deepalaya, a social service organization from Delhi, Disha, a Resource Centre for Multiple Disabilities from Jaipur, Manovikas, a Charitable Society from Delhi and SOB (Special Olympics Bharat) from Pilani participated in this show of sportsmanship. From these six NGOS, around 120 specially-abled children accompanied by 30 mentors came together to participate in the sports events.

The Chief Guest for this event was Dr Malathi Krishnamoorthy Holla, an acclaimed international para-athlete. She is a recipient of the Arjuna award and has also been conferred with the Padma Shri. She has represented India four times in the Paralympics, and multiple times in other competitions such as the Asian Games, Commonwealth games and World Masters championship, and has over four hundred medals to her credit.

*Junoon* witnessed the children indulging themselves in group activities and sports like football, basketball, volleyball, baseball, cricket, kho-kho and badminton.

Athletic events such as 50m, 100m and 50x2m sprints, long jump and standing jump, soft ball, shot put and bocce were other sports events.

→ Junoon 2016



Apart from sports activities, there were recreational activities held at the Students' Activities Centre (SAC). Moreover, the fest presented the children with an excellent opportunity to showcase their talents in '*Junoon Nite*' with which the two-day extravaganza ended.

The Health camp organized by NSS, BITS Pilani on November 14, 2016 was inaugurated by Prof Shibasish Chowdhury, Chief Warden, BITS Pilani, Pilani campus and Dr V.K. Dube, Director, Pilani Resource Centre.

The camp was held under the able guidance of Dr. R.P. Pareekh. Prior to the camp, publicity was done by volunteers and pamphlets were distributed to raise awareness for the camp.



It was organized on the occasion of World Diabetes Day. Doctors present on the spot were Dr. Preeti Maan Dudi (Dentist), Dr. Jajoo (Ayurvedic consultant), Dr. R.P. Pareekh (physician) and Dr. Mohamad Sadiq (physiotherapist). Free health checkup was provided to the people and medicines were distributed free of cost. The camp received a healthy response and was a huge success.



## NIRMAAN

The Joy of Giving Week kick-started with a grand inauguration ceremony held at BITS Pilani on October 12, 2016. The event included an inspiring work-narration by the chief guest, Ms Shefali Thakur, the Head, Development and Alumni Impact Teach for India Initiative and an electrifying dance performance by the Devil's group. The event concluded with a vote of thanks proposed by Mr Vandit Thakkar, a senior volunteer of the organization Nirmaan.

The event saw Prayogshala team enthused curiosity in the kids to make rockets. The day became more significant by the participation of Prof Ashoke K. Sarkar, Director BITS Pilani, Pilani Campus playing football and

tug of war with the kids and motivating them to study. The Joy of Serving was celebrated by inviting the mess workers for dinner and teachers and students serving them which saw the role reversal.

Tree Plantation Drive was conducted by School Adoption Programme in the Baas school which had a good participation from the kids and the volunteers at the school and Cleanliness Drive by PCD in which around 30 kids and volunteers participated. During Oasis, Nirmaan organized a fund raiser in the form of a food challenge event, which saw over 7000 momos being sold in a span of 3 days. The event was done to increase awareness about Nirmaan among the Bitsians.

## BOSM 2016

BITS Pilani 31<sup>st</sup> edition of annual sports fest, BOSM began on September 15, 2016. Spanning five days, with tournaments in 16 sports, and over 70 colleges and 1500 participants, BOSM provided a platform to exhibit the best of competitive spirit and talents. Led by the BOSM body CoSSAc, the inauguration ceremony was graced by the acclaimed national shooter and Arjuna awardee Mr Sanjeev Rajput and famed freestyle wrestler Ms Babita Phogat. Starting with two melodious performances by Gurukul, a musical front of BITS Pilani, there was a briefing about the CoSSAc followed by the traditional ceremony of *Shraddhanjali*, for a hassle-free event. Prof Souvik Bhattacharyya, the Vice Chancellor, BITS Pilani and Prof Ashoke K. Sarkar, Director, BITS Pilani, Pilani Campus made short speeches and encouraged participants to excel in their endeavors. The students' sports community took an oath to follow the ethics of sportsmanship and abide by the rules and regulations. Several exciting events like Figure skating, BMX Motorcycling, Wrestling, Kabaddi, Foosball, Box Skating, Archery games, Hula Hoop, Movie and Match screenings were the hallmarks this year. The student band of Birla Balika Vidyapeeth, Pilani also performed at the GYM-G ground. The excitement and thrill continued with the performance of the popular Bangalore-based folk-rock fusion band, Lagori on September 17.

→ Inauguration, BOSM 2016

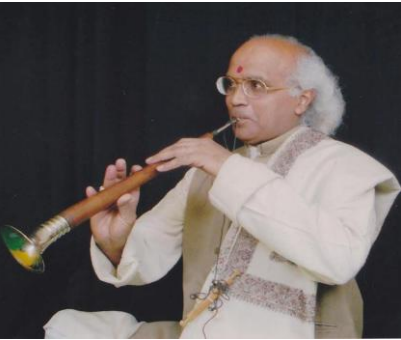


→ BOSM 2016





## SPIC-MACAY



Society for the Promotion of Indian Classical Music and Culture Amongst Youth, BITS Pilani Chapter, organized a Hindustani Classical concert by Pt. Daya Shankar, a Shehnai exponent, on October 8, 2016. Pt. Daya Shankar, a disciple of his father Pt. Anant Lal, belongs to the Benares gharana. He also had the

privilege of learning under the auspice of the legendary Sitar Maestro Pt. Ravi Shankar. Pt. Daya Shankar has performed in several Shehnai concerts around the world and had the honor of representing India at the "Festival of India" organized in several countries including erstwhile U.S.S.R, Germany, and Hungary. He was also awarded by Sangeet Natak Academy, Uttar Pradesh in the year 1995 for his contribution to music. Artists who accompanied him included his son Shri Anand Shankar on Tabla, Shir Khem Chand on Sur peri and Shir Nitin Gaur on Swar peti.



SPIC-MACAY, BITS Pilani Chapter, had also organized a Violin concert by Mr Johar Ali Khan on October 16, 2016. Mr Khan was accompanied by Mr Rashid Zafar Khan on Tabla. Mr Johar Ali Khan is a Classical Indian violinist. He is the son and disciple of the Late Ustad Gohar Ali Khan of Rampur, one of the greatest violin geniuses. He belongs to the Patiala Gharana of Rampur. He is the only living classical violinist from Patiala Gharana after his father, the Late Ustad Gohar Ali Khan.

His grandfather was Ustad Ali Baksh, the founder of Patiala Gharana, who produced a number of great musicians like Bade Fateh Ali Khan, Amanat Ali Khan, Asad Amanat Ali Khan, and Hamid Ali Khan. He has represented India in several countries like Nepal, Bangladesh, England, Spain, Germany, Switzerland, Austria, Hungary, Czech Republic, etc.

→ SPIC-MACAY



## OASIS 2016

BITS Pilani organized its 46th annual cultural festival OASIS, based on theme *OF GODS AND MEN* during October 19-23, 2016. Oasis 2016, a non-stop 96 hour cultural extravaganza saw over 100 events of music, dance, drama, fashion and fine arts, with the participation of more than 1500 enthusiasts from over 100 colleges. OASIS'16 was graced by the presence of Amish Tripathi, the author of the very popular Shiva Trilogy, the fastest selling book series in the history of Indian publishing. In association with the Embassies of Netherlands, Israel, Argentina and Portugal, four international artists, namely, Saskia Laroo, Limor Ballas, BTangoConscious and Geronyom also performed at the 4-day long confluence of international art and culture event – Embassy Night. Music greats like Amit Trivedi, Pt. Ronu Majumdar, Flute J.A Jayanath, Zaeden, BlackstratBlues, The Lightyears explode and When chai met toast also entertained the audience. The comedy night – N2O hosted India's upcoming comedians – Kenny Sebastian, alongside Karan Talvar.

→ OASIS 2016



Oasis 2016 - *Of Gods and Men* began with the annual rock band competition, Rocktaves. Simultaneously, a massive crowd was entertained at the Rotunda by dancers participating in two events- Street Dance and Desert Duels. At different locations on campus, the participants were also searching for clues as part of the Oasis Treasure Hunt followed by the Axetacy, a guitar competition. There was also an event 'Beg, Borrow, Steal', the objective of the game was to obtain as many items as possible from a given list.

→ Students performing during OASIS 2016



Simultaneously, eliminations were held at SAC for the contemporary dance event 'Choreo', one of the highlights of Oasis.



The 'Speed Scrabble' reached its finale on October 21 and was a huge crowd puller. Meanwhile the NAB was soaked in a wave of music as both the 'Drums Duel' and 'Rap Wars' events held their finals here.

The 'Razzmatazz' troupe-dancing event reached a grand conclusion in the main auditorium in the finale. The highlight of the day was undoubtedly Amit Trivedi's performance in the evening. Huge crowds waited for long and it was well worth it as Coke Studio delivered a high-energy performance afterwards. The renowned singer and music director delivered most of his hit songs like Maanjha, Badri Badariyaa, Iktaara accompanied by the beautiful and versatile Jonita Gandhi on vocals, and the supporting band included renowned guitarist Warren Mendonsa. Amit Trivedi's stellar performance was followed by a rock concert by Warren Mendonsa's band Blackstratblues. Their fluid tunes were the perfect end to an exciting second day. Hence, it was a perfect platform for the students to showcase their talents.



## RAGAMALIKA

Ragamalika challenges itself to cross new boundaries and learn something new every day and the previous semester was no different in terms of transcending horizons. For the new entrants to show their talents to the BITS audience and get acquainted with the club's activities, the Freshers' Concert was organized on August 29, 2016. Nritya Ranjani, this year was marked by an adherence to the traditional pattern of a dance show. It all started with Kandyan, a dance style native to Sri Lanka. The resemblance of some Kandyan moves with Odissi led to a pairing of these two and more folk dance forms and their performance.

The next segment of the show, called 'faceoff', was an experiment in pure percussive music along with dance.

Six pieces of different length were composed for each of the three dance forms and performed in sequence, and this was followed by a grand korvai. The closing segment of the show was Abhinaya, the emotive element of dance. This time, the story of Goddess Durga, the Mahishasura Mardini was narrated. Ragamalika, in collaboration with Music Club, also performed a piece titled "Triad: Genesis" as part of the inauguration ceremony of OASIS' 16. Also as a part of OASIS, Raag organized a classical music competition, Swaranjali and a classical dance competition, Tandav. This time there was also a solo mandolin performance by Mr Rakshith Prasad.

The Classical Prof Show, organized on October 20, 2016, saw a unique blend of the Carnatic and Hindustani music in a scintillating flute "Jugalbandi". For this musical evening, Pt. Ronu Majumdar, an ace Hindustani flautist was invited. Along with Pt. Ronuji, Jayanth, one of the most promising Carnatic flautists of the country, also performed. Accompanying the flautists on the tabla was Pt. Ram Kumar Mishra of the Banaras gharana and Sri Neyveli Venkatesh on the mridangam.

Apart from these major events, Raag also performed on various occasions like the NAAC visit and for cultural evenings organized by the departments of Humanities and Social Sciences and Pharmacy for their conventions and workshops.

## EMBRYO

EMBRYO is a platform to deliver thought-provoking talks to BITS students. This semester the first talk was by Sir David I. Kaiser who gave a lecture on Quantum Entanglement in which he described the latest experimental tests of quantum entanglement including a new experiment that uses some of the oldest light in the universe to address the last major loophole and pave the way for a genuinely loophole-free test of quantum entanglement.

Next talk was Mark Bowden's "stand out win trust and gain credibility" in which he described how to use one's body language to excel in social and professional situations like meetings, interviews, etc. He emphasized upon the role of nonverbal communication and its significance.

Another interesting talk was that on intelligent information retrieval and web search by Mr K.V.S. Dileep. In the talk, Mr Dileep discussed about working with information in all its varying forms such as learning how to handle full-text, graphics, audio-video and stuff, and distributing these massive databases over networks.

Another speaker, Mr Yash Mulgaonkar talked about Drones. While discussing his recent breakthroughs, Picobug and dragonfly he left masses in awe and certainly made students think what their drones would look like.



## Introducing new faculty

S.No.	Name	Designation	Discipline
1.	Amit Dua	Assistant Professor	Computer Science & Information Systems
2.	Satyabrata Sahoo	Assistant Professor	Mechanical Engineering
3.	Rajendra Narayan Paramanik	Assistant Professor	Economics and Finance
4.	Nilanjan Chattaraj	Assistant Professor	Electronics and Electrical Engineering

## editorial team



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**Special Thanks:** Mr Ramesh Sharma and the PMRU team





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