



ISSUE 31



**BITS Pilani**  
Pilani Campus

Semester-I notes 2017-18

# bitscan

Pilani Campus



# editorial

*A Perfect Blend of Academics and Research is the hallmark of yet again memorable semester of the academic year 2017-2018 exhibiting a wide variety of activities in the campus; some new initiatives as well as extensions of the old ones. It again welcomed a fresh lot of curious inquisitive minds, a whole new batch, which until now had the prime objective of getting admission into a renowned engineering institution. It also bade farewell to a batch which had undergone the tests and trials of a life enriching stay of four to five years.*

*Organization of different conferences like Indo-German Conference on Sustainable Manufacturing, International conference on Sports Engineering, Workshop on Additive Manufacturing-Applications and Recent Trends, Nano & Functional Materials (NFM-2017), National Conference on Solid State Ionics, etc. demonstrated the involvement of faculty in the exploration of their quest to confer with academicians and researchers from the country as well as abroad.*

*Introduction of Readathon, the G.D. Birla Rare Books Collection and the organization of Drawing Competition as an environmental awareness initiative by the peacock restoration team were also significant initiatives of this semester.*

*On the student front, a wonderful round up displaying exemplary skills got exhibited in both academic and cultural activities such as Conquest 2017, Oasis 2017, BOSM 2017 and Ragamalika concerts. The irresistible urge of the students to work for the society through their NSS and Nirmaan activities show the devotion the students have for the society.*

*Faculty members and students won laurels to the institute by their active participation in academic events and contests. Alumni visited their alma mater with a great zeal and enthusiasm which again bears testimony to the association and admiration they have for BITS, Pilani.*

*Hope you enjoy reading in this issue a complete package of academic achievements, cultural events, and co-curricular achievements of students and faculty alike.*

## Independence Day

The celebration of India's 71st Independence Day was held at BITS, Pilani, Pilani Campus with great enthusiasm and patriotic fervour. Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani and Prof Ashoke K. Sarkar, Director, Pilani Campus hoisted the national flag and greeted the people on the occasion. Dr Anil Rai, and his team, rendered patriotic songs and later sweets were distributed. The celebration ceremony was well attended by students, faculty members, staff and their family members.

► Independence Day



## Prof S.S. Ranganathan Memorial Teaching Excellence Award, 2017

The Prof S.S. Ranganathan Memorial Teaching Excellence Award, 2017 ceremony was held on September 4, 2017. Prof P. Srinivasan, Associate Professor, Department of Mechanical Engineering, was conferred this year's award. This award carries a certificate and a cash prize of Rs. 1,00,000/-. Prof Srinivasan was selected for this award through a well-defined procedure where he had to compete with 20 nominations received from three Indian campuses of the institute. A jury consisting of 5 members that included members from all the three campuses, and an alumni representative, arrived at a consensus to confer this year's award on Prof Srinivasan.

The award ceremony was graced by the Vice Chancellor, Prof Souvik Bhattacharyya, Director Pilani campus, Prof Ashoke K. Sarkar, Dean (Alumni Relations), Prof Arya Kumar, family members of Prof S. S. Ranganathan, and a few alumni who have been instrumental in instituting this award in the memory of their beloved teacher, Prof S.S. Ranganathan. On this occasion, apart from the Vice Chancellor, and the Director, Prof Ranganathan's wife and

daughter spoke on Prof Ranganathan's commitment to teaching and his love and care for students. Mr. N.S. Parthasarathy, an alumnus who was taught by Prof Ranganathan shared his experiences and mentioned how he, along with some of his friends, decided to pay tribute to their beloved teacher by instituting this award in his name.

Prof P. Srinivasan, the awardee of this year's Prof S.S. Ranganathan Memorial Teaching Excellence Award, thanked the jury for selecting him for this award. He mentioned how he decided to come to teaching profession when he saw his father receiving the teaching excellence award from the Governor of his state. He dedicated this award to his parents. Prof Srinivasan discussed about his teaching in great detail. The function ended with a performance by Ragamalika members.

► Prof P. Srinivasan



## Indo-German Conference on Sustainable Manufacturing

Indo-German conference on sustainable manufacturing, organized by the Indo-German Centre for Sustainable Manufacturing was inaugurated on September 15, 2017. The two-day conference aimed at synergy with the goals of Skill India, Digital India, Swachh Bharat, and Make in India. Prof Ashoke K. Sarkar, Director, Pilani campus welcomed the gathering and introduced BITS Pilani and its unique education system. He highlighted the developments that had taken place in BITS Pilani in the past few years.

Vice Chancellor, BITS Pilani, Prof Souvik Bhattacharyya, while addressing the audience, spoke on various aspects of the theme of the conference "Sustainable Engineering" beginning from the changes that he has been witnessing such as the shift from Production Engineering to Manufacturing Engineering. He further talked about the local educational practices of BITS, Pilani wherein he said

that we can find beautiful blends of modernity and tradition on one hand and Geometry and Poetry on the other.

► Prof Souvik Bhattacharya



He concluded by welcoming the proposals of joining hands for Indo-German collaborations relating to innovation programs or academic programs. Prof Christoph Herrmann gave a glimpse of 9 year old long association of Technical University, Braunschweig, Germany and BITS Pilani, India in the areas of lean, green, life cycle engineering, and sustainable manufacturing. He also emphasized the importance of cultural exchange gained through exchange programs under the centre.

► Prof Christoph Herrmann



Prof Reza Asghari of TU Braunschweig asked the participants to develop high tech startups for a better and livable world. Prof K.S. Sangwan, conference chair and centre founder, introduced the theme of the conference – “Skilling India for a Digital and Sustainable Future”. He emphasized on the need for new curricula, newer pedagogies and newer higher education organizational structure to align the engineering education with industry

requirements. More than 100 papers and 8 keynote addresses were delivered by people from industry and academia.

## Events at the Library:

**BITS Pilani Library is instrumental in initiating many new events every semester. One noteworthy highlight of the semester is the award of Doctorate to the Deputy Librarian, Ishappa Bandi on the topic, "Impact of Digital Resources and Services on Information Seeking and Communication Behaviour of the Social Science Faculty: A study of the Users of University Libraries in Maharashtra State" under the guidance of Dr K.C. Ramakrishnegowda, Department of Library and Information Science, Kuvempu University, Karnataka State.**

***Some of the other events organized by the Library are:***

## Readathon

Readathon, a reading challenge for the children in the age group 5-15 years, was organized for the first time by BITS Pilani library to inculcate reading habits among children from August 1 to September 30, 2017. Mr. Giridhar Kunkur, Librarian said, "Initially the library was bit skeptical about the response from the parents as well as children, But, at the end of two months, the participating children read 406 books which is double the number of books that the library had issued ever since the inception of the Young Learners Section i.e. in five and a half months time!." There was a maximum participation from the age group of 5-9 year old. The parents of the participants appreciated the concept of readathon and confessed that it has helped their children inculcate the habit of reading. The Guest of Honor, Prof Chandrashekhar, Former Director of CEERI and Senior Professor Emeritus talked about the importance of reading at a young age.

► Readathon



Prof Shibani Jha, in her speech on "Nurturing Young Mind: Parents, Books and Children" focused on losing the charm of reading books at the cost of plethora of gadgets and drew the attention of parents to this fact. Prof Paritosh Shukla did an excellent job of telling a story in a dramatized manner, entertaining children and parents. Prof Ashoke K. Sarkar, Director, Pilani campus said that it was an excellent initiative and lauded the efforts put in by the library staff. At the end of the programme, Dr Ishappa Bandi, Deputy Librarian, thanked children and parents for their active participation and also for an unconditional support received from faculty members, authorities and Library staff which culminated into a huge success of the Readathon initiative.

## G.D. Birla Rare Books Collection

The inaugural function of the renovated and air-conditioned section of G.D. Birla Rare Books Collection at BITS Pilani Library was held on August 23, 2017 by Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani in the august presence of Prof Ashoke K. Sarkar, Director, Pilani Campus. A large number of senior faculty members, research scholars, students and staff of the institute were present in the event.

The newly set-up G.D. Birla Rare Books Collection has a remarkable stock of scholarly rare books, manuscripts, paintings and photographs which are timeless and invaluable. Many of these rare books are published almost about 150 and 200 years ago. The collection consists of valuable rare books such as Pancha Vimshati Sahasrika Prajnaparamita, Sabda Veda: A Collection of Eleven Samhitas of Four Vedas by K. C. Kulish, paintings from the collection of Dr Sukarho, Reichenbachia: Orchids illustrated & described by Henry Frederick Conrad Sander, etc. to name a few.

These scholarly rare books were donated by Shri G. D. Birla, the founder of BITS Pilani almost at the time of the formation of the BITS Pilani. A special German tissue paper was procured to preserve the rare books. A "Books Preservation Laboratory" was also established in the library. Some of the rare books that are preserved by BITS Pilani Library staff using German Tissue paper are The Bhagavad-Gita by D.S. Sharma, Indian Teachers of Buddhist Universities by Phanindranath Bose, Some Turns of Thoughts in Modern Philosophy by George Santayana, etc. So far, more than 25 valuable and scholarly books have been preserved using this technique and the work is in progress.

## International Conference on Sports Engineering

A three day international conference on Sports Engineering organized by BITS Pilani, Pilani and Federation of Indian Chamber of Commerce and Industry (FICCI) in association with International Sports Engineering Association (ISCA), UK was inaugurated on October 23, 2017 at Birla Auditorium, Jaipur. Prof M.S. Dasgupta, the Conference Chair, in his welcome address, introduced the theme of the conference to the audience and said that BITS Pilani is the first one to combine sports and engineering in India.

The Chief Guest of the event, Shri Gajendra Singh Khimsar, Honorable Minister of Forest, Environment, Youth Affairs and Sports, Govt. of Rajasthan, in his address spoke about sports' importance in main stream education. He also highlighted the importance of sports infrastructure, talent hunt, coaching, sponsorship and job assurance.

► Shri Gajendra Singh Khimsar, Minister of Forest, Environment, Youth Affairs and Sports, Govt. of Rajasthan addressing the conference



The Guest of Honour, Dr David James, Treasurer of Sports Engineering Association from Sheffield Hallam University, UK said that sports engineering is a global community which will grow in India too and bring countries together.

Prof Souvik Bhattacharyya, Vice-Chancellor, BITS Pilani, in his speech, said that the conference is an initiative to connect scientists and technologists in India with the general arena of sports development and to encourage them to be involved in transnational sports research and technology development, applying their knowledge and acumen to connect with sports performance as well as with the sports industries for successful development and implementation of innovative technologies in sports contributing to measurable competitive advantage.

Prof Ashoke K. Sarkar Director, Pilani campus in his address said “To perform better in international events and also to meet the aspirations of the youth, the country will have to provide good sports facilities and sports goods and equipments need to be made easily available to all at an affordable price. We acknowledge the scope of this field in the country and thus have decided to organize this conference so as to create awareness among the faculties and researchers about the possible areas of education and research.” At the end, the convener of the conference, Dr Pintu Modak, delivered a vote of thanks.

## Workshop on Additive Manufacturing- Applications and Recent Trends

Department of Mechanical engineering, BITS Pilani, Pilani campus, organized a two-day workshop on “Additive Manufacturing - Applications and Recent Trends”, AMART 2017 from October 30-31, 2017. The chief guest, Prof P. M. Pandey, Department of Mechanical Engineering, IIT Delhi inaugurated the event. Prof Souvik Bhattacharyya Vice Chancellor, BITS Pilani, Prof Ashoke K. Sarkar, Director, Pilani Campus, Prof P. Srinivasan, Head, Department of Mechanical Engineering and Prof K.S. Sangwan were some of the dignitaries present on this occasion. In the welcome address, Prof P. Srinivasan welcomed the gathering and highlighted the achievements of the department for the past one year.

Prof Souvik Bhattacharyya shared his views on additive manufacturing and mentioned its need and importance. In the inaugural speech, Prof Pandey addressed the gathering and congratulated the department for organizing a workshop on recent topics. He motivated the students by his thought provoking speech. Prof Ashoke K. Sarkar, congratulated the department and appreciated the activities carried out by the department in organizing such workshops. Prof K. S. Sangwan introduced the theme of the workshop and Prof A.K. Digalwar proposed a vote of thanks.

### ▶ Additive Manufacturing - Applications and Recent Trends



The resource persons Prof P.M. Pandey from IIT Delhi gave introduction to 3D printing and allied technologies, Prof Rakesh Mote from IIT Bombay threw light on micro

and nano deposition and challenges; Prof Rupinder Singh from Guru Nanak Dev Engineering College, Ludhiana shared various applications of 3D printing including the biomedical field; Mr. Akash, founder- AHA 3D, Jaipur demonstrated some 3D printing applications and Prof T.C. Bera, Department of Mechanical Engineering, BITS Pilani, talked on Rapid Tooling.

Around 55 participants from BITS Pilani and outside took part in the workshop. Prof K.S. Sangwan, Prof Abhijit Digalwar, Dr T.C. Bera, Dr Prateek Kala and Dr Varun Sharma from the Department of Mechanical Engineering were the conveners of the workshop.

## Graduating Students’ Tea Party

BITSAA organized the Director’s Tea Party at VFAST Hostel Lawns on November 27, 2017. The Vice-Chancellor, Prof Souvik Bhattacharyya, Director, Prof Ashoke K. Sarkar and faculty met the graduating students and wished them luck for their future. Prof Ashoke K. Sarkar, Director Pilani campus, motivated the graduating students to pursue their passion irrespective of all road-blocks that they may face in the future. Dr Surekha Bhanot, Warden, Meera Bhawan and Unit chief, Instrumentation Unit, Prof Arya Kumar, Unit Chief, Entrepreneurship Development & Intellectual Property, Prof Kumar Neeraj Sachdev, Associate Dean, Students Welfare Division and Prof Hari Om Bansal, Associate Dean, Admissions, Faculty-in-charge and Alumni Cell congratulated the students and promised to help them whenever the need be. The Vice –Chancellor, Prof Souvik Bhattacharyya spoke about the bond a student has with his/her alma mater and inspired the students to give their best in the professional world. The Vice-Chancellor distributed certificates to the students of Placement Unit. A few graduating students from different departments shared their experiences and thanked all their teachers and friends for their constant help and support.

### ▶ Prof Ashoke K. Sarkar



## BITS 1975 Trust

The Gurudakshina programme by BITS 75 Trust was organised on October 22, 2017 at Bangalore to felicitate 10 prominent Gurus. It was a marvelous event that could fructify with the untiring efforts put in by Mr. Hanuman Bengani, Dr Vijay Chandru and many more. The music programme revived many memories including golden era songs performed by Mr Rakesh, Mrs. Harsha and the team. The Trust has successfully nurtured two ventures and is in the process of supporting the third one. Prof Arya Kumar, Dean Alumni Relations, shared the developments at the institute front and especially the new and distinct impetus given to connect with alumni for strengthening ties for growth and development of the institute.

## Alumni Meets

### Golden Jubilee Meet

After 45 years of graduation, around 240 alumni, along with their family members, from the Batch of 1967-72 visited their Alma Mater to celebrate their Golden Jubilee Reunion. A few of them came from abroad – USA, Nigeria, Canada, Dubai, etc. The batch includes senior IAS officer, Army personnel, educationists, entrepreneurs, etc. It was heartening to note that more than 15 percent of Alumni from this batch are running their own ventures in India and abroad and provide employment opportunities to young generation. They were keen to support in all possible ways to the youngsters to take up entrepreneurship as a career option.

Multiple engagements were chalked out including interaction with students on specific topics like prospects and opportunities in various sectors of the economy, meeting with faculty members, visit to facilities in the institute, and a music programme. Alumni recollected and cherished their old memories and expressed their gratitude to their Alma mater by way of token contribution of their love for developmental projects. They also suggested certain measures including greater involvement of Alumni to help the institute grow.

Prof Souvik Bhattacharyya, the Vice Chancellor, BITS Pilani admired their success in different fields and focused upon research agenda wherein institute would love to have participation of Alumni. He also highlighted the extra ordinary achievements of Alumni in different fields and invited them to contribute in multiple ways for the growth of their Alma Mater. He stated that in the ongoing strategic exercise for the growth of the institute, Alumni engagement has been identified as one of the key pillars and the first Dean, Alumni Relations, has been appointed to have deeper engagement with Alumni.

In an interaction with Alumni, Prof Ashoke K. Sarkar, Director, Pilani Campus highlighted the academic, research and infrastructure developments on Pilani campus. Prof Arya Kumar welcomed the batch and expressed gratitude for the contribution by the batch and their keen interest to give back to Alma Mater in tangible and intangible ways. The programme for their visit for the three days was designed, developed and coordinated by Prof Hari Om Bansal in association with the Batch.

#### ► Batch of 1967-72 Golden Jubilee Meet



### Silver Jubilee Meet

More than 300 alumni of the Batch of 1988 joined for the Silver Jubilee Meet on campus during November 10-11, 2017. Prof Souvik Bhattacharyya addressed the batch online from Goa Campus in the tele-presence room. Alumni felicitated the teachers who taught them during their studies at BITS. Batch joined hands together to contribute Rs 1.30 crores to the institution for research, faculty enrichment or infrastructure development that would be jointly decided by the institute and batch representatives.

Nineteen veteran Alumni from the batch of 1959 along with their spouses visited Pilani campus from November 24-26, 2017. It was a rare experience displaying excitement and a sense of pride for being a BITSIAN.

Seven Alumni of the first Batch of MMS from BITS Pilani visited Pilani campus between November 4-5, 2017 and interacted with faculty and students of the Department of Management for exploring the possibilities of contributing to the development of management programme by way of curriculum development, guest lectures, and placement support.

## Drawing Competition by the Peacock Restoration Team

In order to save the existing peafowls and increase their numbers on campus, faculty and students of BITS Pilani, Pilani campus, as a part of an Alumni (BITSAA) batch 1987 funded project organized a drawing competition based on the theme “Conservation of Peacocks”. The competition took place on the October 4, 2017 and was attended by the students of Birla School Pilani, Birla Balika Vidhyapeeth, Birla Shishu Vihar and Birla School. Students and Ph.D. scholars of BITS Pilani also participated in the event. Dr Amol Marathe and Mrs Anamika judged the 145 art-works of different categories. Prof Ashoke K. Sarkar, Director, Pilani campus was pleased to attend the event as the chief guest. He motivated the students and was happy to see their creativity and enthusiasm. Prof Sangeeta Sharma, the head of the Project team, thanked all the students and their schools for their support and participation.

▶ The Peacock Restoration Drawing Competition



## Prof L.K. Maheshwari Foundation Distinguished Alumnus Award

Prof L.K. Maheshwari Distinguished Alumnus Award-2017 conferring ceremony was held on November 11, 2017 at BITS Pilani. The award was presented to Shri Sunil Nanda, Founder, Thinkit Technologies. Prof Ashoke K. Sarkar, Director, Pilani Campus was the chief Guest of the ceremony. Prof Navneet Gupta, Secretary of LKM foundation and the Head, Department of EEE welcomed the guests and introduced the activities of Prof L.K. Maheshwari Foundation Trust. Prof Surekha Bhanot read out the achievements of Shri Sunil Nanda. Prof L.K. Maheshwari, former Vice-Chancellor of BITS Pilani, established the trust to promote the cause of education and research in the field of Electronics and Instrumentation in the name of “Professor L.K. Maheshwari Foundation” in 2010. “Distinguished Alumni Award” is presented biennially by the foundation where

nominations are invited from amongst the alumni of BITS-Pilani working in the areas of Electrical and Electronics Engineering and Instrumentation, worldwide. Shri Sunil Nanda, founder of Thinkit Technologies has been associated with well-known VLSI based companies such as Nvidia, Intel, Cadence Design, SUN Microsystems. In the end, Prof Anu Gupta proposed the vote of thanks.

▶ Distinguished Alumnus Award 2017 presented to Shri Sunil Nanda



## Nano & Functional Materials (NFM-2017)

The three day international conference on Nano & Functional Materials (NFM-2017) was organized from November 17-19, 2017. In the inaugural session, Prof Souvik Bhattacharya, Vice Chancellor, BITS Pilani told a story about gorilla glass and underlined the importance of fundamental research and its key role in meeting solutions to the future challenges. Prof Ashoke K. Sarkar, Director, Pilani campus presented a brief history of the Pilani campus. He mentioned about various achievements of the campus in teaching & research and talked about the challenges faced to achieve the goals.

▶ NFM-2017





Prof Y.K. Vijay, President of MRSI, Rajasthan Chapter, the organizing body of the conference, pronounced the broader perspectives of materials research exemplifying the role of material science in the evolution of mother earth, discussed future challenges and the key role of material research in solving the same. He also announced that MRSI would be sponsoring awards for best oral & poster presentations by students. Prof Bharti Khungar, Head, Department of Chemistry, welcomed the gathering and mentioned about the activities and achievements of the Department in research, pedagogy and societal development. The inaugural session ended with the vote of thanks by Dr Surojit Pande, Convener NFM-2017. Around 145 delegates including 140 students and 5 international participants attended the event.

## Prof V. Lakshminarayanan Memorial Lecture

As a mark of respect to the great teacher, educationist, administrator and philosopher all modeled in one, the first Director of BITS Pilani, Prof V. Lakshminarayanan (VLN) was a legendary leader. Prof V. Lakshminarayanan played an immensely important role for a quarter of century at Pilani. He will always be remembered as a part of BITS legacy of sharing dreams, shaping, and changing BITS as an Institute of Excellence. Prof V. Lakshminarayanan Memorial Lecture was held on December 4, 2017. The event started by floral tributes to Prof V. Lakshminarayanan by Prof Surendra Pal, Vice Chancellor, Defense Institute of Advance Technology, Pune who is a BITS, Pilani alumnus and the family members of V. Lakshminarayanan followed by Prof S.K. Murthy, Prof Souvik Bhattacharyya, Vice Chancellor, BITS, Pilani and Prof Ashoke K. Sarkar, Director, Pilani Campus.

Prof Souvik Bhattacharyya, in his welcome address to the audience, termed it to be a wonderful and joyous moment to share the memories of such a great educator and welcomed the family members of Prof V. Lakshminarayanan on the occasion.

Prof S. K. Murthy informed the audience that in 1964. Prof V. Lakshminarayanan played a stellar role in integrating the erstwhile Birla College of Science, Commerce and Pharmacy, Birla College of Arts and Birla College of Engineering to evolve the Deemed University Birla Institute of Technology and Science, Pilani. During early years of its inception i.e. 1964 to 1970, the Institute, with the help of Ford Foundation Grant, had the advantage of collaborating with Massachusetts Institute of Technology (MIT), USA. He further said that BITS Pilani adopted the semester system, modular structure of courses, continuous and internal evaluation, letter grading,

etc. BITS also went about creating institutionalized linkages with the industries. In the course of time, the Institute also developed several flexible educational programmes. All these would not have been possible but for the devoted and dedicated leadership and services of Prof Lakshminarayanan during formative years.

Thereafter, the fifth daughter of V. Lakshminarayanan, Dr Nirmala shared the fond memories of her father, mother and Pilani campus.

Prof Surendra Pal, a space communication technologist at ISRO and an alumnus of BITS Pilani and Indian Institute of Science, Bangalore delivered the Prof V. Lakshminarayanan Memorial Lecture on "Aerospace Paradigm of India." Prof Arya Kumar, Dean, Alumni Affairs, BITS Pilani thanked all the dignitaries, guests and others present in the auditorium.

► Prof S.K. Murthy lighting the lamp



## National Conference on Solid State Ionics

12<sup>th</sup> National Conference on Solid State Ionics (NCSSI-12) was organized by the Department of Physics, BITS Pilani and Indian Solid State Ionics Society at Pilani with a theme, "Solid State Ionics: Fundamentals to Energy Storage and Conversion Devices" during December 21-23, 2017. Solid State Ionics (SSI) is a multidisciplinary scientific and industrial field dealing with ionic and electronic transport phenomena in solids and their technological applications. The conference was inaugurated by Prof Ashoke K. Sarkar, Director, Pilani campus wherein he shared a brief on the history of BITS Pilani. Prof Anshuman Dalvi, the Convener of the conference and Head, Department of Physics welcomed the delegates and explained the theme and the basic idea behind the conference. Prof Navin Singh, the Organizing Secretary of the conference informed about the working of the Department of Physics.

Prof Amita Chandra, the executive member of Indian Solid State Ionics Society and a Professor in the Department of Physics and Astrophysics at University of Delhi, spoke about the foundation of Indian Solid State Ionics Society and its role in the organization of such conferences at several colleges across the country.



The conference included plenary lectures, invited talks, oral and poster presentations. The National Conference on Solid State Ionics (NCSSI) provides a platform to scientists to discuss ideas, fundamentals, innovations and applications in the area of ion conducting materials and promotes collaborations. Researchers can get acquainted with new techniques and ideas in the emerging field of solid state ionics.

The conference was financially supported by DST-SERB, DST Rajasthan, BRNS CSIR, Hindi Electronika (India), Toshniwal Brothers (SR) Pvt. Ltd., SN Scientific Suppliers, Varun Industries and Ranga Techo Impex.

► NCSSI-12



## Open House organized by Students Academic Cell (SAC) and the Department of Mechanical Engineering

Students Academic Cell (SAC), a newly launched initiative, to further strengthen the academic ambience in the institute organized their first event in association with the Department of Mechanical Engineering. They organized an Open House to show-case laboratory infrastructure facilities that are available in Mechanical Engineering Department to all the students of the campus. The Open House was inaugurated by Prof Ashoke K. Sarkar, Pilani Campus in the Thermal Sciences Lab on August 28, 2017. In his inaugural address, he highlighted the importance of academics and techniques to make the best use of available infrastructure facilities to promote research culture and explore interdisciplinary research areas. He appreciated the work done by SAC volunteers and the Department of Mechanical Engineering for organizing the event. Prior to the inaugural address, the student volunteers of SAC introduced the activities of SAC and its role in improving the academic ambience in the institute. Prof P. Srinivasan, Head of the department, in his address, explained the facilities available in Thermal Sciences Lab, MEMS Lab, Robotics Lab, Materials Lab and FMS lab and suggested students to visit the facilities and explore the possibilities of utilizing them. Faculty members and research scholars of the Department of Mechanical Engineering took all the students for a guided tour of the facilities and explained different research activities of different labs. More than 175 students visited the lab facilities and had shown keen interest to understand the research opportunities.

► Open House



# Academia: a confluence of ideas

Seminars/Conferences

Workshops/Training Programmes

Enriching the Learning

Experience: Visits by Faculty

**Dr Jayashree Mahesh, Department of Management**, attended the Inaugural Conference of Aston India Centre for Applied Research (AICAR) and presented a paper titled, "Convergence of Management Practices in India's IT Sector - The Mirage and Myopia of Managerial Perception" at Aston University, Birmingham, UK during September 15 -16, 2017.

**Dr Sailaja Nandigama, Department of Humanities and Social Sciences**, presented a paper titled "Combining Qualitative and Quantitative Methods to Evaluate Community Forestry Interventions in South Asia: An Experiential Account in the 3rd Annual FLARE Meeting, September 29 - October 2, 2017 at Stockholm University, Sweden.

**Prof Poonam Goyal, Department of Computer Science**, attended an IEEE International Conference on Big Data and presented two papers "AnyFI: An Anytime Frequent Itemset Mining Algorithm for Data Streams" and "Exploiting Visual and Textual Neighborhood Information to Improve Image-Tag Relevance" at Boston, USA during December 11-14, 2017.

▶ Prof Poonam Goyal



**Prof S.B. Singh and Pankaj Munjal (2013PHXF0437P), Department of Civil Engineering**, presented a paper titled "Flexural Response of CFRP Strengthened Masonry Walls," at the 20th International Conference on Composite Structures (ICCS20), Paris, during September 4-7, 2017.

**Prof S. B. Singh, Sudhir Vummadiseti (2014PHXF0409P), and Himanshu Chawla (2010PH430412P) Department of Civil Engineering**, presented a paper titled "Assessment of Interlaminar Shear Strength in Hybrid Fiber Reinforced Composites," at the 20<sup>th</sup> International Conference on Composite Structures (ICCS20), Paris, from September 4-7, 2017.

**Dr Padma Murali, Department of Mathematics**, attended a conference on Global Change in Ecology-Models in Population Dynamics and Ecology and presented a paper titled "Mathematical Modeling of Coronary Artery Disease (CAD): Analysis Reveals HBA1C and Total Cholesterol to be Significant Risk Predictors" at the University of Cape Town & University of Stellenbosch, Cape Town, South Africa during September 4-8, 2017.

**Dr Vishal Saxena, Department of Biological Sciences**, visited a Functional Parasitology lab, Institute of Parasitology, University of South Bohemia, Ceske Budejovice, Czech Republic from June 11, 2017 to June 27, 2018 and also visited Prof. J. H. Adams Lab, Department of Global Health, College of Public Health, Interdisciplinary Research Building (IDRB), University of South Florida (USF), Tampa, Florida, USA from August 15, 2017 to December 11, 2017.

## Invited Lectures by Faculty

**Prof Sangeeta Sharma, Department of Humanities and Social Sciences**, delivered a talk on "Women Empowerment through Advertising" in the third world conference on Women's Studies: Investing in New Generations: Women and Girls" at Amity University, Noida organized in collaboration with World Center for Women's Studies (world-cws) and College of Arts & Sciences, University of Buffalo, Suny, U.S.A. during October 12-13, 2017. She was also invited as a panellist in an International Research Conference on "Sustainable development of human capital: exploring perspectives from grassroots to global research and practice" held from November 8-10, 2017 at Indian Institute of Management (IIM), Ahmedabad.

**Dr Rajeev Taliyan, Department of Pharmacy**, delivered a talk on "Epigenetic Mechanisms in Neurodegenerative and Neurological disorders in Faculty Development Programme, KIET School of Pharmacy, Ghaziabad on

July 10, 2017 and also delivered a talk on “Epigenetic Modulation and Dementia: Potential of Class specific HDAC inhibitors in ameliorating insulin resistance induced cognitive deficit in mice” in Northern Regional conference of Indian Pharmacological Society NRIPSCON-17, KIET, Ghaziabad during September 1-2, 2017. He was also invited for extension lectures on Molecular Pharmacology at CBLU State University Bhiwani, Haryana.

▶ Dr Rajeev Taliyan



**Dr Vishal Saxena, Department of Biological Sciences,** delivered two talks "Metabolic Pathways of the *Plasmodium vivax* apicoplast as malarial drug targets" at the Institute of Parasitology, University of South Bohemia, Ceske Budejovice, Czech Republic on June 21, 2017 and "Targeting Malaria through plastid like organelle" at the Department of Global Health, College of Public Health, University of South Florida (USF), Tampa, Florida, USA on October 17, 2017

**Prof Pushp Lata, Department of Humanities and Social Sciences,** conducted a One-day Workshop on Personality Development and Communication Skills at BKBIET, Pilani on November 24, 2017.

▶ Prof Pushp Lata



**Prof Ashis Kumar Das, Department of Biological Sciences,** delivered a talk on “Systems Networks and HUB genes to identify pathogenesis molecules and possible therapeutic targets in complicated *P. falciparum* malaria” at the Symposium on Network Biology, organized by the Center for Computational Biology, IIIT Delhi on October 28, 2017 and also on “Translational Research in Malaria- Investigating Complicated malaria” at the International Vaccine Conference and Workshop on Malaria Parasite Biology at ICGEB New Delhi, on December 1, 2017.

**Dr Sangita Yadav, Department of Mathematics,** delivered a talk on "Superconvergence of a class of expanded discontinuous Galerkin methods for fully nonlinear elliptic problems in divergence form" in the "International Conference on the Current Trends in Theoretical and Computational Differential Equations and Applications" organised by the Department of Mathematics, South Asian University, New Delhi during December 1-5, 2017.

**Dr Rajesh Kumar, Department of Mathematics,** attended an International Conference on "Current Trends in Theoretical and Computational Differential Equations with Applications" and delivered a talk on “Low Rank Tensor Decomposition for High Dimensional PDEs with Gaussian Loadings” at South Asian University, New Delhi during December 1- 5, 2017.

## Accolades and achievements

**Dr Vishal Saxena, Department of Biological Sciences,** was awarded INSA-CAS International Bilateral Exchange/ Collaboration Award 2017 for Senior Scientists conferred by Indian National Science Academy (INSA) in collaboration with Czech Academy of Sciences and also a recipient of ASM-IUSSTF Research Professorship Award, 2017 conferred by American Society of Microbiology (ASM) in collaboration with Indo-US Science & Technology Forum, Govt. of India to carry out research in USA.

# Significant Projects

S.No.	Principal Investigator and Name of the Department	Title of the Project	Funding Agency	Amount and Duration
1.	Dr Lavika Goel Department of Computer Science and Information Systems	Design and implementation of content based recommender system for effectively answering web based user queries	Department of Science & Technology (DST) under Interdisciplinary Cyber-physical systems (ICPS)	INR 40,00,000 (3 years)
2.	Prof Manjuladevi V. Department of Physics	Electro-optical response of Nematic Liquid Crystals doped with nanorods	Science & Engineering Research Board (SERB), India	INR 39,20,000 (3 years)
3.	PI: Dr Sunil Kumar Dubey Co-PI: Dr Rajeev Taliyan, Department of Pharmacy	Development of A Standardized Formulation of <i>Trigonella foenum-graecum</i> Seeds For Preventing or Delaying the Development of Type-2 Diabetes in Subjects with Pre-Diabetes	Indian Council of Medical Research	INR 16,73,000 (1 year)
4.	Dr Rajeev Taliyan and Dr Sunil Kumar Dubey, Department of Pharmacy	In Vitro – In Vivo-Study Design: Cardio-reno protective Effect of Herbal Extract in Hypertensive Rats: Role of NO/cGMP pathway	Etica Clinpharm Pvt. Ltd	INR 9,91,200 (2 years)
5.	Dr Sunil Kumar Dubey and Dr Rajeev Taliyan, Department of Pharmacy	Development of Novel Herbal Based Formulation for Skin Disorders	Etica Clinpharm Pvt. Ltd.	INR 9,00,000 (2 years)

# student round-up



**Rohan Saxena (2015A7TS0017P)** attended a conference on Wolfram Research Summer Program in Waltham, Massachusetts, USA on March 10, 2017 and presented a poster at the conference on "Semantic segmentation for self-driving cars". He was one of the 70 students selected from all over the world to do research at Wolfram Research, Boston, USA under Steven Wolfram, creator of Mathematica & founder of Wolfram research. He also won the award Google Venkat Panchapakesan Memorial Scholarship and visited YouTube Headquarters, San Bruno, California, USA from 30<sup>th</sup> October to 4<sup>th</sup> November 2017. This scholarship is awarded to the students who are passionate about the field of Computer Science. As a part of scholarship, he was rewarded USD 750 and was felicitated by Susan Wojcicki, the CEO of YouTube. He also attended Google Summer of Code at University of Bremen, Germany (Red Hen Lab, affiliated with Case Western Reserve University, USA) for two months starting from June to August, 2017. He did research in emotion recognition using deep learning with a research group from University of Bremen, Germany.

**Manpreet Singh (2014PHXF429P)** attended ASCE Congress on Technical Advancement, Duluth, Minnesota, USA during September 10-13, 2017 and presented a paper on "Long term effect of partially replacing cement in concrete".



**Ananyashree Garg (2015A7PS0117P)** attended the Asian Conference for Remote Sensing (ACRS), 2017 and presented a paper titled "Comparison and Estimation of Tropospheric delay in IRNSS signals using various Mathematical Models". The conference was jointly organized by Asian Association of Remote Sensing (AARS), the Indian Society of Geomatics and ISRO, Government of India during October 23 - 27, 2017.

► **Ananyashree Garg**



**Trilok Sharma (2017H1490325P)** secured All India Rank 2 amongst 2273 students in FLIP National Challenge 2017 and was awarded Cash prize of Rs. 20,000 and summer internship at DSP Blackrock. FLIP National Challenge is an all India level competition among MBA students of premier B-schools across the country.



**Naman Gupta (2014A8PS0522P)** won a Silver Medal in 48<sup>th</sup> All India Student Design Competition on 29<sup>th</sup> October 2017 organized by National Design and Research Forum (NDRF) and Institution of Engineers (India).



**Sugam Singla (2015A4PS0339P)** was selected as a delegate from India for Commonwealth Youth Summit 2017 held in Malaysia from November 3-5, 2017. This was first of its kind summit with the theme of 'An Inter-generational Convergence' wherein delegates from 52 Commonwealth nations around the globe participated. HRH Prince Charles inaugurated the summit.



**Vaibhav Garg (2013A3PS0587P) and Neha Agarwal (2013A3PS493P)** won Cadence Design contest on September 7, 2017 in UG category under the guidance of Dr Kavindra Kandpal, Department of Electrical and Electronics Engineering. The winning project was titled "Design of DQPSK Demodulator for implantable Bio-medical devices".



**Dr Kavindra Kandpal      Vaibhav Garg      Neha Agarwal**

**Harjap Singh Saini (2016H123137P) and Abhinav Garg (2016H140103P)** won Cadence Design contest on September 7, 2017 in PG category under the guidance of Prof Anu Gupta, Department of Electrical and Electronics Engineering. The winning project was titled "Design and Implementation of Differential Power Analysis Attack Immune Encryption Circuit Based on Simon Block Cipher for Next Generation RFID Cards".



**Prof Anu Gupta      Abhinav Garg      Harjap Singh**

**Sanat Sharma (2016A7PS019P)** was declared the winner of the 'Global capture The Flag' Cyber Challenge in Global Conference on Cyber Space (GCCS 2017) that was held at JW Marriott, New Delhi during November 20-21, 2017. The award and certificate were presented by the Honorable Prime Minister of India, Shri Narendra Modi.



## Avery Dennison Spirit of Invention Scholarship

▶ Avery Dennison Spirit of Invention Scholarship



The Avery Dennison Foundation Spirit of Invention 'InvEnt' Scholarship Program has been designed to recognize and reward the 'spirit of invention' amongst entrepreneurial and high achieving students in the fields of science, engineering and technology at selected higher education institutions in India. This year 10 students have been selected from five institutes and colleges in India, out of which four students of BITS Pilani were selected for 2017 Spirit of Invention (InvEnt) Scholarship Awards. The winning students were **Nishad Sahu (2016A3PS215P), Rituraj Mahendra Patil (2015ABPS568P), Siddharth Mehta (2016A8PS329P) and Sombuddha Chakravarty (2016A3PS165P).**

An impressive scholarship awards function was organized at Gurgugram on September 4, 2017, where these students were awarded US \$ 1300 worth of scholarships. The function was attended by past and present student winners, Avery Dennison team members, and faculty representatives from various institutes and colleges.

**Aseem Sindwani (2014A4PS0312P), Cheral Khandediya (2014A8TS0324P) and Arka Talukdar (2015A7PS0112P)** Amber Warehouse Solutions, a

BITSian startup consisting of 3 students from Pilani campus, deals with the post-harvest losses by continuously monitoring the food grain's health stored in a warehouse. It provides a one-stop technological solution to the problem of food grain down-gradation, liquidation, and warehouses stock management.



Currently, the start-up is in validation stage and the first prototype that is developed will monitor different warehouse parameters to predict the loss. The team is aiming to do the pilot test of the device in Food Corporation of India warehouse of Jaipur region.

Some of the achievements so far are:

1. Has been accepted in the esteemed Nidhi Prayas scheme by the Department of Science and Technology (DST) in October 2017.

**NIDHI** promotion and acceleration of young and aspiring innovators and start-ups (PRAYAS) is a DST program that focuses on supporting innovators to develop their innovative idea into a prototype and also turning nurturing ideas and innovations into successful startups. The

selected innovators get access to prototype grant of up to Rs.10 lakhs, infrastructure, and mentorship, thus bridging the gap between idea and prototyping. We have received this grant from iCreate, Ahmedabad. Under this scheme, the project has received 3.22 lakh INR funding, laboratory access and mentorship in prototype design and validation of proof of concept which would be disbursed in multiple steps upon progress.

2. Amber secured runner-up position in India-Israel Global Innovation Challenge organized by DIPP and Ministry of Commerce (Dec 2017).

The India-Israel Innovation Challenge, which was launched in July 2017 as bilateral innovation challenge for startups in Israel and India by Indian Prime Minister Narendra Modi along with Israel's Prime Minister Benjamin Netanyahu, calling it the India-Israel Innovation Bridge during PM Modi's visit to Israel. The challenge was on an online platform to facilitate bilateral collaboration between Israeli and Indian startups, tech hubs, corporations, and other key innovation ecosystem players in both countries. Startups and entrepreneurs were given comprehensive guides and toolkits to explore expansion opportunities. The India-Israel Innovation Bridge has invited startups to develop solutions for some of the world's most critical challenges in the areas of healthcare, agriculture and water technology. As a winner, the team received an amount of INR 2 Lakh, Cross-border mentorship and incubation/acceleration support and Matchmaking with leading corporates and investors to explore piloting solutions in India.

3. Further, on January, 17 Jan 2018, the team was also felicitated by Prime Minister of India Shri Narendra Modi and Prime Minister of Israel, his Excellency Benjamin Netanyahu. Among all the winners, it was the only team where all members are still in college.





# creative zone

## OASIS 2017

BITS was a hive of activity October 31, 2017 as Oasis 2017 had arrived. The inauguration ceremony had performances by the Music Club, Dance Club and Mime Club and was attended by the Chief Guest Mr. S.S. Rajamouli, the famous Director of Bahubali, the Director, Pilani Campus, Prof Ashoke K. Sarkar, the Dean of Administration, Prof S. C. Sivasubramanian and the StuCCA, the Oasis organizing team of students. The festive nature was evident as the inauguration of India's second largest cultural festival was followed by a performance by the Portuguese band, "Magmell Folk" at Rotunda.

After the Inauguration, the crowds were seen at various other events taking place across campus. While musicians could be seen jamming on M-lawns, stargazers were at The Night's

Watch on the FD-3 terrace. While dancers were at the Street Dance Eliminations in SAC, music enthusiasts were seen testing their musical wits in Antakshari in the FD-2 QT. The Oasis Quiz, held in the auditorium at midnight, also drew a fairly large crowd.

The 96 hour extravaganza saw a lot of variety in terms of events such as Street Dance, Razzmatazz, BLAB, Mime, Tarang Canvas Street, Poetry Slam where dance, drama, music, art and fashion were equally represented. Apart from these events, the Hindi Prof show featured popular music duo Vishal-Shekhar and N2O, the comedy Prof show by Karunesh Talwar and Ashish Shakya made people cry of laughter. With a participation of 30 colleges and 1700 people, the crowd on campus had the best time of their lives.

► Activities during OASIS 2017



## BOSM 2017

BOSM (BITS Open Sports Meet) started off with a bang at BITS, Pilani on September 21, 2017. The five-day competition is one of the largest student-managed sports fests in the country. The fest covers whole spectrum of sports, ranging from athletics, football, basketball to chess, pool, and powerlifting.

The 32<sup>nd</sup> edition of the sports fest saw over 1600 participants from colleges in different regions of India alongside the first time participants from Sri Lanka. The chief guest for the event, Devendra Jhajharia, a two-time gold medalist at the Paralympics, spoke about his childhood, where he faced ridicule and scorn for pursuing a seemingly impossible dream. But he stood against all odds and became the first paraolympic athlete to win not only the Padma Shri but also the Khel Ratna award. Tanvie Hans, India's first female football player to qualify for the English Premier Football League also delivered a talk on the September 22, 2017, sharing her experiences.

- ▶ Chief Guest lighting lamp



The Vice-Chancellor, Prof Souvik Bhattacharyya, welcomed the athletes on campus and urged players to play a fair game and implored students not to neglect academics in their enthusiasm. Prof Ashoke K. Sarkar, Director, Pilani campus, enthusiastically spoke about broadening the international scope of BOSM. All players were then administered the oath of sportsmanship by the sports secretary, Mr Jayshil and the Chief Guest officially declared the BOSM open.

The inauguration officially came to a close with a vote of thanks by the sports secretary. The crowd was invited to the Gym Grounds for a basketball game between the current team and the alumni.

As Baxter the eagle entertained the crowd throughout BOSM as the official mascot, the fest saw rainbow of emotions colliding within athletes as they gave their best in pursuing greatness. All participants won hearts with their passion and zeal to outperform themselves, while everyone took home a priceless experience.

## Conquest 2017

Conquest 2017, BITS Pilani's International Startup Conclave was organized by CEL (Center for Entrepreneurial Leadership). Currently in its thirteenth edition, Conquest is India's biggest student run challenge that serves as a launchpad for nascent start-ups. In partnerships with giants like Techstars and Kairos, it is featured by top media houses and online media platforms like CNBC TV-18, Business Insider and many others.

- ▶ Conquest 2017



This year, Conquest received over 1000 registrations of which top 50 startups were selected on the basis of user traction, business model, etc. The startups were then entitled to networking sessions in Delhi, Mumbai and Bangalore. The networking sessions witnessed attendance from the likes of Meera Iyer, CMO, Big Basket, Ashish Goel, Head of Product, Zomato and

Suvonil Chatterjee, former CDO, Housing and Flipkart. These mentors held one-to-one sessions with the startups in fields like customer acquisition, fundraising, scaling up and operations etc.

The grand finale of the conclave was held on September 3, 2017 at Hyatt Regency, New Delhi, which marked culmination of the quest to find and foster the most innovative startups in the country. The finalists pitched their ideas in front of the panel of investors and VCs, as they tried to captivate the imagination of potential investors. The winner's position was grabbed by Recopro, which manufactures recyclable paper pallets which are cheaper, stronger and greener than the traditional wood counterparts. The runner ups were Incredible Devices, which works on providing affordable treatment techniques for CVD, a disease with a fatality rate of 80%. The winner and the runner-up were awarded Rs. 2,50,000 and Rs. 1,50,000 respectively of equity-less cash funding.

## NSS - Junoon

NSS and Sports Council organized the 6<sup>th</sup> edition of Junoon, a sport extravaganza for the specially-abled during September 9-10, 2017.

- ▶ Chief Guest Mr Anand Kumar



The inauguration ceremony was graced by the honorable Chief Guest Mr Anand Kumar, one of India's top Paralympic shuttlers, Director, Piloni Campus Prof Ashoke K. Sarkar, the Dean, Administration Prof S. C. Sivasubramanian, Prof Kumar Neeraj Sachdev, Prof Anupam Singhal and Prof H.D. Mathur among other dignitaries. Over 120 students from 7 different NGOs took

part in this year's edition of Junoon. NSS BITS Piloni President B. Tirumala explained the impact NSS has in Piloni and nearby villages and the significance of Junoon as well. The Chief Guest, the Director and the Dean, Administration enlightened the audience with their words of wisdom. After the inauguration, various recreational activities such as painting, origami, bull's eye, etc. were organized for the children. A movie was also screened for the entertainment of the children.



The second day witnessed children taking part in various athletic activities such as running race, long jump, shotput and bocce followed indoor games such as Badminton, Chess, Carrom, etc. Junoon Nite that was subsequently organized in the auditorium had given the children a platform to showcase their skills in dance, music, etc. This year Junoon Nite witnessed children from Tata Steel Rural Development Society (TSRDS), along with children from the participating NGOs. The presence of the Chief Guest Mr Anand Kumar along with other dignitaries during the event lifted the spirits of the participants. Each NGO was presented with a trophy for participating and making Junoon a great success. The two-day long event concluded with the NSS Coordinator Shubham Ostwal thanking everyone for their presence and support during the event.



## Nirmaan

Nirmaan, a non-profit organization, started in 2005 by a group of four enthusiastic BITSians in Pilani, now has a workforce of 700+ volunteers in 6 chapters across 4 states of the country with initiatives ranging from education, women empowerment to relief in disaster-affected areas. Last semester was an eventful one comprising events such as Joy of Giving week, Joy of teaching, Collection drive, etc. The annual Joy of Giving Week celebrations commenced with a grand inauguration ceremony held at BITS Pilani on 4<sup>th</sup> September 2017 graced by Mrs Manasi Pradhan, a women's rights activist, founder of Honour for Women National Campaign and winner of Rani Lakshmbai Stree Shakti Puraskar.

Events like Joy of Teaching was organized on Teacher's day and Day of Joy was graced by Prof Ashoke K. Sarkar, the director of the campus with a huge participation from various communities like Nat Basti, Baas and Court Basti. Day of Gratitude was an event held to instil a sense of empowerment among all the female sweepers working on the campus. The Joy of Serving was celebrated by inviting the mess workers for dinner wherein teachers and students served them making it a role reversal.

During Oasis 2017, Nirmaan successfully sold handicrafts made by their female beneficiaries and generated a good amount of profit. Apart from this, a fundraiser event, food challenge was also conducted. Another notable contribution was the rally in the village of Baas to spread awareness about the importance of education using the slogan "Sab Padho, Sab Badho" and a collection drive across the campus involving both students and the faculty.



## Ragamalika

Ragamalika, the classical music and dance club of BITS Pilani organized various events in the first semester of 2017-18. The highlight of the semester was Nrityaranjani, one of the two annual flagship events hosted by the club. The evolution of dance through the centuries in India, Natyakatha, was showcased in a mesmerising dance performance, along with live music.

### ▶ Students Performing



The club's contributions to Oasis 2017 consisted of three events. The first of these was a classical dance Prof show, where Smt. Priya Murle enthralled the audience, depicting various forms of Bhakti. This was followed by the classical music and dance contests, Swaranjali and Tandav. The members of the club showcased their individual talents on the fresher's concert, which was the first time the freshers of the club performed under its mantle, and the Psenti concerts which were the send off to the to-be graduates of the club, a final display on the BITS stage of brilliance honed for many years in the club. Apart from these, the semester was studded with various chamber concerts, opportunities for the members to portray interesting segments of the vast and varied classical arts.



## Matrix

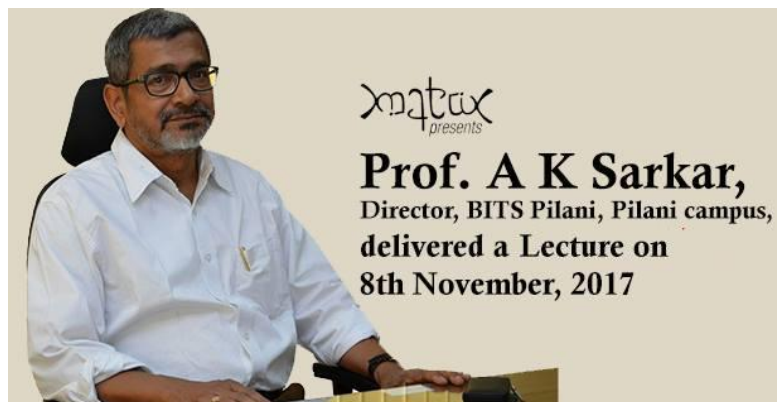
Prof Ashoke K. Sarkar, Director, Pilani campus, delivered a Lecture on November 8, 2017 organized by Matrix. The Lecture series is a phenomenon that started across many universities around the world in the past decade.

"Life continuously provides us opportunities and we are to pick-up the right ones which can lead us to success and make our lives meaningful. The opportunities to learn come from observing individuals or through some incidents. The same person or the same incident may influence different people differently. Moreover, each one of us must have met some people who have left deep impression on us or some incidents that have helped choosing direction in life. They help us to realize ourselves and also to understand life. In this talk an attempt will be made to discuss some of such persons and incidents that have taught me in life and also have made deep impressions so as to become a better human being. "

- Prof Ashoke K. Sarkar

Prof Sarkar recounted some of his most profound experiences involving his parents, teachers and students. Speaking about times gone by, he gave the audience a glimpse into how teachers helped shape up his entire life as he stressed upon the importance of education and teaching.

### ▶ Prof Ashoke K. Sarkar



# Introducing new faculty

S.No.	Name	Designation	Discipline
1.	Shashank Gupta	Assistant Professor	CSIS
2.	Jennifer Ranjani J.	Assistant Professor	CSIS
3.	Vinay Chamola	Assistant Professor	EEE
4.	Venkatesh Kadbur Prabhakar Rao	Assistant Professor	ME
5.	Aakash Chand Rai	Assistant Professor	ME
6.	Simanchal Kar	Assistant Professor	ME
7.	Puneet Mishra	Assistant Professor	EEE

# editorial team



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**Student Members:** Ms Samakshi Tiwari and Mr Anuj Vashishtha

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



**BITS Pilani**  
Pilani Campus

# mediaspeak



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