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Semester-I notes 2018-19

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editorial

BITS Pilani Alumni's grand gesture towards their alma mater has been one of the most significant highlights of the last semester. Two BITS Pilani Alumni–Mr. Prashant Palakurthi and Mrs. Anuradha Palakurthi (Batch of 1978-83) pledged a sum of USD 1 Million to the Institute which would be utilized to set up a research endowment fund. The announcement was made during the Ruby Anniversary celebration of the batch in a musical show 'Desert Storm' performed by Mrs. Anuradha Palakurthi. Mr. Kishore Kumar Gupta, another alumnus contributed one crore rupees to set up the Kishore Kumar Gupta Electrical Machines Laboratory in Pilani Campus.

On the academic front, several conferences were organized like the 6th Indo-German workshop on Sustainable Manufacturing & Entrepreneurship jointly by BITS Pilani and TU Braunschweig, Germany, the Indo-Israel workshop on Nanoelectronic Materials and Devices organized in association with Tel-Aviv University, Israel and the International Conference on Life Science Research & its Interface with Engineering and Allied Sciences (LSRIEAS-2018). Several new initiatives have also been taken this semester. Motivational speeches, international visits, setting up of new labs, confirm that the students and faculty members are not missing any opportunity of academic advancement on campus.

Several delegations from BITS with eminent professors visited other institutes across the country and the world to deliver talks, present papers, and conduct workshops. A large number of students at various levels have done well to bring laurels and accolades to the institute. Joy of giving week, Junoon 2018, the 7th edition of the sporting extravaganza have also been landmarks in acting as testimonies of BITS Students initiatives in moving forward in the direction of societal welfare. BOSM 2018 received a huge participation and had Yogeshwar Dutt, the Olympic Bronze medalist to grace the inaugural ceremony. In its 48th edition, with the theme of 'The Far Out', Oasis was full of excitement with plethora of performances by the trio of Shankar-Ehsaan-Loy and many others. The semester has been full of exhilarating events, achievements, and challenges. Hope this edition gives you a glimpse of the BITSian life.

6th Indo-German workshop on Sustainable Manufacturing and Entrepreneurship

The 6th Indo-German workshop on Sustainable Manufacturing & Entrepreneurship was organized jointly by BITS Pilani and TU Braunschweig, Germany during September 17-18, 2018 in the Pilani Campus. The workshop was inaugurated by the Chief Guest, Mr Tony Henshaw, the Chief Sustainability Officer of Aditya Birla Group, the Vice-Chancellor Prof Souvik Bhattacharyya, the Deputy Leader of the Sustainable Manufacturing and Life Cycle Engineering Group at TU Braunschweig, Dr Sebastian Thiede, and the conveners of the workshop Prof Kuldip Singh Sangwan and Prof Jyoti.

Prof Souvik Bhattacharyya talked about the institute's initiative in coming up with new Data lab, nurturing research & innovation in alignment with Industry 4.0. Mr Tony Henshaw delivered keynote speech on Sustainable Business Framework and Prof Sangwan explained the importance of sustainable manufacturing & entrepreneurship in the changing current and future scenario. Dr

Sebastian Thiede highlighted the present research at the Institute of Machine Tools & Production technology, TU Braunschweig.

Dr K.S. Raju, Scientist, CSIR-CEERI, Pilani gave an expert talk on Structural Health monitoring using IoT. Prof Smita Raghuvanshi from Department of Chemical Engineering, BITS Pilani shared the interdisciplinary collaborative research work done on applications of LCE in chemical engineering. Prof M. S. Soni talked about his research work on photovoltaic/thermal system with earth heat exchanger for sustainable combined power and space heating.

Prof Arya Kumar gave an expert talk on Technology Driven Startups - How and where to start? Mr Leonhard gave a presentation on the Entrepreneurial University and the function of university in the knowledge driven economy. Prof Jyoti conducted a workshop on Startup Business model innovation.

6th Indo-German workshop on Sustainable Manufacturing and Entrepreneurship

Celebration by the Academic Counselling Cell (ACC)

The Academic Counselling Cell (ACC) conducted a gala celebration on Teachers Day. The event included a string of delightful performances to mark the occasion including a group song from 'Chak de India', jointly sung by faculty and students of Humanities and Social Sciences; and poetry recitation by Prof Rishikesh Vaidya titled 'Maps and Dreams'. The occasion was the first of its kind in the academic year to bring students and faculty together on the same platform outside the classroom. The Vice-Chancellor Prof Souvik Bhattacharyya also attended the event and shared his thoughts.

Celebration on Teachers Day

Gandhi Jayanti and Lal Bahadur Shastri Jayanti Celebrations

Gandhi Jayanti and Shri Lal Bahadur Shastri Jayanti were celebrated at Pilani Campus on October 2, 2018. The program began with the traditional lamp lighting graced by the Vice-Chancellor BITS Pilani, Prof Souvik Bhattacharyya, the Director, Prof Ashoke K. Sarkar, Dean Undergraduate Studies, Prof A P Singh, Dean Administration, Prof S K Verma, and other officials.

Mrs Rakhi Sarkar was the special guest of the event. The event saw bhajans sung by kids of Blossoms Kids Zone as well as by Gurukul students. Documentaries on the teachings of Gandhi and Shastri were shown and the program ended with the singing of the National Anthem. The event was coordinated by Prof Devika, Faculty In-charge, Institute Functions.

JCI Sponsored Smart Building Lab Inaugurated

JCI sponsored Smart Building Lab was inaugurated at Pilani Campus on October 24, 2018. An MoU in this regard was signed between the Vice Chancellor, BITS Pilani and the Director of Johnson Controls, India.

MoU signed between BITS Pilani and Johnson Controls, India

The lab has the entire range of intelligent building management controls systems, double deck mix-air Air Handling Unit (prototype) & Direct expansion (DX) cooling unit of chilled water systems. The lab can support Simulation exercise of HVAC controls systems, provide practical experiment and exposure, and conduct advanced research and development in the field of intelligent and smart buildings.

Workshop on Effective Communication and Customer Care

The BITS Pilani Library in association with the Department of Humanities and Social Science and the Department of Management, organized a one-day workshop on Effective Communication and Customer Care on October 30, 2018. There were more than 40 participants from various organizations in Pilani.

Effective Communication and Customer Care workshop

The Director, Prof Ashoke K. Sarkar as the chief guest, said that the behavior and attitude of the people reflect on the culture of the organization where they work and their commitment and teamwork lead to the success of the organization. He applauded the efforts made by the BITS Pilani Library in organizing this workshop. The Librarian, Mr Giridhar Kunkur highlighted the importance of communication skills, teamwork, and customer care. He mentioned that the workshop has been designed to train the participants to develop these skills.

The main resource persons of the workshop were Prof Sangeeta Sharma and Prof Sushila Shekhawat from the Department of Humanities and Social Science and Prof Jyoti, Head, Department of Management. They covered important areas such as role of communication in effective library functioning, importance of listening and how to deal with nervousness, customer care, service with a smile, and the significance of teamwork.

Indo-Israel Workshop on Nanoelectronic Materials and Devices

The Indo-Israel Workshop on Nanoelectronic Materials and Devices was organized by Department of Electrical and Electronics Engineering, BITS Pilani on November 2, 2018 in association with Tel-Aviv University, Israel. The Chief Guest for the Workshop was Prof Chandra Shekhar, Senior Professor Emeritus, BITS Pilani and Chancellor, Academy of Science and Innovation Research. The workshop witnessed ten distinguished lectures by Prof Yosi Sacham, Prof Tamir Tuller and Prof David Elad from Tel-Aviv University, Israel, and Dr Jitendra Singh from CSIR-CEERI Pilani, Prof Sunil Bhand, Prof V. K. Chaubey, Prof Navneet Gupta, Dr Arnab Hazra, Dr Mahesh Angira and Dr Rupam Goswami from BITS Pilani. Nine researchers from various institutes presented their work through posters and a panel discussion was also organised by BITS Pilani in collaboration with Tel-Aviv University, Israel in the field of Nano electronics. Prof Navneet Gupta, Convenor of the workshop welcomed all the guests and presented the theme of the workshop. Prof V. K. Chaubey, the Head of the Department, introduced the departmental activities to the audience and Prof Chandra Shekhar highlighted the importance of collaborative research in academia and industry.

Inauguration of Indo-Israel Workshop on Nanoelectronic Materials and Devices

Release of the Book 'Robust Plastic Product Design: A Holistic Approach" by Mr Vikram Bhargava

BITS Pilani Library in association with Department of Mechanical Engineering organized the release of the book "Robust Plastic Product Design: A Holistic Approach" by Mr Vikram Bharghava on November 13, 2018. Mr Bharghava is an alumnus of the 1968 batch of BITS Pilani and a fellow of the Society of Plastics Engineers. His book is a masterpiece among the hundreds of books available on plastics by various authors.

The Librarian, Mr Giridhar Kunkur organized the event, and welcomed the guests. Prof P. Srinivasan, from the Department of Mechanical Engineering introduced Mr Bhargava to the audience. He said that the book insists upon the problems targeted by engineers in unrealistic deadlines in industries to get the product right at the first attempt. The Dean of Alumni Affairs, Prof Arya Kumar applauded the contributions made by Mr Bhargava in the field of Plastic Engineering.

Release of the Book "Robust Plastic Product Design: A Holistic Approach"

Reading is Magic - an event to promote reading among children

BITS Pilani Library organized an interactive session titled 'Reading is Magic' on November 17, 2018 to inculcate reading habits among the children and also to sensitize parents to encourage their children to spend more time with books rather than smart phones, video games or television programmes.

'Reading is Magic' event

Prof Chandrashekhar, Sr. Professor Emeritus and Chancellor, Academy of Scientific and Innovative Research was the Chief Guest for the occasion. The event witnessed memorable interactions by Professors Pankaj Kumar Sharma, Kumar Shankar Bhattacharya, and Chandrashekhar. The Library also conducted a painting competition for the children on the theme 'My Creation'. Prof Surekha Bhanot advised the gathering on how one can become good citizen and create wonderful environment in whichever field they are working.

The Librarian Mr Giridhar Kunkur, who conceptualized and organised this event with library team, announced the names of the winners of 'My Creation' contest. In the 7 to 9 years' age group category, Suhani Gupta bagged the first prize. The second and third prizes went to Samrik Majumder and Sreya Ajmera respectively. In the 10 to 15 years' age group, Abhilipsa Routroy won the 1st Prize. The second and third prize went to Adyasha Giri and Shubham Seth respectively.

Indian-Origin Couple in US Donate $1 Million to BITS Pilani

Two BITS Pilani Alumni - Mr Prashant Palakurthi (Batch of 83) and Mrs Anuradha Palakurthi (Batch of 1978-83) pledged a sum of US$1 Million for setting up a Research Endowment Fund at BITS Pilani. The couple made the announcement during a gala event conducted by Juju Productions, involving a 39 musician band from Bollywood. The event was organized by Mr and Mrs Palakurthi to celebrate 40th anniversary of the 1978 batch on November 16, 2018. The event saw a jam packed auditorium of Pilani campus, courtesy of an enchanting 3 hour long singing performance by Mrs Anuradha Palakurthi. Most of her accompanying team had worked with Bollywood music greats like Asha Bhosle and R.D. Burman. Her co-singer was Mithilesh

Patankar, and particular mention was made of Shruti Bhave, violinist and member of all-female band Indiva.

Alumnus Gift a State-of-the Art Laboratory to the Institute

Mr Kishore Kumar Gupta donated one crore rupees to set up the Kishore Kumar Gupta Electrical Machines Laboratory in Pilani campus. Mr Gupta's vision of bridging the theory-practice gap in Engineering education comes to the limelight through this lab that features coupling and decoupling of different types of state-of-the-art industrial category machines on the same test bench. Catering to the B.E., M.E. and Ph.D. programs, this laboratory also has a high level of safety features and is extremely energy efficient.

Electrical Machines Laboratory Inauguration

International Conference on Life Science Research & its Interface with Engineering and Allied Sciences (LSRIEAS-2018)

The International Conference on Life Science Research & its Interface with Engineering and Allied Sciences (LSRIEAS-2018) was organized by the Department of Biological Sciences during November 1-3, 2018. The Chief Guest for the Inauguration was Prof Jayant Udgaonkar, Director, IISER, Pune and the guest of honor was Prof Yosi Shacham, Tel Aviv University. The Vice-Chancellor, Prof Souvik Bhattacharyya, The Director, Prof Ashoke K. Sarkar, The Head of the Biological Sciences Department and also the convener of the conference, Prof Prabhat Nath Jha, along with eminent scientists and faculty, research scholars and students, were present on the occasion.

In his keynote speech, Prof Jayant Udgaonkar talked on Mechanism of Misfolding and Aggregation of the Prion Proteins, which are disease causing agents. Prof Souvik Bhattacharyya discussed the need of interface between various disciplines of science and engineering. Prof Ashoke K. Sarkar pointed out the interdisciplinary approach in our academic system through the dual degree programs.

LSRIEAS-2018

For the next three days, there were talks and presentations under various themes such as core life sciences; pharmaceutical

sciences; biosensors, imaging and diagnostics; biomaterials and biomechanics; bio-heat transfer and bioprocess engineering; computational biology; biophysical and biochemical sciences; and mathematical modeling and quantum biology. The academic events witnessed participants from India, Israel, USA, Philippines, Taiwan and Korea.

New Matrix Isolation Lab

The Department of Chemistry developed a laboratory (The Matrix Isolation Infrared Spectors Facility) last semester using funds received from DST. The laboratory introduces the facility of low temperature optical measurements of isolated molecules and clusters. In matrix isolation, target molecules are trapped in an inert gas matrix at low temperatures. This results in sharp spectral features and no intermolecular interactions.

Prof Chandra Shekhar Appointed Chairperson and Chancellor of Academy of Scientific and Innovative Research

Hon'ble Prime Minister & President, CSIR appointed Prof Chandra Shekhar, Ex-Director, CSIR-CEERI and Senior Professor Emeritus, Department of Electrical and Electronics Engineering, as the Chairperson and Chancellor of the Academy of Scientific and Innovative Research (AcSIR). AcSIR is an Indian institute of national importance, established for the purpose of undertaking high quality teaching and advanced research in Biological Sciences, Chemical Science, Engineering Science, Mathematical & Information Science, Physical Science, and Inter- & trans-disciplinary areas of study.

Academia: a confluence of ideas

Seminars/Conferences Workshops/Training Programs Enriching the Learning Experience: Visits by Faculty

Prof Kumar Neeraj Sachdev, Department of Humanities and Social Sciences attended the 24th World Congress of Philosophy (WCP 2018) on "Learning to be Human" held at China National Convention Center (CNCC), Beijing, China during August 13-20, 2018, and presented a paper titled "An Ethical Analysis of Employer-Employee Relation, Loyalty and Whistle-Blowing."

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, presented a paper entitled "Media credibility on election coverage" in the panel "Electoral integrity in a variety of regimes" at the Development Research Conference in Gothenberg, Sweden, during August 21-23, 2018.

Dr Jayashree Mahesh and Prof Anil K Bhat, Department of Management, attended the 2nd Conference of Aston India Centre for Applied Research (AICAR), held at Aston University and presented a paper titled "Educating Generation Z- An Ethnographic Insight for Managing and Organizing Higher Education Institutions in the Indian Context" at Aston Business School, Birmingham, UK, during August 31 - September 1, 2018 and also attended the British Academy of Management Annual Conference 2018 and presented a paper titled "Understanding the Gap in the 'Umwelts' of Higher Education: The Perceptual Antecedents of Faculty and Student Satisfaction" at Bristol Business School, Bristol UK during September 4-6, 2018.

Dr Neetu Yadav, Department of Management participated in 6th International Conference on Sustainable Development organized by European Center of Sustainable Development at Roma Eventi, Rome, Italy and presented a paper titled "Drivers of Sustainability practices and SMEs: A Systematic Literature Review" during September 12-13, 2018.

Prof Mukesh Kumar Rohil, Department of Computer Science and Information Systems delivered a talk on "*Prolog and LISP Programming for Some Artificial Intelligence Applications in Engineering*" on September 13, 2018 at TEQIP-III Sponsored Three-Day Faculty Development Program on Applications of Artificial Intelligence in Engineering organized by Rajasthan Technical University (RTU), Kota and APEX Institute of Engineering & Technology (AIET), Jaipur; at AIET, Jaipur.

Dr Sailaja Nandigama, Department of Humanities and Social Sciences, presented her ICSSR project based research paper titled "Framing the institutional complexity in the Forest Rights Act's (FRA) implementation in India: Making sense of how the FRA interacts with the other parallel forest management institutions" at the 4th Annual International Meeting of the FLARE Network (Forests & Livelihoods: Assessment, Research, and Engagement) held at Copenhagen University, Denmark during October 16- 20, 2018.

Prof Manoj Kumar Soni, Department of Mechanical Engineering, visited universidad Carlos III de Madrid and interacted with Prof Antonio Leucona Neumann, Full Prof Universidad Carlos III Madrid, Dep. Ingeneria Termica y de Fluidos, Madrid Spain on October 15, 2018.

Prof Manoj Kumar Soni, Department of Mechanical Engineering, visited campus Universitat de les Illes Balears, Palma de Mallorca, Spain and interacted with Prof Andreu Moià Pol, Departament de Física, Àrea d'Enginyeria Mecànica, Universitat de les Illes Balears, Edifici Mateu Orfila, Palma de Mallorca, Spain on October 18, 2018.

Prof Kamalesh Kumar, Department of Civil Engineering, presented a paper titled, "Liquefaction Potential of Pilani Soil" at International Conference on Engineering, Computers and Natural Sciences (ICECNS-2018), at Vivanta by Taj, Goa, organised by Universal Research Foundation (URF), India during October 19-21, 2018.

Dr Pratyush Banerjee, Department of Management, attended the 9th IKMAP Conference and presented a paper titled "Perceived Benefit of XMOOCs in Knowledge Enhancement and Impact on

Career Development: A Mixed-Method Study" organized by Hong Kong Polytechnic University & Zhejiang University, Hangzhou, China on November 2, 2018,

Dr Rahul Singhal, Department of Electrical and Electronics Engineering attended IEEE Indian Conference on Antennas & Propagation (InCAP) 2018 along with his Ph.D. student Abhishek Joshi, who presented a paper titled 'Beam Convergence in Antenna Pattern using Conical and Hemispherical Dielectric Lens', held at Hyderabad International Convention Center, Hyderabad, India during December 16-19, 2018.

Prof S.B.Singh, Sudhir Vummadisetti, Prachuryya Kaushik, G Muthu Kumar and Dipendu Bhunia presented a paper entitled "Mechanical characterization of Basalt FRP at elevated temperature conditions" in Structural Engineering Convention (SEC 2018), at Jadhavpur University, Kolkata, W.B. during December 19-21, India.

Prof Arya Kumar, Department of Economics and Finance chaired a session on Business Ethics and Corporate Social Responsibility, in the 2018 Conference of Ethics and Sustainable Development during September 29 to October 3, 2018 organised by Graduate Institute of International Business, National Taipei University, and Ecological Development Union Asia. He presented a paper titled "Knowledge Management Framework for Decision Support System in Higher Education Institutes in India" in the 11th ISDSI International Conference held at IIM Trichy. He also presented a paper titled "Global Energy, Environment and Transportation Sector–Issues , Challenges and Future Prospects" in the International Conference on Business and Economics (ICBE2018) Shanghai, China during November 21-22, 2018 and the 14th KODISA International conference in Seoul National University, Seoul, South Korea, during June 25-27, 2018 and was awarded with "Distinguished Research Award" in recognition of ingenuity and ground breaking research.

Prof Arya Kumar, Department of Economics and Finance was a panelist for the Round Table Forum on Asian Ethics and Corporate Social Responsibility Educational Forum, Corporate Social Responsibility, Sustainability, Ethics & Governance and Corporate Social Responsibility Education Forum organized by National Taipai University, Taiwan during September 29-October, 2018.

Invited Lectures by Faculty

1. **Dr Gautam Singhvi, Department of Pharmacy** delivered a talk on "Application of quality by design (QbD) in pharmaceutical product development" and also on "In-vitro dissolution methodology". UGC-SAP (DRS-II) sponsored national seminar-cum-workshop on 'Computational Tools in Pharmacokinetics' during September 6-7, 2018.

2. **Prof Arya Kumar Department of Economics & Finance** delivered a talk on "Technology Driven Start-ups - How and Where to Start?" in the 6th Indo German Workshop on Sustainable Manufacturing & Entrepreneurship Jointly organized by BITS Pilani and TU Braunschweig, Germany on September 18, 2018.

3. **Dr Deepak Chitkara, Department of Pharmacy**, delivered talks on "Nano-carriers for Delivering Hydrophobic Small Molecules: Overcoming Hurdles in their Scale-Up" at "5th Annual Biopharmaceutical Research & Development Symposium" held at University of Nebraska Medical Center (UNMC), Omaha, NE, USA on September 5-6, 2018), "Lipo-polymeric nanoplexes: From synthesis to their use as effective carriers for miRNAs" at RNA biology laboratory National Cancer Institute Frederick, MD on September 7, 2018 and on "Non-viral lipo-polymeric nanoplexes: an emerging platform for delivering therapeutic miRNAs" at "International Symposium Academic-Industry-Government Partnerships to Accelerate Radiation Research and Clinical Translation (AIG-2018)" held at University of Goa on October 8-9, 2018.

4. **Prof Pratik N Sheth, Department of Chemical Engineering** delivered a talk on *Characterization of biomass and products of Gasification, pyrolysis and liquefaction* during the "Global Initiative of Academic Networks" (GIAN) sponsored one week course on "Renewable and Sustainable Technologies for Fuels, Chemicals and Power Production" during September 24-28, 2018, organized by Department of Chemical Engineering, Motilal Nehru National Institute of Technology (MNNIT) Allahabad.

5. **Prof Abhijeet Digalwar, Department of Mechanical Engineering,** delivered an Invited talk on Recent Advances in Manufacturing and How to Select Topics for Project Work at BNCOE Pusad on September 29, 2018.

6. **Dr Kamlesh Tiwari Department of Computer Science & Information Systems** delivered a talk on Deep Learning at Central University of Rajasthan on October 12, 2018.

7. **Prof Manoj Kumar Soni, Department of Mechanical Engineering,** delivered a talk on "Low cost solar application in cooking for Indian villages", ENCOSOL2018 Solar cooking meeting, October 17, 2018, a pre-conference event 2nd International Conference on Solar Technologies & Hybrid Mini Grids to improve energy access at Campus Universitat de les Illes Balears Palma de Mallorca, Spain during October 17-19, 2018.

8. **Prof Manoj Kumar Soni, Department of Mechanical Engineering,** delivered a talk on "Spiritual Thermodynamics" at Campus Universitat de les Illes Balears, Palma de Mallorca, Spain on October 18, 2018

9. **Dr Pratyush Banerjee, Department of Management**, delivered a talk on "Predictive Analytics for L&D Professionals" at the 2018 People Matters L&D Conference at Grand Hyatt Mumbai, October 23, 2018.

10. **Dr Amit Jain, Department of Chemical Engineering,** delivered a talk on "Process Intensification in Bioprocessing Industry" in the Short term Course On Recent Trends in Process Intensification in Chemical and Allied Industries at the Department of Chemical Engineering, Bundelkhand Institute of Engineering & Technology, Jhansi (U.P), India on October 29, 2018.

11. **Prof Ashis K Das, Department of Biological Sciences,** delivered a talk on "Unveiling the transcriptome of Plasmodium vivax from Patients with Complicated Disease" in International Symposium on Malaria Biology & 29th National Congress on Parasitology on Applied and Basic

Aspects, November 1-3,2018 at University of Hyderabad, India and also delivered a talk on "Networks and HUB genes to identify pathogenesis molecules and possible therapeutic targets in *P. falciparum* malaria." at LSREIAS organized by Department of Biological Sciences and associated Departments, BITS Pilani, November 1-3, 2018 at BITS Pilani, (Pilani Campus).

12. **Dr Anupama Mittal, Department of Pharmacy** delivered a talk on "Self-assembled Nanoformulation of Lisofylline-Fatty Acid Conjugate For Effective Treatment of Diabetes" at "International Symposium on Molecular Medicine 2018" held at Sanjay Gandhi Post-Graduate Institute of Medical Sciences (SGPGIMS) Lucknow on December 15, 2018.

13. **Dr Jayashree Mahesh, Department of Management,** conducted a Workshop titled "Express to Impress" for around 210 undergraduate students of Justice Basheer Ahmed Sayeed College for women, Chennai on December 19, 2018.
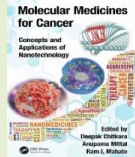
Distinguished lectures at BITS Pilani

- Prof Prasad Padmanabhan an Endowed Professor of Finance in Bill Greehey School of Business, St. Mary's University in the USA delivered a guest lecture on Aug 5, 2018.

- Mr Kidambi Srinivasan, Trainer, Benchmark Six Sigma, Delhi conducted Six Sigma Training during August 30-September 3, 2018.

- Dr K. T. Upadhayaya, Managing Partner & Principal Trainer, ELearn India Consulting and Training LLP, Mumbai (conducted Abhisek Salecha, Co-Founder Forevision conducted workshop for MBA students on Advanced Excel and Financial Modelling during September 21-23, 2018.

- Dr Shikha Sahai, Ex- Head Plant – HR, at Tata Metaliks Limited conducted workshop for MBA students on Soft Skill, Personality & Competency Mapping, during September 18-23, 2018.

- Mr Sanjay Kaul (Ex- Country Head, Apple India and CEO of Sofyx) a BITS Alumnus had a session & interaction with MBA students on October 24, 2018.

- Dr Kiranmai Pendyala, Corporate Vice President - HR & Member, Board of Directors, AMD India had a faculty interaction with Department of Management where possible industry academia collaborations were discussed upon. She had an interactive session with the first year MBA batch on the topic of "Organization culture in the age of technology and cross cultural teams".

- Mr Varindra Sewak, Director, BLS International Services took a session on "Issues and Challenges in Sales & function in Indian Context" for MBA students during November 21-22 2018.

- Dr Anand Rao, a Distinguished Alumni awardee of BITS Pilani delivered a lecture on "Recent Challenges in Machine Learning Area" at Department of Computer Science & Information Systems, Pilani campus during December 9-10, 2018.

Significant projects

S.No	Principal Investigator and Name of the Department	Title of the Project	Funding Agency	Amount and Duration
1.	Dr Deepak Chitkara (Project coordinator) Dr Anupama Mittal (Co-Investigator) Department of Pharmacy	cRGD decorated lipo-polymeric nanoplexes of CRISPR/Cas9 ribonucleoprotein (RNP) for the management of retinal dystrophic conditions (Project co-ordinator)	DBT	125.214 Lakhs (BITS share: 50.046 Lakhs) 3years
2.	Dr Aniruddha Roy and Dr Gautam Singhvi Department of Pharmacy	Enhancement of oral bioavailability of selected drugs.	Industry sponsored: Intas Pharmaceuticals, Ahmedabad, Gujarat, India.	INR 45 Lakhs 3 years
3.	Prof Yashvardhan Sharma Department of Computer Science & Information Systems	Design and implementation of Content based Recommender System for Effectively Answering Web based User Queries	DST/ICPS	INR 16.5756 Lakhs 3 years
4.	Prof R. N. Saha and Dr Gautam Singhvi Department of Pharmacy	Novel ophthalmic formulation development	Industry sponsored: Slayback Pharma, India.	INR 15 Lakhs 2 years
5.	Prof Arun Kumar Jalan Department of Mechanical Engineering	Development of a fault diagnosis scheme for Aero-Bearing with multiple localized defect using non-linear mathematical modeling and experimental analysis	ARDB, Delhi	INR 9.998 Lakhs 3years
6.	Dr Ashutosh Bhatia Department of Computer Science & Information Systems	Information Gathering from Encrypted Mobile Phone Applications	CARS	INR 9.295 Lakhs 1 year
7.	Dr Kamlesh Tiwari Department of Computer Science & Information Systems	"Development of Real-time Multi Objective Route Recommender Systems Using AI"	MapmyIndia	INR 7.424 Lakhs, 2 years

Accolades and Achievements: Academic attainments of faculty

1.	**Dr Sangita Yadav, Department of** Mathematics has been selected for financial support to attend International Congress of Mathematicians in Rio de Janeiro, Brazil, during August 1-9, 2018 by Department of Atomic Energy (DAE).
2.	**Porf Abhijit Asati, Department of Electrical and Electronics Engineering** received IEEE senior membership position IEEE Region: R10 -Asia and Pacific, Section: Rajasthan Subsection on August 2, 2018.
3.	**Dr Jayashree Mahesh and Prof Anil K Bhat, Department of Management** received the Best Paper Award for Innovative Research for a paper titled 'Educating *Generation Z- An Ethnographic Insight for Managing and Organizing Higher Education Institutions in the Indian Context'*, presented at the Second Conference of Aston India Centre for Applied Research (AICAR), Aston University, Birmingham, UK during August 31-September 1, 2018.
4.	**Dr Neetu Yadav, Department of Management** has been awarded Paul R. Lawrence fellowship for participating in 2018 annual meeting of the North American Case Research Association held in Florida, USA during October 04-06, 2018. She in also in group of ten Paul R. Lawrence Fellowship recipients who have been offered this fellowship around the world.
5.	**Prof Abhijeet Digalwar, Department of Mechanical Engineering** has been felicitated by Decision Sciences Institute, USA for his contribution in Indian Subcontinent Decision Sciences Institute on December 30, 2018 during 12th Annual ISDSI International Conference at SPJIMR Mumbai.
6.	**Prof Ashis K Das and Narayan J, Department of Biological Sciences** has received a Patent No. : 304798 Application No. : 3004/DEL/2010, Temperature Inducible Promoter Derived and Modified From Enterococcus Faecium DJ1 Plasmid, and Its use In E. COLI for Production of Desired Protein, Patentee : The Registrar, Birla Institute of Technology & Science.
7.	**Dr Deepak Chitkara, Dr Anupama Mittal, and Dr Ram I. Mahato**, published an edited book "Molecular Medicines for Cancer: Concepts and Applications of Nanotechnology", CRC Press, Taylor Francis, Florida, USA, ISBN: 9781351978378, Release Date: 03/09/2018.

BITS Embryo

BITS Embryo conducted various talks on the aforementioned topics from August to December, 2018:

- 'Being BITSian' by Gopalkrishna Vishwanathan, BITS Alumnus and 3rd most followed Indian on Quora on August 10, 2018.
- Self Organising Life - artificial embryo by Dr Nicolas Rivron, stem cell biologist at MERLN on August 23, 2018.
- Building Profile for Higher Education Abroad by Heather Wallick, Founder, Wallick Global Consulting Pvt Ltd, Boston University Alumnus l Harward Law School on August 31, 2018.
- Understanding Alzheimer's Disorder by Priyanka Joshi, Doctorate, University of Cambridge, Forbes 30 under 30 - Europe - Science and Healthcare 2018 on September 7, 2018.
- Data Analytics by Dr Sai Kumar Porpuri, Senior Data Analyst at Walmarts on September 11, 2018.
- Studying Abroad (GRE/GMAT) by Uday Singh Tewatia, M.A. (Hons) English, Stellenbosch University, Senior Faculty, Manya- The Princeton Review on September 16, 2018.
- Youth in Governance by Mr Shantanu Gupta, Author, Political Analyst and Education Policy Expert on September 24, 2018.
- BITS2MSPhD (Applying for graduate studies) by Abhishek Manikonda (BITS alumni) on September 27, 2018.
- Indian Space Programme by Dr. V. R. Lalithambika, Senior Scientist at ISRO and Deputy Director, Vikram Sarabhai Space Centre on November 15, 2018.

Student round-up

Six Teams selected for Silicon Valley (USA) Program

Six teams from BITS Pilani have been selected by the Rajasthan Government for the Silicon Valley startup exposure program. The program was held from August 25 to September 10 2018, at San Francisco, USA. A total of 20 students from BITS Pilani participated in this competitive educational program.

Following are the selected teams:

Escapesuicide: Akshit Bordia(4th year),Shubham Jain(3rd year), Isha Saini(3rd year)

NavNetra: Anshu Agrawal(4th year), Arnav Sethi (2015B1A10569P),Vijayalaxmi Wankhede(4th year), Charu Jain(4th year)

Again: Srishti Banzal(4th year), Preet Singh Khalsa(4th year), Utkarsh Agrawal(4th year), Prateek Agarawal(4th year)

QBox: Suhail Khan(5th year), Vidit Jain(3rd year), Shambhavi Rani(3rd year), Aditya Chauhan(5th year)

Kaya: Rishank Pandey(3rd year), Anushka Pathak(3rd year), Prerna Baranwal (2016B4A80568P), Himanshu Goyal(3rd year)

Connect: Joy Mukherjee(2015B5A70394P)

This program has selected 100 students from Rajasthan who will spend 2 weeks in Silicon Valley, San Francisco, California. As a part of the program, the students will get to visit Fortune 10 companies like Google, Facebook, etc. and universities like UC Berkeley & Stanford. Students will get a golden opportunity to pitch their ideas on Google Launchpad and raise funds from the investors of the bay area. Over 7000 applications were received from about 50 colleges across the state, out of which around 30 teams (spread across 100 students) made it to the final list.

BITS Pilani Teams selected for Silicon Valley

'Best New Undergraduate Entry' at American Helicopter Society 35th International SDC 2018

The Vertical Flight Society's annual Student Design Competition releases a problem statement every year where each participating team needs to design a VTOL (Vertical take-off and landing vehicle) with given rules and constraints. The only Indian team to win this competition since 2011 in the undergraduate category is Team Garuda mentored by Prof M.S. Dasgupta. Team Garuda comprising of Kunal Nandanwar (2015A4PS0430P) (Captain), Animesh Jain (2015B1A40694P), Devashish Bonde (2015A4PS0438P) , Divya Rathore (2015B5A40758P), Rishav Utkarsh (2015B5A40750P) and Satyam Bhaskar (2015B5A30420P) designed Druta, a reconfigurable VTOL with variable diameter coaxial tilt rotor and span wise adaptive wings. The team has been awarded $500 as prize money.

Best New Undergraduate Entry

School of Innovation India from Facebook and SV.CO

Utkarsh Tripathi   Mayank Bhutani and Koustubh Gupta

Two teams "VR Bros" and "Holosight" from BITS Pilani campus were selected for "Virtual Reality Program" under "School of Innovation India" from Facebook India and SV.CO., a six month long program from August 1, 2018 to January 31, 2019. Mayank Bhutani (2015B2A30836P) and Koustubh Gupta (2015B4A20684P) were a part of team VR Bros and a third year undergraduate, Utkarsh Tripathi (2016B2A30894P), was sole member of team HoloSight.

Virtual Reality Program is the first program under School of Innovation which is focused on VR as an emerging technology area, and as a part of this program, 10 student teams from colleges across India have been selected to build a next generation VR product.

Siddharth Mehta selected for World Youth Forum

Siddharth Mehta (2016A8PS0329P) has been chosen among the 25 member contingent to represent India at the World Youth Forum 2018, held at Egypt in November, 2018. In this event, young leaders from over 160 countries unite, exchange views and recommend initiatives to influential figures. Siddharth is a member of Team Pixxel, which participated in the IBM Watson AI Xprize Competition and has also been a part of the core contingent of team Hyperloop India that represented the country at SpaceX Headquarters in California.

Karabee Batta and Prerna Baranwal (2016B4A80568P) presented a paper entitled "Comparative Study between classical and fuzzy PID Attitude Control System for nanosatellites" at the 69th International Astronautical Congress (IAC) that was held in Bremen, Germany during October 1, 2018 to October 5, 2018.

Rutwik Jain (2015A3PS0726P), presented a paper titled "Modes of Operation of a 3U CubeSat with Hyper-spectral Imaging Payload" in the Space Systems Symposium at the 69th International Astronautical Congress (IAC) held in Bremen, Germany from October 1-5, 2018.

Nano-Satellite Team

A student of BITS Pilani, Tanuj Kumar (2015B2A30792P), represented the university at the Open Source Cubesat Workshop organized by the European Space Agency which was held at the European Space Astronomy Center, Madrid, Spain from September 24-25, 2018. The focus of the conference was on open source software and open data in space sciences.

Scaling up the Startup Ecosystem

Pepper, a startup in the Content Creation industry was formed by- Anirudh Singla (2016A3PS0230P), Adit Mittal, Rishabh Shekhar, and Parv Panthari - in their sophomore year. Pepper is a content creation platform that connects talented writers to organizations that require content.

Team Short Circuits

Team Short Circuits from Pilani Campus won 3rd Prize and sum of Rs. 1.5 lakhs in the 1st edition of Grand India IOT Innovation Challenge hosted by Tata Communications for their V2G Power Management System. The event had over 700 applicants and 230 idea submissions from 27 colleges across India. The final event took place in Pune on December 16, 2018 where 9 teams presented their models.

Suvigya Vijay (2015B3A80606P) and Shivani Singh (2015A3PS0241P) participated in a global business case challenge - Schneider Electric's Go Green in the City 2018 as Team "BITS Pilani" and have emerged as the winners of the Greater India Region and will be visiting Atlanta, US for the global finals. They became a part of the top 10 teams 24,000 students registered across the globe from 180+ countries.

Siddharth Shankar Tripathi has been selected by Indian School of Business as a young leader and has been offered admission through the prestigious YLP program. Only 90 students pan India are selected for this prestigious scholarship.

Ananyashree Garg (2015A7PS0117P) won the award title GHCI Scholar in the event Grace Hopper Celebration India at Bangalore during November 14-16, 2018. Grace Hopper Celebration India (GHCI) is India's largest technical conference for women in computing and technology.

Rudhir Mehra (2018A4PS0523P), Nandita Mathur (2018B3PS0374P), Bir Anmol Singh (2018A7PS0261P) and Maithil Mehta (2018A7PS0345P) team of 4 students were awarded with Hult Prize 2019-Campus Round at Pilani Campus on November 3, 2018. The Hult Prize, established in 2010 is an annual, year-long competition that crowd-sources ideas from MBA and college students after challenging them to solve pressing social issues. They will now represent BITS Pilani in the World Regional Semi-Finals in March 2019 with their idea of the '2nd Innings Homes, a 3D Printing Social Housing Concept' for a seed funding of USD 1 Million.

Rahul Dua (2016A1PS539P), Harsh Grover (2015B5A3429P), Rushabha B (2017A3PS0220P), Sumukh Nitundil (2017A3PS0375P) and **Rohan Goyal (2017A3PS0269P)** on behalf of The Radio Astronomy Club, undertook following projects: Super SID (Sudden Ionosphere Disturbance), **Radio Jove**, **SWAN (**Sky Watch Array Network) **Imaging Challenge, Horn Antenna.** They were also awarded the Nagrath Scholarship for these projects**.**

Srujan Penta (2015A3TS0087P), Final Year, received the Best Poster Award at Indo Israel Workshop on Nanoelectronic Materials and Devices (I²NMD) at BITS Pilani on November 2, 2018. He presented the poster titled "**3D NEGF Quantum transport simulation for modelling ballistic transport in nano FinFETs**" . The posters session was graced by various professors from BITS Pilani and Tel Aviv University and judged by Prof Yosi Shacham from Tel Aviv University.

Srujan Penta (2015A3TS0087P), Final Year, was awarded the Best Graduating Student Award, 2018 by the Professor L.K Maheshwari Foundation, EEE Dept, BITS Pilani during the EEE/ENI Farewell on Nov 21, 2018.

Creative zone

RAGAMALIKA 2018

The event for Ragmalika started with the BOSM Inauguration followed by Ragamalika's semester performance, Nrityaranjani. The show, Panchabhootam, was themed around the five elements of nature, represented by various mythological stories with intricate connections to nature.

In Oasis, Ragamalika was instrumental in organising the performance of Indosoul, a fusion band with many elements of Carnatic classical music. Besides that, dancers competed in Tandav and Musicians battled it out in Swaranjali. Members also volunteered for SPICMACAY concerts, which were peppered throughout the semester.

Towards the end of the semester, chamber concerts and the concert conducted by the graduating members of the club were organized.

SPICMACAY

The Society for the Promotion of Indian Classical Music And Culture Amongst Youth (SPICMACAY)'s BITS Pilani chapter organized three concerts in the last semester. The first one was a shehnai performance by the Shankar brothers, who enthralled the crowd with their prowess. Next was the Hindustani vocal recital by Madhumita Ray, whose commanding voice mesmerized the audience. The final performance of the semester was a Sambalpuri folk dance recital an energetic and primal one providing a new perspective to the way we perceive music, and ending the semester's performances on a lively note.

JUNOON 2018

Junoon 2018, the 7th edition of the sporting extravaganza held the motive to provide a platform for the specially abled children to express themselves and give them an opportunity to show their potential. The event was inaugurated by Padma Shri Murlikant Petkar on September 15, 2018. Shri Murlikant Petkar, took off from the jaws of death to become the first Indian Paralympic Gold Medalist winning in August 1972. The second day of Junoon 2018 involved sporting and athletic events at Gym-G. In the afternoon, there was a movie screening for the students at NAB Auditorium. Towards the end of the day, Junoon Nite was organized at Central Auditorium. With the humongous participation of 9 NGOs - Disha, Asha Special School, Deepalaya, Manovikas, Asha Ka Jharna, Shree Nirmal Vivek, Amla Birla Kendra, Tender Heart, Pt. Chittarmal and over 150 participants, Junoon 2018 was a successful event.

BOSM 2018

Organized during September,19-23 ,the first day began with an exhibition Basketball match held between BITS Pilani Alumni and TU Braunschweig, Germany. The crowd-puller of the day was the cricket match derby, between the hosts and their sister campus from Hyderabad. The audience enjoyed every bit of the game, as the home team routed their opponents convincingly. The day was concluded by releasing sky lanterns to celebrate the spirit of sportsmanship.

The build-up to the second day was completely focused on the Lawn Tennis (Boys) and the Table Tennis (Girls) encounter between the hosts and IIT Delhi. The tennis encounter between the two sides was a nail-biting affair involving well-fought points, but the home team managed to prevail over their opponents. The basketball match between BITS Pilani and BITS Pilani Alumni had the audience perplexed on whom to support, but it was the Alumni team which emerged victorious in this nostalgic reunion. As rain threatened to play spoilsport on the third day, the attention shifted towards Table Tennis, where IIT Delhi took on Manipal University, Jaipur in the final. The teams put on a treat for the audience, with some jaw-dropping rallies and brilliant individual performances, but it was IIT Delhi who emerged victorious.

Various other events were also organized for the non-participants at the meet such as an innovative variant of football, called 'Soapy Football'. As BOSM came to a conclusion, it was the fierce level of competition which caught the eye of the neutral observer once again. BITS Pilani, IIT Delhi, Sri Venkateswara College, BKBIET and MNLC particularly were amongst the most awarded colleges at the meet.

OASIS 2018

Oasis 2018 began with the Inauguration Ceremony which had several musical and theatrical performances. These performances were followed by the introduction of the Chief Guest, Abhishek Chaubey (the director of Udta Punjab). Chaubey delivered a talk about being a director in the modern Hindi film industry.

In its 48th edition this year, Oasis offered a plethora of events like Rocktaves and Drums Duel offered a chance for enthusiasts to jam to their favourite tunes as bands competed on stage. Razzmatazz and Street Dance were also major crowd pullers, and participants lit up the dance floor with a spectacular display of moves from various genres of dance. Oasis brought with it a multitude of quizzes such as the Entertainment Quiz, the Oasis Quiz, the Music Quiz to name a few. The Oasis Theme Quiz this year, was based on the theme of counterculture, hosted by Samiksha Bhardwaj. Events like FashP, Street Play and Stage Play were other crowd pullers.

The Hindi Professional Show was probably the most awaited night of the fest. The famous trio of Shankar-Ehsaan-Loy enthralled the audience with a performance including several Bollywood hits like *Dil Chahta Hai, Rock on, Pretty Woman, Kal Ho Na Ho, Taare Zameen Par* among others. Particularly exciting was Shankar Mahadevan's performance of his song *Breathless.* An experience to remember, a majority of the audience were seen singing, dancing and jumping in joy throughout the show.

The "Far out Fest" also featured non-cultural events like Treasure Hunt, Mr and Ms. Oasis, Beg Borrow Steal and Escape Room for all to enjoy. Photography Buffs were not left needing as Exposure and 'Oasis through My Eyes' gave them a chance to display their skills. Scheduled for the third night of Oasis, the EDM Night was opened by artist Van Moon, featured Wolf Pack as the headliners.

The last day of Oasis ended with a bang, as participants and BITSians enjoyed the last few events with a lot of enthusiasm. Sukhmanch, a theatre troupe from Delhi performed a thrilling play called 'Court Martial' in the NAB Auditorium. The annual Fashion Parade was scheduled on the last day, with rookie designers and models showcasing their talent on the Oasis platform. Following FashP, the crowd immediately went to attend N2O, the comedy show which was the last event of the festival, where comedians Abhishek Upmanyu and Jaspreet Singh left the audience in splits.

NIRMAAN

NIRMAAN Organization, run by student volunteers of BITS Pilani works towards the betterment of villages and colonies around Pilani in the areas like education, women empowerment, and community development.

Under its project, Participative Community Development (PCD), NIRMAAN organized a tree plantation drive on November 17, 2018 in Baas village of Pilani town. A group of students from nearby schools joined the NIRMAAN volunteers to plant 35 samplings of Ashok and Neem surrounding the school.

Nirmaan also organized the Joy of Giving Week (JOGW) 2018 on September 6, 2018 in NAB Auditorium, Pilani Campus. The Chief Guest of the ceremony was Mr. Anoop Khanna, a Noida based social activist who is famous for 'Dadi ki Rasoi.'

Joy of Serving was organized on September 7, 2018 in VKB mess. It was attended by more than 120+ mess workers and 20+ security guards and around 70 BITSians came to serve and host the grub for them. Some faculty members including the Director, Prof Ashoke K. Sarkar also attended the event. Night of Joy was organized on the same night. ANC, Looters and Food king workers and security guards were distributed Kaju Barfi for their contribution to the BITSian Junta and were given badges of JOGW.

Introducing new faculty

S.No.	Name	Designation	Discipline	
1.	Sadhana Jha	Assistant Professor	CSIS	
2.	Vaibhav Soni	Assistant Professor	CSIS	

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