



BITS Pilani
Pilani Campus

Semester-I notes 2015-16

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Pilani Campus



editorial

Another colourful and fun-filled semester drawing strength and vigour from the undying 'never say never' spirit of BITSians, who call this wonderful place a home away from home, has come to an end. The first semester of the academic year 2015-16 is a witness to a spectacle year after year- it welcomed a fresh lot of curious inquisitive minds; a whole new batch which until now had the pressing objective of getting admission into a reputed engineering college. It also bade adieu to a batch which had undergone the tests and trials of a life enriching stay of four or five years.

Marching ahead in its journey towards excellence, BITS Pilani is now being led by Prof V. Sambasiva Rao, the Vice-Chancellor (acting) since July 31, 2015. A BITS Pilani alumnus himself, he is credited with the establishment of the Hyderabad campus in 2008. A man with a mission, he firmly believes that BITS Pilani is very much on the path of distinction and will surely scale new heights with its established values. In his words, along with deep and committed engagement with the industry, emphasis on teaching, research, innovation and entrepreneurship is the need of the hour.

It was homecoming time this semester! After a long 25 years of life outside BITS, around 220 alumni from the 1986-90 batches, people from all walks of life, created the record of getting together as the single largest alumni gathering ever in the history of the institution. The faculty members, including the Vice-Chancellor and the Director, beamed with pride and satisfaction as the alumni showed their gratitude to their alma mater. The Vice-Chancellor wished them success in their personal and professional lives. The success story of BITS was scripted and is being scripted by the achievements of its alumni and its contributions to the world at large.

Life at BITS is magical! Nothing can describe it more accurately than Oasis. From humble beginnings in 1971, this cultural fest has become the very soul of BITS Pilani and the second largest of its kind in India. The theme- 'Around the World in 96 Hours'-was apt for those infected by the travel bug. From musical soirees to Sunburn, from spectacular dance performances to the laughter riot at the N2O stand-up comedy show, OASIS once again proved to be a rich amalgamation of creativity and imagination; a melting pot of diverse ideas and cultures; a beautiful collage of everything good happening around us and within us.

On the academic front, both the faculty and students kept on adding to the glory of the institute. Many faculty members received distinguished awards like the

R.D. Desai Memorial, AIMS International Outstanding Management Researcher, Best paper, Young Scientist, Distinguished Teaching and Manjeet Singh Gold medal. Students also won awards for best papers, won several medals and prestigious scholarships. On the research front, faculty members received several sponsored research projects by agencies like DST-SERB, ICMR and DBT.

Definitely it was a remarkable semester for BITS Pilani, providing numerous opportunities to faculty and students in academics and research, paving way for yet another exciting and enriching semester.

Prof V.S. Rao Appointed as the Acting Vice-Chancellor

Prof V. Sambasiva Rao, a BITS Pilani alumnus, took over as the acting Vice Chancellor of BITS Pilani on July 31, 2015. Prof Rao has been associated with BITS Pilani for over four decades in various administrative and academic capacities. He did his M. Sc. and Ph. D. from BITS Pilani and obtained a certificate on Educational Economics & Research from the University of Bielfeld, Germany.

→ Prof V.S. Rao, Vice-Chancellor (Acting), BITS, Pilani



As a Director, he established the BITS-Pilani, Hyderabad campus that stretches over 200 acres, making it a fully residential campus that accommodates 3200 students and 160 faculty members. He is an educationist with specializations in Training Need Assessment, Institution-Industry interface design, Curriculum Development, Development of Practice School, Off-campus infrastructure and Project Management. His specializations also include Organic Chemistry, Drug Design and Synthesis and Green Chemistry.

Recipient of the Eminent Educationist Award at the Indo-Global Education Summit in 2013, Prof Rao is a member of several professional and research bodies. He has guided many PhD students and authored several articles that are published in national and international scientific journals. He has travelled extensively around the world, visiting renowned organizations and universities.

Prof V.S. Rao said, "BITS Pilani is very much on the path of excellence with its established values. I would like to march along with my colleagues in continuing the journey and reaching new heights. Along with our deeper and committed industry engagement, we will continue to lay emphasis on teaching, research, innovation and entrepreneurship."

The 3rd Indo-German Workshop on “Sustainable Engineering”

The 3rd Indo-German Workshop on “Sustainable Engineering” was organized at BITS Pilani, Pilani campus in association with the Institute of Machine Tool and Production Technology (IWF), Technische Universitat (TU), Braunschweig, Germany and the Government Engineering College, Bikaner, Rajasthan. It covered topics such as Sustainability in Manufacturing, Life cycle Engineering, Future Factories in the Global Manufacturing sector, Environmental Impact Assessment, Emission Reduction Potential in the Manufacturing sector, Energy, and Resource Efficiencies.

→ The 3rd Indo-German Workshop on "Sustainable Engineering"



Prof K.S. Sangwan, Department of Mechanical Engineering, the convener of the workshop.

Nearly 70 delegates attended the workshop. It was inaugurated by Chief guest Prof A.K. Sarkar, the Director BITS Pilani, Pilani Campus. Prof Christoph Herrmann, Dr Stefan Bohme and Ms. Stephanie Aymans, Technische Universitat Braunschweig, Germany were the resource persons of the workshop.

The Biggest ever BITS Alumni Meet – Silver Jubilee Reunion at BITS Pilani

→ Silver Jubilee Reunion at BITS Pilani



After 25 years of graduation, around 220 Alumni from the batches of 1986-90 came back to their alma mater during November 6-8, 2015 to celebrate their Silver Jubilee Reunion. More than 100 of them came from countries like USA, UK, Canada, Hong Kong, Singapore etc. The batches include senior IAS officers, educationists, entrepreneurs, venture capitalists, investment bankers, NGO founders, researchers etc. Other than taking part in multiple events such as career mentoring sessions for students, they also met faculty members. In a felicitation function organized for faculty who taught these students, Prof V. S. Rao, the Vice Chancellor (acting) BITS Pilani, welcomed them and admired their success in different fields and wished them a happy and fulfilling life. He also talked about the vital role of industry engagement through Practice School and WILP in the development of the institute. Prof A.K. Sarkar, Director Pilani campus, welcomed them and shared with them the future development plans of the institute. The movie “Manjunath”, directed by Mr Sandeep Verma, a BITS-Pilani’ 86 batch alumnus, was also screened in the auditorium.

30th SERC Main School in Theoretical High Energy Physics

The Department of Physics, BITS Pilani, organized the event national school in Theoretical High Energy Physics during November 16 and December 5, 2015. Conceived in 1985, these schools are conducted annually as a part of training for PhD students in high energy physics and are funded by SERB (Science and Engineering Research Board), Department of Science and Technology, Govt. of India. High Energy Physics, also known as Particle Physics, attempts to answer some of the most fundamental questions such as what is everything made up of and what fundamental forces bind things to make the universe we see today.

→ Prof A.K. Sarkar Lighting the lamp



About 45 Students, who came from leading institutes and universities in India, were very excited about being taught by a team of eminent scientists at the SERC Main School. Prof Biswanath Layek, Director SERC, Main school 2015 and his colleagues were excited to host these engaging series of lectures.

National Conference on Advances in Microelectronics, Instrumentation and Communication (MICOM-2015)

The National conference on Advances in Microelectronics, Instrumentation and Communication (MICOM-2015) was organized by

the Department of EEE, BITS Pilani, during November 20-21, 2015. The conference theme covered major areas of specialization offered by the department such as Microelectronics, Instrumentation and Communication. The conference was inaugurated by Dr S.N. Joshi, Emeritus Scientist, CSIR-CEERI, who also delivered the keynote address. Dr Anu Gupta, Head, Department of EEE, presented the departmental profile and discussed the possibility of research collaborations between EEE and other institutions. Experts like Dr A. K. Sinha, CSIR-CEERI Pilani, Prof P. C. Jain, Shiv Nadar University, Prof Amitava 'Babi' Mitra, Dean, School of Engineering, BML Munjal University, and Dr Dipankar Pal, Professor, BITS Pilani-K.K.Birla Goa campus delivered invited talks.

→ MICOM-2015



Students' Award Ceremony at BITS Pilani for Prof L.K. Maheshwari Foundation Awards and Prof K.E. Raman Award

A Students' Award Ceremony at BITS Pilani was held to award the Prof L.K. Maheshwari Foundation Awards and Prof K. E. Raman Award for the Best Outgoing Students in Electronics & Instrumentation Engineering. These awards provide an opportunity to awardees to interact and show a path to fellow budding engineers. For the year 2015, the award for the Best graduating student went to Mr Prakhar Kumar. The award for Girl student of the year went to Ms. Anshula Verma. For the year 2015, the award for Best Outgoing Student in Electronics

& Instrumentation Engineering was given to Ms. Preeti Kumar. Prof Raman and Prof Meenakshi Raman were present to grace the occasion.

→ Prof L.K. Maheshwari Foundation Awards and Prof K.E. Raman Award Ceremony at BITS Pilani



BITS Pilani Receives Dataquest - CMR Top T School Award

BITS Pilani has topped the charts in the private T-School rankings, with high scores in almost all the parameters. The institute has set high standards and played a benchmark role in the field of education. BITS Pilani scored high on parameters such as top institute, human resources, and alumni.

→ Dataquest-CMR Top T School Award received by BITS Pilani



Over the years, BITS has provided the highest quality technical education to students from all over India, admitted on the basis of merit. Its students are placed in top companies and draw high pay packages. Dataquest-CMR Top T School Survey is India's premier survey of engineering colleges. The T School Rankings are a benchmark in the industry

and is used by students and recruiters alike. BITS Pilani has been ranked No. 1 under India's top-Tech Schools of 2015 based on DQ-CMR survey of colleges, employers and a Alumni.

Pharmacists' Day Celebration

The Department of Pharmacy, BITS Pilani, celebrated Pharmacists' day on September 24, 2015, declared by the International Pharmaceutical Federation (FIP) and Pharmacy Council of India (PCI) to be celebrated to give tribute and respect to the pharmacists who work tirelessly and contribute to make a healthy society.

→ Celebration of Pharmacists' Day



The celebrations started with the welcome speech of Head of Department Dr S. Murugesan, followed by the speech of chief guest, Prof R. Mahesh who spoke about the role of the Pharmacist in the Health Care System. After Prof Mahesh, Prof Hemant R. Jadhav spoke on the role of the pharmacist in drug discovery and development. A quiz related to the role of a pharmacist in the health care system was organized and prizes were distributed by the honorable chief guest.

Gandhi Yatra : Panel Discussion on Gandhi, Youth and Governance in India

In remembrance of Mahatma Gandhi, a mobile museum (museum-on-wheels) on Gandhiji's life and times, was organized at BITS Pilani for public display on October 21, 2015.

The event was planned along with the Gandhi Yatra organized by the Government of India from

Porbandar to Delhi as part of the 3rd India Africa Forum Summit 2015. To coincide with this, a panel discussion on "Gandhi, Youth and Governance in India: Searching for a Link" was also organised which included Prof Sanjiv Kumar Choudhary (Moderator), Ms. Meghna Bansal, Mr Ankit Mahajan, Mr Gaurav Arvind Upadhyay, Prof Anshuman Dalvi and Dr Sailaja Nandigama as panelists.

→ Gandhi Yatra at BITS Pilani campus



The panelists talked about how Gandhiji's thoughts and ideologies have relevance not only in the past but in today's scenario and in order to propagate change in governance his ideas and ideologies can be used. The young generation needs to imbibe his ideas and principles like self-reliance, discipline etc. for effective governance.

→ Gandhi Yatra, Mobile Museum exhibition



BITS Pilani Alumni Build Fetal Monitoring Devices to Address 3,00,000 Annual Prenatal Deaths in India

Mr Vibhav Joshi and Mr Sumedh Kaulgud, along with other alumni of BITS Pilani, founded Sattva MedTech in 2014 and are developing a next-generation fetal health monitoring device which leverages advanced sensors and algorithms. This device, called the Sattva Fetal Lite, has been designed and engineered for use in India and other low-and-mid-income countries. The team has also received the BITS 75 Charitable trust grant and has completed its first clinical study with St. John's Medical College, Bengaluru. It won the title 'Top 10 Innovations' in the India Innovation Growth Programme run by Stanford GSB, Lockheed Martin, IC squared – University of Texas at Austin, FICCI and DST – Government of India.

→ Fetal monitoring devices built by BITS Pilani alumni



Engineers' Day at BITS Pilani

September 15, 2015 marked the 48th Engineers' day celebrated in the honour of Sir M. Visvesvaraya, one of India's greatest engineers. The ceremony was held in the Lecture Theatre Complex at BITS Pilani.

It commenced with the lighting of the lamp. After an inspiring talk about Sir Visvesvaraya, a video capturing the essence of his life and accomplishments was shown. It was informative, allowing even those who had no prior knowledge of this personality, to admire and appreciate all he did and his genius. The theme of the celebration was

“Engineering Challenges in the Knowledge Era” that we currently live in.

→ Tribute to Sir M. Visvesvaraya on Engineers' Day



Professor A.K. Sarkar, the Director BITS Pilani, Pilani Campus gave a speech that covered the various aspects of problems faced in the current world by engineers. The Chief Guest Professor V.S. Rao, the Vice Chancellor (acting) BITS Pilani, touched upon the importance of moral education and how a holistic development of a person is essential. This was followed by a brief speech by Prof Rahul Banerjee, the head, Department of Computer Science and Information Systems. He spoke on the topic of using new technologies to solve problems in our world. He spoke about how the underserved, that is, those who have not been given access to technology, can be aided in their lives with certain projects such as Project Connect and Project Communicate, developed at BITS.

→ Exhibition during Engineers' Day



Prizes for the essay-writing and quiz competitions were distributed among students by Prof V.S. Rao and Prof A.K. Sarkar respectively.

New Interactive Library Portal "infoBITS" launched at BITS Pilani

BITS Pilani Library portal infoBITS was launched by Prof A.K Sarkar, Director, BITS, Pilani, Pilani campus, on August 7, 2015. In his inaugural address, he spoke about the importance of web portals and congratulated the library team for their effort in developing and implementing this in the campus. He mentioned that this web portal is developed with the help of three students and emphasized upon the use of it and the valuable feedback from the faculty and students to further improve this system and make it one of the best library portals.

Prof R.R. Mishra and Prof Rajesh Mehrotra explained about the Teaching Learning Centre (TLC), a new initiative, and its vision and mission statements.

→ Launching of New Interactive Library Portal "infoBITS"



First year, higher degree and Ph.D. students, along with many faculty members witnessed the launch of infoBITS when Prof A.K Sarkar registered and logged in for the first time into the system. BITS Pilani Librarian and Unit Chief, Publications and Media Relations Unit, Mr Giridhar Kunkur delivered an orientation lecture about the library sources and services. He also explained in detail about the online library services and resources accessible through new library portal such as Book Finder, Daily News, Lost & Found Items, Periodical Finder and so on. Mr Yashveer Singh from EBSCO online database talked about the One Search (Discovery) Service, introduced for the first time in BITS Pilani through the Library Portal. He demonstrated how users can do their single search and get results

from each and every document subscribed to and procured by the BITS Pilani Library.

Creative Short Story Contest by the BITS Library

A Creative Short Story Contest was organized for students of BITS Pilani at the BITS Library on August 31, 2015. As many as 77 students participated in this contest.

Mr. Giridhar Kunkur, Librarian and Chief, Publications and Media Relations Unit said that as per the guidelines of the contest the students were expected to write their stories using at least five words anywhere in the story out of the ten words given to them. The given words were Vitality, Sunshine, Procrastinate, Enthusiastic, Obedience, Allure, Elevate, Immaculate, Anomaly and Zeal.

The panel of judges consisting of Prof Sangeeta Sharma, Prof Devika, Prof Amit Verma, Prof Amol M. Marathe, Prof Paritosh Shukla and Prof Priya Sande evaluated and announced the names of the winners.

The First Prize, a gift voucher for books worth Rs. 5000 was bagged by Mr Raghav Sharma for his story named "Miracle in Red." The second Prize, a gift voucher for books worth Rs. 3000 went to Mr Satyaki Roy for his story "The Pit Protector." The third Prize, a gift voucher for books worth Rs. 2000 was won by Mr Ashwin Kuruvilla for his story "That day in the Alps". Ten consolation prizes in the form of gift vouchers each worth Rs. 500/- were also given.

→ Winners Creative Short Story Contest



On this occasion, to celebrate the Teachers' Day, an exhibition of books on Creativity and Innovation in Education was also organized and around 250 books were displayed. Prof A.K. Sarkar, Director BITS Pilani, Pilani Campus inaugurated the exhibition.

The Book Launch of My Pilani Days at BITS Pilani

My Pilani Days – a first of its kind storybook on the BITS Pilani journey with fun rhymes and colorful illustrations is written by alumni of BITS. It is an effort to capture a bit of the experience of what it is to be a student of BITS Pilani. The entire BITSian community reacted very positively to the book. The book was launched by Prof Sangeeta Sharma in front of more than 200 students at SAC (Students Activity Center).

→ The Launch of the Book My Pilani Days at BITS Pilani



academia: a confluence of ideas

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

Prof Surekha Bhanot, Department of Electrical and Electronics Engineering, attended and presented a paper titled "Self-Tuned Fuzzy Logic Control of a pH Neutralization Process" at the 21st International Conference on Automation & Computing conducted by the University of

Strathclyde in Glasgow, UK, during September 11-12, 2015.

Dr Kamalesh Kumar, Department of Civil Engineering, attended and presented a paper titled "Atterberg Limits Estimation of Pilani Soil Using Ultrasonics" at the 6th International Conference on Structural Engineering and Construction Management (ICSECM 2015), at Kandy, Sri Lanka, during December 11-13, 2015.

→ Dr Kamalesh Kumar



Mr Avinash Gautam, Department of Computer Sciences Engineering, attended and presented a research paper titled "High Speed Vision Based Target Tracking and Industrial Robot Control", at the Sakura Science Program, sponsored by Japan Science and Technology Agency and organized by Research Exchange Program at Hiroshima University, Japan, during December 3-22, 2015

Dr Abhijit Asati, Department of Electricals and Electronics Engineering, attended and presented a paper titled "An Iris Localization Method for Noisy Infrared Iris Images," at the IEEE International Conference on Signal and Image Processing Applications (IEEE ICSIPA 2015) in Kuala Lumpur, Malaysia, during October 19 – 21, 2015.

Dr Shivi Agarwal, Department of Mathematics, attended and presented a paper titled "Evaluation of Efficiency and Effectiveness of Public Transport Sector of India using DEA Approach", at the 13th International Conference on Data Envelopment Analysis (DEA 2015) organized by the Technical University, Braunschweig, Germany during August 24-28, 2015.

→ Dr Abhijit Asati



Mr Avinash Gautam, Department of Computer Sciences Engineering, attended and presented a paper titled "Cluster, Allocate, Cover: An Efficient Approach for Multi-Robot Coverage", at the 2015 IEEE International Conference on Systems, Man, and Cybernetics, organized by the City University, Hong Kong, China, during October 8-12, 2015.

→ Mr Avinash Gautam



Dr Raj Kumar Gupta, Department of Physics, attended and presented a paper titled "Functional Ultrathin Films of Single Walled Carbon Nanotubes" at the EMN FALL MEETING 2015, organised by OAHOST, at Las Vegas, NV, USA, during November 16-19, 2015.

Dr Somdatta Bhattacharya, Department of Humanities and Social Sciences, attended and presented a paper titled "Difficult Lives and Labour: Narratives of Female Domestic Labour in Kolkata" at the Locating Lives: IABA Asia-Pacific Conference, organized by Flinders University, in Adelaide, Australia, during December 1-3, 2015.

Dr Rahul Singhal, Department of Electrical and Electronics Engineering, attended and presented a paper titled "Design and Simulation of All-

Polymeric Reconfigurable Optical Node" at the 15th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD 2015), at Taipei, Taiwan, during September 7-11, 2015.

→ Mr Rahul Singhal



Mr Gajanand Gupta , Department of Mechanical Engineering, attended and presented a paper titled "Reliability Analysis and Identification of Critical Components using Markov Model" in the 2015 IEEE International conference on Industrial Engineering and Engineering Management (IEEM), at the Suntec Singapore Convention & Exhibition Centre, Singapore during December 6-9, 2015.

→ Mr Gajanand Gupta



Dr Madhukar Mishra, Department of Physics, attended and presented a paper titled "Charmonium Suppression and Regeneration at CERN LHC: Temperature Dependent Formation Time Approach", at the International Conference on Ultra-relativistic Nucleus-Nucleus , Collisions - 2015 (Quark Matter - 2015), at Kobe, Japan, during September 27 – October 3, 2015.

Dr Shivi Agarwal, Department of Mathematics, attended and presented a paper titled "Malmquist Productivity Index with Fuzzy Data by Possibility Theory", at the 20th Asian Technology Conference in Mathematics (ATCM 2015), organized by the Leshan Normal University, at Leshan, China, during December 16-20, 2015.

→ Dr Shivi Agarwal



Dr Leela Rani, Department of Management, attended and presented a paper titled "A Study of Awareness Level of Environmental Sustainable Consumption Issues Among Children" in the Global Cleaner Production and Sustainable Consumption Conference 2015, in Sitges, Spain, during November 1-4, 2015.

Dr Trilok Mathur, Department of Mathematics, attended and presented a paper titled "Subordination of Harmonic Univalent Functions Associated with Wright's Generalized Hypergeometric Functions" at the 20th Asian Technology Conference in Mathematics (ATCM 2015), organized by the Leshan National University, in Leshan, China, during December 16-20, 2015.

→ Dr Trilok Mathur



Dr Sailaja Nandigama, Department of Humanities and Social Sciences, attended and presented a paper titled “Performance of Success and Failure at the Grassroots Conservation and Development Interventions: Gender Dynamics in Participatory Forest Management in India” at the FLARE Conference, organized by the University of Michigan and PROFOR at Musée de l'Homme, Paris, France, during November 27-30, 2015.

Dr Manjuladevi V., Department of Physics, attended and presented a paper titled “The Effect of Functionalized Carbon Nanotubes on Liquid Crystals” at the EMN FALL MEETING 2015, organized by OAHOST at Las Vegas, NV, USA, during November 16-19, 2015.

Dr Rakhee, Department of Mathematics, attended and presented a paper titled “Time-dependent Channel Reservation Scheme for Handoff Calls in a Cellular Mobile Network” at the Workshop on Queueing Theory, in Obregurgl, Austria during December 16-20, 2015.

Dr Yashvardhan Sharma, Department of Computer Science and Information Systems, attended and presented a paper titled “A Multi Criteria Review-Based Hotel Recommendation System”, at the 15th IEEE International Conference on Computer and Information Technology (CIT-2015), at Liverpool, UK, during October 26-28, 2015.

→ Dr Yashvardhan Sharma



Invited Lectures by Faculty

Dr Kumar Neeraj Sachdev, Department of Humanities and Social Sciences, was invited as a Resource Person to speak on, “An Analysis of Inner Perspective of Moral Identity,” in the ICPR,

New Delhi sponsored Philosophy Teachers’ Meet of North-Western Zone on the theme The Crisis of Multiple Identities in the Contemporary World, organized by the Department of Guru Nanak Studies, Guru Nanak Dev University, Amritsar, India during December 29-31, 2015

Prof Rajiv Kumar, Department of Mathematics, gave a plenary Lecture on “Multiplicative Perturbation of Generators of Semigroup” at an International Conference on Analysis and Application, held at Aligarh Muslim University from December 19-21, 2015.

Prof Jitendra Panwar, Department of Biological Sciences, gave a plenary lecture on "Rhizospheric metal tolerant fungal isolates: Leading edge tool for sustainable synthesis of metal and metal oxide nanoparticles" at the 2nd International Conference on Crop Improvement, at the Universiti Putra, Putrajaya, Malaysia during December 2-3, 2015.

→ Prof Jitendra Panwar



Dr Rajeev Taliyan, Department of Pharmacy, delivered an invited talk on “The potential of epigenetics-based therapeutics in Alzheimer’s and Parkinson’s disease associated with metabolic syndrome”, at the Rayat-Bahara University, Mohali, Punjab, on October 16, 2015.

Dr Rajeev Taliyan, Department of Pharmacy, delivered an invited talk on “Role of Histone deacetylase inhibitors and Epigenetic Modifications in Neurodegenerative Disorders”, at the Ram-Eesh Institute of Vocational and Technical Education, Greater Noida, U.P, on October 31, 2015.

Dr Raj Kumar Gupta, Department of Physics, delivered an invited talk on “Image Processing in Microscopy”, at the International and Inter University Workshop on Microscopy, organized by the Mahatma Gandhi University, in Kottayam, Kerala, during October 6-8, 2015.

Dr Raj Kumar Gupta, Department of Physics, delivered an invited talk on “Surface plasmon resonance: From bio-sensing through imaging to dielectric measurement and optical filtering applications”, at the World Congress on Microscopy, organized by the Mahatma Gandhi University, in Kottayam, Kerala, during October 8-11, 2015;

Dr Raj Kumar Gupta, Department of Physics, delivered an invited talk on “Image Organic LED and Applications”, at the Energy Efficient Lighting Technology: Recent Developments and Future Ahead, organized by Mody University, in Lakshmangarh, Rajasthan, on November 28, 2015.

Prof Navneet Gupta, Department of Electrical & Electronics Engineering, delivered an invited talk on “Electromagnetic Waves and its Technological Applications in Real Life” at a workshop on Transformation in Science and Technology: A Paradigm Shift in all Spheres of Education at CEERI Pilani, on September 3, 2015.

Prof Sangeeta Sharma, Department of Humanities and Social Science, delivered an invited talk on Teaching –Learning Sharing Experiences at BITS Pilani, organized by TLC BITS on October 29, 2015.

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, delivered an invited talk at a 2 day workshop on “Effective communication for managers” at TAPMI, Manipal, Jaipur during October 30-31, 2015.

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, delivered an invited talk on “How to Crack the Interviews” at FMS, Sukhadia University to MBA students on December 5, 2015

Prof S. B. Singh, Department of Civil Engineering, delivered an invited talk on “Study of Structural Response and Failure Characteristics of FRP-I Girders,” at the 60th Congress of Indian Society for Theoretical and Applied Mechanics (ISTAM), MNIT Jaipur, during December 16-19, 2015.

accolades and achievements

Dr Rajeev Taliyan, Department of Pharmacy, was awarded Prof Manjeet Singh Gold medal award with a cash prize of Rs. 3100/- for research in molecular pharmacology, at the International Conference and the 48th Annual Indian

Pharmacological Society (IPSCON-2015), at Saurashtra University, Rajkot, Gujarat, held during December 18-20, 2015.

→ Dr Rajeev Taliyan, receiving Prof Manjeet Singh-Gold Medal Award



Dr Lavika Goel, Department of Computer Sciences and Information Systems, received the **YOUNG SCIENTIST AWARD** in the category of Engineering (Artificial Intelligence) at the Venus International Foundation Annual Research Awards Meet 2015 held at Chennai on December 19, 2015.

→ Dr Lavika Goel, receiving the Young Scientist Award



Dr Poonam Goyal, Department of Computer Science, received Best Paper Award along with Sonal Kumari, Anil Maheshwari, and Navneet Goyal for their work on "Parallel framework for

efficient k-means clustering" at the 8th Annual ACM India Conference during October 29-31, 2015 at Ghaziabad.

Dr Poonam Goyal, Department of Computer Science, received the Best Poster Award along with Jagat Sesh Challa, Nikhil S., Sundar Balasubramaniam, Navneet Goyal for their work on "A concurrent k-NN search algorithm for R-tree", at the 8th Annual ACM India Conference during October 29-31, 2015 at Ghaziabad.

Dr Arun Kumar, Department of Management, received Bharat Excellence Award from Shri Randhir Singh (Honorable Former Governor of Sikkim), at Delhi on November 29, 2015.

Dr Arun Kumar, Department of Management, received AIMS International Outstanding Management Researcher Award, 2015 by the Association of Indian Management Scholars at IBA, Bangalore on December 19, 2015.

Prof Navneet Gupta, Department of Electrical & Electronics Engineering, was awarded a Distinguished Teaching Award: Engineering by MTC Global Award for Excellence, Sankalp 2015 at NHCE, Bangalore.

Dr Pradyumn Chaturvedi, Department of Electrical and Electronics Engineering, is elected as a Member, Asian Council of Science Editors and also a Member, International Editorial Board of the IOSR Journal of Electrical and Electronics Engineering.

→ Dr Pradyumn Chaturvedi



Prof S. B. Singh, Department of Civil Engineering, acted as an advisor to the UPSC, New Delhi for interview of Center of Soil and Materials Research Station (CSMRS) Scientists during December 16-18, 2015.

Prof Dalip Kumar, Department of Chemistry, was bestowed with R.D. Desai memorial award at the 52nd Annual Convention of Chemist. The Annual Convention of Chemists 2015 and an International Conference on Recent Advances in Chemical Sciences were held at JECRC, University, Jaipur, during December 28-30, 2015. Prof Dalip Kumar also delivered an award lecture on "An Efficient And Easy Access to Natural and Synthetic Azaheterocycles: Structure-based Approach to Develop Novel Anticancer agents".

Prof Dalip Kumar



significant projects

S. No.	Principal Investigator and Name of the Department	Title of the Project	Funding Agency	Amount and Duration
1.	Dr Anupama Mittal, Department of Pharmacy	Nano-formulation of lysophylline-fatty acid conjugate for effective treatment of diabetes.	DST-SERB	INR 26,90,000 (3 years)
2.	Dr Deepak Chitkara, Department of Pharmacy	Combination delivery of small molecule and miRNA for treatment of locally advanced and metastatic breast cancer	DST-SERB	INR 27,20,000
3.	Dr Lalita Gupta: PI Dr Sanjeev Kumar: Co-PI Department of Biological Sciences	Studying the impact of Anopheles gut microbial environment on immunity and Plasmodium development	ICMR	INR 30,00,000 (3 years)
4.	Dr Sanjeev Kumar: PI Dr Lalita Gupta: Co-PI Department of Biological Sciences.	RNAi screening to study the role of <i>Aedes</i> ATP-binding cassette (ABC) transporters in immunity against blood-borne pathogens	DBT	INR 46,32,000 (3 years)
5.	Dr Paul Atish Tulshiram Department of Pharmacy	Exploring The Antiobesity Potential of Selected Ayurvedic Medicinal Plants Using Pancreatic Lipase Inhibition Assay and Synergy Guided Fractionation Approach	DST SERB	INR 27,30,000 (3 years)
6.	Dr Paul Atish Tulshiram Department of Pharmacy	Development of botanical based novel formulation with mosquito larvicidal action for Indian population	DST SEED	INR 12,19,000 (2 years)
7.	Dr Pradyumn Chaturvedi Department of Electronics and Electrical Engineering	Design and Development of an Efficient Power Conditioning Unit for Photovoltaic Applications	BITS, Pilani (Additional Competitive Research Grant)	INR 9,70,000
8.	Dr Amit Kumar Verma, Department of Mathematics	Non linear singular differential equations arising in real life	DST	INR 16,51,680, 3years

academic attainments of faculty

S.No	Name	Department	Journal / member details
1.	Dr Rajeev Taliyan	Department of Pharmacy	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> Journal of Receptors and Signal Transduction- Taylor & Francis, December 2015. Ultrasonics-journal-Elsevier, November, 2015 Behavioural Brain Research--Elsevier, October, 2015 Immunology- journal-Elsevier, October, 2015
2.	Dr Raj Kumar Gupta	Department of Physics	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> Sensor & Actuators B: Chemical, Elsevier Publications, Amsterdam, August 2015 Journal of Nanoparticle Research, Springer, September 2015
3.	Dr Lavika Goel	Department of CSIS	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> Advances in Electrical and Electronic Engineering Journal of Computers and Electronics in Agriculture, Elsevier Journal of Applied Soft Computing, Elsevier Journal of Information Sciences, Elsevier
4.	Dr Lalita Gupta	Department of Biological Sciences	Member of Editorial Board of Vector Biology journal: http://www.scitechnol.com/vector-biology-journal.php
5.	Dr S. Murugesan	Department of Pharmacy	Member of Editorial Boards of the following Journals: <ul style="list-style-type: none"> Journal of Drug Design and Discovery, STM Publications. Journal of Pharmaceutical Chemistry European Journal of Medicinal Chemistry, Elsevier Journal of Vascular Medicine and Surgery, OMICS Publishers Acta Scientifica Journal of Procedural Dermatology- PiscoMed Publishing Pvt. Ltd. Journal of Medicinal Plant Research Research Proposal of DST-SERB reviewed
6.	Dr Sandeep Dhar	Department of Mechanical Engineering	<ul style="list-style-type: none"> Reviewed one paper for the Journal of Vehicle System Dynamics. Reviewed Career Research Award Scheme proposal for Science and Engineering Research Board (SERB).
7.	Dr Somdatta Bhattacharya	Department of Humanities and Social Sciences	<ul style="list-style-type: none"> Reviewed one paper for the International Journal of English and Literature Member of Editorial Board, IRA PUBLICATIONS, Ghaziabad, India.
8.	Dr Arnab Hazra	Department of Electronics and Electrical Engineering	<ul style="list-style-type: none"> Reviewed one paper for the Journal Material Science and Engineering, Elsevier. Reviewed one paper for the Journal of Physics: Applied Physics, Journal of IOP science
9.	Dr Gautam Singhvi	Department of Pharmacy	<ul style="list-style-type: none"> Reviewed one paper for the Journal: Current Pharmaceutical Analysis, Bentham Science Publishers
10.	Dr Pradyumn Chaturvedi	Department of Electrical and Electronics Engineering	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> Electric Power Component and System IET Power Electronics International Journal of Electronics International Journal of Power Electronics.

S.No	Name	Department	Journal / member details
11.	Dr Pratik N. Sheth	Department of Chemical Engineering	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> • Renewable & Sustainable Energy, • Biomass and Bioenergy, • Energy Conversion and Management, • Fuel Processing Technology, • Fuel, • Industrial Engineering and Chemistry Research, • Waste and Biomass Valorization • World Journal of Modeling and Simulation
12.	Prof Jitendra Panwar	Department of Biological Sciences	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> • Arabian Journal of Chemistry • PLoS ONE • Indian Journal of Biotechnology
13.	Prof Rajiv Gupta	Department of Civil Engineering	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> • Journal of Cleaner Production, Elsevier. • Journal of Solar Energy, Hindawi Publishing Corporation. • Journal of The Institution of Engineers (India): Series A, Springer. • Journal of Cleaner Production, Elsevier. • Structural Engineering and Mechanics, <i>An International Journal</i> Techno-Press. • ACI Journals, Materials. • Neural Computing and Applications, Springer. • APSDIN: An Expert System for the Design of Different Types of Concrete, PONE-D-15-37311, PLOS, San Francisco, CA 94111, United States. • Construction & Building Materials, Elsevier. • Journal of The Institution of Engineers (India).
14.	Prof S.B Singh	Department of Civil Engineering	Reviewed one paper for An International Journal Steel and Composite Structures.
15.	Prof Pushp Lata	Department of Humanities and Social Sciences	Reviewed research papers for the following Journals: <ul style="list-style-type: none"> • An International Journal, Arab World English • International Journal of Social Sciences and Humanities (Pertanika Publishers) • Art and Culture (Bioinfo Publications).
16.	Prof Gajendra Singh Chauhan and Prof Sangeeta Sharma	Department of Humanities and Social Sciences	Published a book <i>Soft Skills - An Integrated Approach to Maximize Personality</i> . Wiley: New Delhi, 2015. 
17.	Prof Pushp Lata	Department of Humanities and Social Sciences	Published two books, <i>English for Effective Communication Skills</i> and <i>Communication Skills (Second Edition)</i> Oxford University Press, 2015. 

student round-up

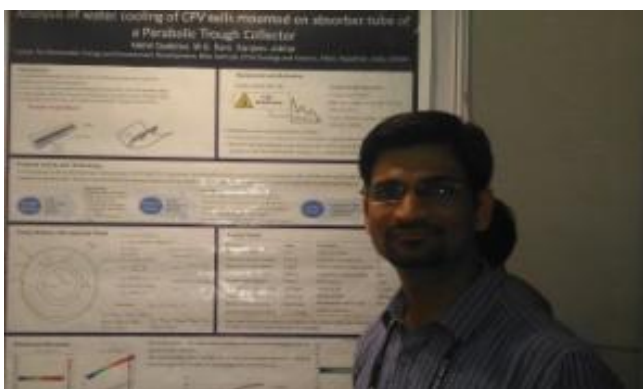
Mr Ashok Sharma (2010PHXF009P) was awarded second prize for the poster presentation in the conference on Recent Developments in Medical Biotechnology and Structure-based Drug Designing held at IIT Guwahati, during December 6-7, 2015.

→ Mr Ashok Sharma, awarded for poster presentation



Mr Nikhil Gakkhar (2010PH06431P) presented a paper on “Analysis of Water Cooling of CPV Cells Mounted on Absorber Tube of a Parabolic Trough Collector” along with M. S. Soni, Sanjeev Jakhar, under the guidance of Dr Manoj S. Soni, in an International Conference on Advances in Energy Research ICAER 2015, at IIT Bombay, Powai, during December 15-17, 2015.

→ Mr Nikhil Gakkhar



Ms. R. Vaishnavi (2013A1PS553P) co-authored and published a paper titled “Wastewater treatment by ion exchange method: a review of past and recent researches” in an Environmental Science journal Trade Science Inc., Volume 12 Issue 4, December, 2015.

Mr Harsh Sharma (2014A4PS405P) was awarded the “Avery Dennison Spirit of invention Scholarship Award” at Vivanta by Taj, Gurgaon, on August 27, 2015.

→ Mr Harsh Sharma



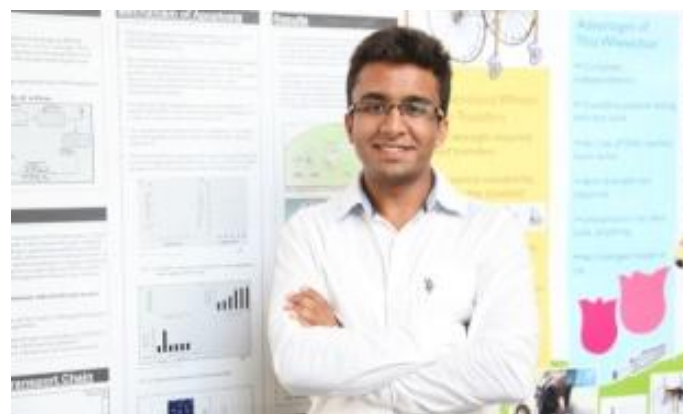
Mr Harsh Sharma (2014A4PS405P) was awarded the “OP Jindal Engineering and Management Scholarship” at Habitat Centre, Lodi Road, Delhi, on October 30, 2015.

→ The OP Jindal Engineering and Management Scholarship)



Mr Rishabh Gupta (2014ABPS855P) was awarded the “Avery Dennison Spirit of invention Scholarship Award” for a project on Wheelchair with Transferrable Seat at Vivanta by Taj, Gurgaon, on August 27, 2015.

→ The Avery Dennison Spirit of invention Scholarship Award)



Ms. Saima Rashid (2015A7PS004P) was awarded the Aditya Birla Scholarships(2015-16), in 2015.

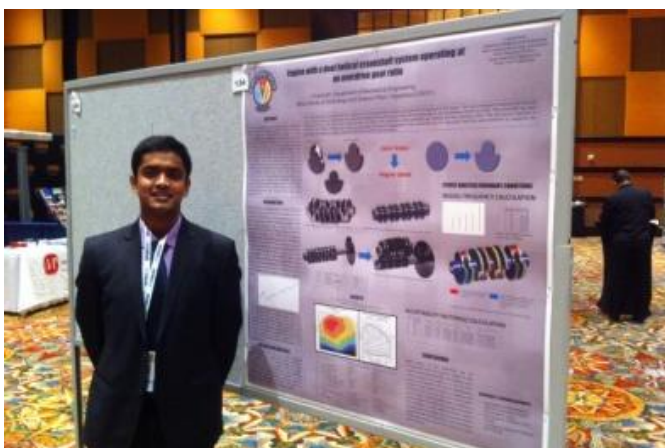
→ The Aditya Birla Scholarships



Mr V. Anierudh (2013ABPS625P) participated in the Undergraduate poster presentation competition titled "International Mechanical Engineering Congress and Exposition, 2015" organized by American Society of Mechanical Engineers as the only student representing Indian institutions, at Hilton Americas, Houston, Texas, United States of America, on November 15, 2015.

He also presented a paper at the 17th International Conference on Mechanical Engineering and Technology organized by World Academy of Science and Technology in, London, on October 24, 2015.

→ Mr V. Anierudh



Ananyashree Garg (2015A7PS117P) participated and secured 1st rank in the Youth Money Olympiad conducted online on November 11, 2015.

Ankit Raj (2013A1PS556P), Abhishek Kumar (2013A1PS506P) and Suvesh Lalwani (2013A1PS747P) under the mentorship of Prof Banasri Roy, presented a paper and won Bosch Inscribe 2015 at Bangalore during November 23-24, 2015.

→ Bosch Inscribe 2015



Pragun Vinayak (2012A2TS386P), Anand Shekhar (2012A4TS370P) and Harsh Sharma(2014A4PS405P) were awarded OP Jindal Engineering and Management Scholarship for academic and leadership excellence at the India Habitat Center, New Delhi on January 5, 2015.

→ Academic and Leadership Excellence Award, 2015



Kunal Jindal (2012B1A8811P), Tanmay Kulshrestha (2012B1A4851P), Prabodh Agarwal (2012B1A7801P), Sonali Gupta (2012A3B1149P), Abhishek Kumar (2013A1PS506P), Abhishek Prasad (2013B1A4841P), Harsh Kanodia (2014A1B1525P) and Nivya Sharma (2014A5PS629P) secured Silver Medal under NanoCrafters category, in BIOMOD competition, hosted by the Wyss Institute of Biologically Inspired Engineering at Harvard University held from October 31 to November 1, 2015.

Sanjeev Jakhar (2013PHXF002P) presented a paper titled "Performance analysis of earth water heat exchanger for concentrating photovoltaic cooling", along with M. S. Soni, and Nikhil Gakkhar, at the International Conference on

Advances in Energy Research ICAER 2015, held at IIT Bombay, Powai, during December 15-17, 2015.

→ Mr Sanjeev Jakhar



Raghav Sharma (2014B5A1845P) won the BITS Library Story Writing Competition held at BITS Pilani, on August 31, 2015.

→ Raghav Sharma



Varun S. Shetty (2013A1PS617P) and **Suvesh Lalwani (2013A1PS747P)** were the Runners Up for their poster presentation on "Enzymatic Mitigation of Carbon Dioxide through Various Immobilization Techniques", at the 6th World Renewable Energy Technology Congress-2015, held during August 21-23, 2015 in New Delhi.

Mr Vikrant Bhakar (2011PHXF009P) won the first prize and a cash award of 500€ for footprint analysis of BITS Pilani, Pilani campus jointly done by Indo-German team under the guidance of Prof K.S. Sangwan, Department of Mechanical Engineering, at the 20th Umberto workshop held in Heidelberg, Germany during September 22-23, 2015.

→ Mr Vikrant Bhakar



creative zone

Conquest 2015 - International Startup Conclave

Conquest 2015, BITS Pilani's International Startup Conclave was held on September 6, 2015 at New Delhi. The startups that emerged as winners of the challenge were Swagene and GameZop with Truck Suvidha taking the award 'Pioneer in Marketing'.

→ Conquest 2015 - International Startup Conclave



Organized by the Centre for Entrepreneurial Leadership (CEL), BITS Pilani, Conquest was a huge success. Few of the panelists were: Rajesh Swahney, co-founder of GSF Accelerator and Inner-Chef, Samay Kohli, co-founder Grey-Orange Robotics, Neeru Sharma, co-founder Infibeam.com, Saurabh Arora, co-founder at Lybrate. The jury members included Shailesh Vikram Singh, Executive Director at Seedfund, Dev Khare, Managing Director at LightSpeed India Partners Advisors, Mathieu Morand, Investment Associate at Orios Venture Partners and many more.

→ Conquest 2015 - International Startup Conclave



Cardiology Camp in BITS Pilani

A Cardiology Camp was organized at the BITS Pilani Medical Centre by the doctors of Narayana Multispeciality Hospital, Jaipur. A turnout of 86 patients was seen in the camp where Blood Sugar and ECG tests were conducted free of cost. The event was organised with the help of volunteers from NSS, BITS Pilani. A lecture on "Basic Life Support training with live demonstration" was also organised prior to the camp. In this camp, the contributions of Dr R. P. Pareek, Superintendent BITS Medical Centre, Dr Anupam Singhal, NSS Coordinator, Mr Sai Ram Krishna, President NSS and Ms. Mansa Kedia, Vice-President were appreciated.

NSS, BITS Pilani: "The only disability in mind is a bad attitude"

Keeping this vision in mind NSS, BITS Pilani in collaboration with the Sports Council, organised the fourth edition of Junoon, a two day sports fest for the specially-abled during September 12-13, 2015. NSS BITS Pilani was proud to have Mr Amit Saroha, recipient of the Arjuna Award and an inspirational para-athlete, as the chief guest for the event.

Over 150 students from 9 different NGOs across Delhi, Jaipur and Pilani showcased their skills and abilities in front of the BITSians. The fest started with a painting workshop and a fun session. Several unified events like Cricket, Volleyball and basketball were also conducted. A new sport called "Floor ball" was also organized in association with the Special Olympics Bharat, Rajasthan successfully.

→ Mr Amit Saroha addressing during Pre-BOSM 2015 "Junoon"



The efforts put in by the student team of Junoon comprising G. Sai Ram Krishna, Mansa Kedia, Vidya Sagar Singh, Ashutosh Kumar Singh and many other volunteers for the two day special sports extravaganza, were lauded by Prof V. S. Rao, Vice-Chancellor(acting), BITS Pilani, Prof A.K. Sarkar, Director, BITS Pilani, Pilani campus, Prof S.C. Sivasubramanian (Dean, Administration), Dr Anupam Singhal (NSS Program Coordinator) and other faculty of BITS Pilani who graced the two days event by their presence in the inaugural and valedictory ceremonies of the event.

→ Pre-BOSM Junoon 2015



Nirmaan

Nirmaan, a non-profit organisation, 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.

Between August-December 2015, Nirmaan conducted a lot of events. On the eve of Teacher's Day, the Joy of teaching event, was organized inside the campus to give the BITSians a peek in the role of a teacher to the beneficiaries from

nearby communities like Natbasti and Baas. The week from 14-20 October, 2015 was celebrated as the Joy of Giving Week. The inauguration ceremony was graced by the presence of Dr Anshu Gupta, founder Goonj and a winner of Raman Magsaysay Award. Some events like Postman of Happiness were also conducted at Birla Senior Secondary School. At Oasis, Nirmaan put up its Stall for which three NGO's namely Atijivan, MESH and Nayi Dishayein collaborated. Besides the products made by women from Baas, there was also a Prayogshala, a separate stall, for the handmade google cardboards and a photo booth. The earnings from these events directly went to the beneficiaries. After ten years of its formation, Nirmaan stands strong and proud as ever, taking giant leaps towards its goal of building a great country. Some last words that run through the vein of each Nirmaanite: "We have only one passion, the rise of a great nation."

→ Activities conducted by Nirmaan



BOSM 2015

The 30th Edition of the BITS Open Sports Meet (BOSM) was held during 18-22 September, 2015 with sports teams from all over India competing to win medals in various sports like Basketball, Athletics, Swimming, Chess, etc. The Inauguration ceremony was graced by Chief Guests such as Premlata Agarwal, a mountaineer and the oldest woman to climb Mt. Everest and Joy

Bhattacharya, who has been the Director of the Kolkata Knight Riders in the Indian Premier League. It also included a live performance by the Music Club and a thrilling performance of Kalaripayattu, a Martial Art form.

With more than 1200 people coming from all over India to participate in the fest, the fest was full of thrilling matches and enthusiastic players and supporters. Baxter, the Desert Eagle, was the mascot of the event and it aimed to embody the virtues of every sports person - Skill, Perseverance and Team Spirit. Apart from the matches, a professional show by the F16s, an alternative/electro-rock band was also a part of the festival. Various food stalls with a lot of delicacies were also set up in the Gym Grounds. The teams from the following colleges emerged as the best teams: Cricket: BITS Pilani, Football: Sri Venkateshwara College, Athletics: IIT Delhi, Badminton: BITS Pilani (Men and Women), Powerlifting: BITS Pilani. BITS Pilani was declared as the overall winning team.

→ BOSM 2015 Inauguration



→ BOSM 2015 Events



OASIS 2015

A cultural extravaganza of BITS Pilani took off with a big bang! Oasis 2015 was inaugurated by Prof A.K. Sarkar, Director, BITS Pilani, Pilani campus on October 28, 2015. Prof Sarkar, in his address to the gathering, remembered the rich legacy of Oasis, the annual cultural festival for the last forty five years. He wished the out station participants an enriching experience in the beautiful environment of the BITS campus.

→ OASIS 2015 : Inauguration



A twelve minute performance by the Music Club kicked off the rites. This was followed by a scintillating performance by the Dance club. The Israeli instrumental musical trio, Nir Motzeri's

concert organised by ARBITS was a major attraction this time. Classic events such as Rocktaves, Tarang , Choreo and the exhibitions shared space with a whole new fleet of events. Papon, the Local Train, Vishwa Mohan Bhatt and Keyboard Sathya, Skrat and Dualist Enquiry all gave mind blowing performances.

Oasis boasts of a long and colorful history. From a modest beginning in 1971, it has come a long way to establish its stronghold as one of India's grandest cultural fests. The theme of the fest has always been its most significant element. With over 200 colleges and over 1600 registrations, the footfall was an all time high this year.

→ Performance by the Dance Club



OASIS 2015 Events



introducing new faculty

S. No.	Name	Designation	Discipline
1.	Dr Amit Jain	Assistant Professor	Chemical Engineering
2.	Dr Lavika Goel	Assistant Professor	CSIS
3.	Dr Sandeep Dhar	Assistant Professor	Mechanical Engineering
4.	Dr Gautam Singhvi	Assistant Professor	Pharmacy
5.	Dr S.Raghuraman	Assistant Professor	Mechanical Engineering
6.	Dr Aniruddha Roy	Assistant Professor	Pharmacy

editorial team



Editor: Dr (Ms.) Sushila Shekhawat

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

Student Members: Perna Bhatia and Katyayani Sonti

Special Thanks: Ramesh Sharma, Madhusmita Das and PMRU team

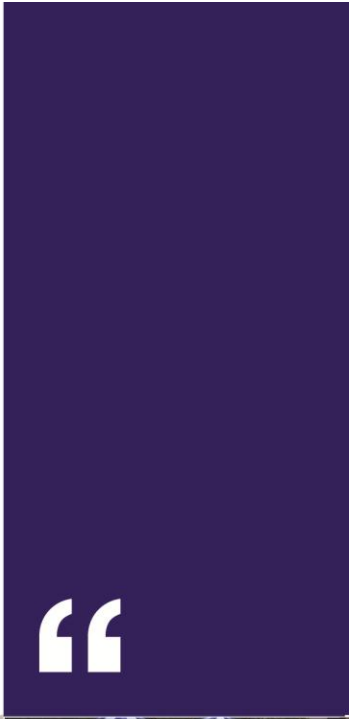


BITS Pilani

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young minds

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