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BITS Pilani
Pilani Campus

Semester-II notes 2021-22

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Editorial

BITS Pilani, Pilani campus celebrated the 73rd Republic Day and the 71st Founder's Day with great fervor and enthusiasm. Conferences/workshops on issues of current importance such as Nanotechnology for Sustainable Living & Environment, Sports Engineering, and Artificial Intelligence Application for Electro Optical Sensors drew active participation from academia and industry to work out novel and sustainable solutions. Several research projects sponsored by reputed national and international agencies attest to BITS Pilani's sustained engagement with scientific and technological advancements and solutions to real problems.

Students' rising interest in participating in conferences and publishing papers with good journals, and winning awards and scholarships is quite admirable. Besides, the 40th edition of the annual technical festival, APOGEE 2022, based on the theme "The Encrypted Dimension", had a number of Hackathon and Codeathon events that caught the attention of computer whizzes and coding enthusiasts, providing creative solutions to common issues. Think Again Conclave, a three-day talk and interactive series, was an exciting event that featured several notable thinkers of the century. On the social front, the noble work of NSS, BITS Pilani is always praiseworthy. This time they organized "Netra Suraksha Divas", in collaboration with the Mahadeo Hospital, Pilani, for the supporting staff of the campus.

BITS alumni have always been graciously supportive of their alma mater. The 1970-75 batch has instituted a multi-crore endowment fund for providing scholarships to meritorious students facing financial difficulties. The batch had previously set up an oxygen plant at the Birla Sarvajanik Hospital, Pilani, and provided funding to the startups, including Thinkerbell Labs, a venture that appeared on Shark Tank India and was widely appreciated.

Hope you enjoy reading about the heart-warming stories of this edition!

73rd Republic Day

The 73rd Republic Day was celebrated in BITS Pilani, Pilani campus, with great enthusiasm. The programme began with the National song. Prof Souvik Bhattacharyya, Vice Chancellor, BITS Pilani, did the flag hoisting, a moment of pride for all the participants. Prof Sudhirkumar Barai, Director, Pilani Campus, graced the event. The programme was also attended by Prof. S. K. Verma, Dean Administration, Prof. B. K. Rout, Acting Registrar, Prof. Arya Kumar, Prof. A. P. Singh, and many faculty members and students. Mr. Kishore Singh, the chief security officer, and his team gave the Guard of Honor. The fervor of patriotism, unified diversity, and rich cultural heritage of India was beautifully brought forth through the songs sung by students under the guidance of Dr. Anil Rai. The National Pledge, an oath of allegiance to the Republic of India, was administered by Ms. Abhilasha Srivastava. The programme ended with the National anthem. The event was coordinated by Prof. Shilpi Garg, Faculty In-charge, Institute Functions.

Republic Day Celebrations

Founder's Day

With great passion and enthusiasm, BITS Pilani celebrated its 71ˢᵗ Founder's Day on February 05, 2022 in the Institute premises. The Vidya Vihar Campus of BITS Pilani was formally inaugurated by the first President of India, Dr. Rajendra Prasad on Basant Panchami, in the year 1951, which is perennially celebrated as Founder's Day every year. This year too, the celebrations spanned over the entire day, with the participation of a large number of students and faculty members virtually. Prof. Souvik Bhattacharyya, Vice chancellor, BITS Pilani, Prof. Sudhirkumar Barai, Director, Pilani campus, and many faculty members offered floral tributes at the statue of the Founder Chairman, Late Shri Ghanshyam Das Birla. Thereafter, Bhakti Sangeet was organized under the guidance of Dr. Anil Rai followed by online streaming of the Thyagaraja Aradhana program by the Ragamalika student association group, where many students recited beautiful classical Kritis originally composed by Saint Thyagaraja. A grand cultural event was organized at the Central Auditorium in the evening.

Prof. Souvik Bhattacharyya, Vice chancellor, BITS Pilani, Prof. Sudhirkumar Barai, Director Pilani campus, Prof. B. K. Rout, Acting Registrar & Prof. Shilpi Garg, Faculty-in-charge, Institute functions lit the traditional lamp followed by Saraswati Vandana. There were several dance and musical performances by students from seventeen regional associations, exhibiting the cultural diversity of India. About 150 students participated in the event, and a huge number of students, faculty, staff, and their families attended and enjoyed the live streaming of the event.

Floral Tribute to Late Shri G.D. Birla

During the ceremony, 14 non-teaching staff retiring this year were felicitated as a token of appreciation for their committed service to the Institute. In addition, 7 Best performance awards and 15 Certificates of appreciation were also given to the selected non-teaching staff for their outstanding contributions in their field of work and functional administration of the Institute. The colorful event ended with a vote of thanks by Prof Shilpi Garg, Faculty In-charge, Institute Functions.

Workshop on Artificial Intelligence Application for Electro Optical Sensors (WAIAEOS-2022)

The Department of Mathematics, Pilani campus, in partnership with IRDE, Dehradun, organized a one-day national workshop on Artificial Intelligence Application for Electro Optical Sensors (WAIAEOS-2022) virtually on February 04, 2022. Prof. Sudhirkumar Barai, Director, Pilani Campus, presided over the inaugural function which was attended by Prof. S.K. Verma, Dean Administration, Prof. A.P. Singh, Dean, AUGSD, Prof. B.K. Rout, Acting

Registrar, BITS Pilani, Prof. Trilok Mathur, organizing secretary, WAIAEOS-2022, and the Co-convener, Dr. Anita Singh, Scientist 'E', IRDE, Dehradun. Renowned scientist and Director IRDE, Dehradun Dr. B.K. Das was the chief guest of the inaugural function. Dr. Das highlighted the importance and applications of AI enabled Electro Optical (EO) sensors in Defence and Space Science sector. Experts discussed various aspects of AI enabled software and hardware in EO sensors. Prof. Devendra Kumar, Head, Department of Mathematics, welcomed the participants and explained various achievements of the Department. Prof. Shivi Agarwal, the convener of the workshop, highlighted the importance of organizing such workshops to bridge the gap between industry, academia, and government bodies. More than 300 participants registered for the workshop.

WAIAEOS-2022

Second International Conference on Sports Engineering

BITS Pilani and Sports Engineering Association, India, under the auspices of the Ministry of the Youth Affairs and Sports, with technical support from The International Sports Engineering Association, UK, organized the 2nd International Conference on Sports Engineering at Jodhpur during March 3-5, 2022. The conference was inaugurated at The Ummed by Prof. Sudhirkumar Barai, Director, Pilani Campus in the presence of dignitaries, Prof. Santanu Choudhury, Director IIT Jodhpur, Dr. Sudhanshu Sekhar Roy, former Executive Director NSNIS Patiala, Prof. David James ISEA representative & MD Labosports, Prof. Sanjay Mittal, Aerosports Dept., IIT Kanpur, Dr. Klaus Bartenietz, International Coaching Consultant and coach of Olympic Gold medalist Mr. Neeraj Chopra, Mr. Ayan Sengupta, Editor, Sports Star, Mr. Akhil Kumar, Olympian Boxing, Mr. Anil Suravaram, MD Great Sports Infra, Mr. Aditya V J Iyer, Sports Analyst and Mr. Siv Prakash, MD Shivnaresh Sports.

Second International Conference on Sports Engineering

Alumni Interactive Session

Mr. J. C. Chaudhry (Pilani, '72 batch), founder of the eminent Aakash Institute, visited his alma mater after 50 years along with his son, Mr. Aakash Chaudhry, Managing Director and the Co-Promoter of Aakash Educational Services Limited (AESL) on April 01, 2022. To cherish his college days, he stopped by the Biology Department, paid homage at the Saraswati Temple, and went down memory lane when he saw his hostel room. An interactive session with the students was arranged, during which Mr. J. C. Chaudhry shared an interesting story of how he got a seat for his higher studies at BITS Pilani. Sharing examples from his life, Mr. Chaudhry discussed the importance of trusting one's fellow colleagues and the quick decision-making capability for succeeding in life. He also said, "You should never fear failure. Take it as an opportunity to improve yourself and move ahead with a positive attitude in life. This way, you will always be happy when you face any problem". Mr. Aakash Chaudhry inspired the students to dream bigger than life. A vote of thanks was given by Prof. Sudhirkumar Barai, Director, Pilani campus.

Mr. J.C Chaudhry interacting with students

Alumni's Philanthropy: A Multi-Crore Endowment Fund for Scholarships

BITS Pilani's alumni of the 1970-75 batch, known for their multiple contributions to their alma mater, announced setting up a multi-crore endowment fund for providing scholarships to students. The fund will be instrumental in providing equitable opportunities to meritorious students facing financial difficulties.

Representatives of the batch, Mr. Hanuman Bengani, Mr. Dinesh Sharma, Mr. Krishan Kumar Roongta, Mr. Ashok Sikka, Mr. Vardhman Tatia & Mr. Shrikant Agarwal signed an MoU at Pilani, in the presence of Prof. Sudhirkumar Barai, Director, Pilani Campus, Col. Soumyabrata Chakraborty, Registrar, and Prof. Arya Kumar, Dean, Alumni Relations, BITS Pilani. Mr. Hanuman Bengani, representative of the 1970-75 batch said, "All alumni value the education received at BITS Pilani, which definitely was one of the reasons for their successful careers. Our batch has always believed in contributing to the growth of BITS and that of Pilani. The endowment fund shall be helpful in reducing the financial burden on students. We are hoping more of fellow alumni would come forward to contribute to the growth of BITS as a world-class institution".

The 1970-75 batch has previously supported the 'Gurudakshina Program', which felicitated faculty members and set up an oxygen plant at the Birla Sarvajanik Hospital, Pilani. The batch has also provided funding to startups, including Thinkerbell Labs, a venture that appeared on Shark Tank India and was widely appreciated.

Alumni's Philanthropy: A Multi-Crore Endowment Fund for Scholarships

Prof Sudhirkumar Barai, Director, Pilani Campus, on this occasion said, "We are grateful to the batch for participating in BITS Pilani's transformation, and deeply applaud the steadfast support to multiple causes". Prof. Arya Kumar, Dean, Alumni Relations added, "with this scholarship to the needy students, we hope that a cycle of giving back to the alma mater is initiated, where the students supported from the scholarship will remember this gesture and become socially conscious individuals".

Second chapter of Academic Writing Workshop

The second chapter of a seven-day workshop on academic writing, organized by the Department of Humanities and Social Sciences, took place during April 4-10, 2022, following the success of the workshop conducted in 2019. Prof. A. P. Singh, Dean, AUGSD and Prof. Kuldeep Sangwan, Unit Chief, Workshop, inaugurated, the seminar as the Chief Guest and the Guests of Honour, joined by Prof. Devika, Head, Department of Humanities and Social Sciences. On this occasion, the dignitaries addressed the gathering and shared their experiences.

Academic Writing Workshop

Prof. Sailaja Nandigama, the coordinator of the workshop, shed light on the purpose of the seminar and introduced the members of the organizing committee: Prof Kumar Sankar Bhattacharya, Prof. Pushp Lata, and Prof. Devika, and the resource persons: Dr. Tamali Bhattacharyya, Dr. Anupam Yadav, Dr. Veena Ramachandran, Dr. Muhammed Afzal P. 30 research scholars from various disciplines and departments registered in the workshop and were coached by the experts. During the inaugural function, the booklet on the A2W2 workshop was released by the dignitaries and the organizing committee members. Dr. Kumar Sankar Bhattacharya discussed the macrostructure of the workshop touching upon the critical aspects of academic writing like how to write high-quality research papers, employing persuasive content, effective language, literature review, and logical organization of the material. He also emphasized that during the workshop the research scholars will have "learning by doing" activity-based sessions.

International Conference on Nanotechnology for Sustainable Living & Environment (ICON-NSLE 2022)

The Department of Chemical Engineering organized a virtual International Conference on Nanotechnology for Sustainable Living and Environment (NSLE-2022) during April 14-16, 2022, in association with AIChE BITS Pilani Chapter and IIChE Pilani Regional Center. The inaugural session started with a welcome note from the convener Prof. Sarbani Ghosh followed by an encouraging message from Prof. Sudhirkumar Barai, Director, Pilani Campus. Prof. Jaime Grunlan, Texas A&M University, USA, addressed the crowd as the Chief Guest. The conference committee also unveiled the book of abstracts.

The keynote speakers were Prof. Igor, Linköping University, Sweden, Prof. Ludwigs, University of Stuttgart, Germany, Prof. Qian, University of Science and Technology, China, Prof. Maxim, St. Petersburg State Technological Institute, Russia, Prof. Polshettiwa, TIFR, India, Dr. Patil, ESPIN NANO TECH and Dr. Rozhkova, IG KarRC RAS, Russia. More than 110 delegates from 11 countries and various national institutes presented their research work under six niche areas of the conference. Several industry-led talks from the sponsors and invited talks were the attraction of this conference.

ICON-NSLE 2022

In the valedictory session, guest of honor, Prof. S.K. Verma, Professor, Biological Sciences & Dean Administration, Pilani Campus and the Chief Guest Mr. Sanjeev K Varshney, Head, Department of International Cooperation, DST, announced the five best papers of the conference. The conference ended with a vote of thanks delivered by Dr. Somak Chatterjee, the convener of the conference.

Academia:a confluence of ideas

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

Prof. Shamsher Bahadur Singh, Department of Civil Engineering, visited the Michigan State University during June 19-26, 2022 for the presentation of the final progress report of Partnership 2020: US-INDIA Higher Education Cooperation Grant Project, a collaborative research project between Michigan State University, IIT Delhi and BITS Pilani. During the visit, he also attended meetings with various stakeholders such as NEX and Composite Builders.

Prof. Poonam Goyal, Department of Computer Science and Information Systems, was invited to the "SERB-INAE Conclave on SERB Digital Gaming Research Initiative" organized by the Science and Engineering Research Board (SERB) and Indian National Academy of Engineering (INAE) on July 20, 2022.

Accolades and Achievements: Academic attainments of faculty

Prof. Anupam Singhal, Department of Civil Engineering, was granted a patent from the Government of India for a formulation for the reduction of fluoride and total dissolved solids in water and the process for reduction thereof on January 28, 2022. The Inventors were Anupam Singhal, Rajiv Gupta, and Arun Nihal Singh, BITS Pilani.

Dr. Rajesh Matai, Department of Management, and Hariprasad Ambadapudi (Research Scholar) won the Certificate of Merit on their case study presentation titled "Did Exide miss the bus in taking up the role of a torch bearer for India in the EV revolution?" in the 2nd Case Writing Competition and Conference organized by All India Management Association, India Case Research Centre during March 24-26, 2022.

**Prof. Shamsher Bahadur Singh, Department of Civil Engineering,** was appointed as a Member of the SEI Global Activity Division Committee (GAD) for Inter-Organizational Collaboration on April 03, 2022. He was elected as a Fellow of Coalition for Disaster Resilience Infrastructure (F.CDRI) on May 20, 2022 and was elected as a fellow of the Indian Association of Structural Engineers (FIAStructE) on June 25, 2022. Prof. Singh is also a review editor, on the editorial board, of Computational Methods in Structural Engineering (specialty section of Frontiers in Built Environment).

Prof. Kamalesh Kumar, Department of Civil Engineering, was honoured with a certificate of excellence for an outstanding contribution in reviewing and improving the qualities of the journals: Current Journal of Applied Science and Technology, Journal of Engineering Research and Reports, Journal of Scientific Research and Reports, Asian Soil Research Journal, Archives of Current Research International and Journal of Materials Science Research and Reviews. He was honoured with a certificate of excellence for peer-reviewing and an outstanding contribution to improving the quality of the book *Technological Innovation in Engineering Research*.

Prof. Chennu Ranganayakulu, Department of Mechanical Engineering, got the Alexander von Humboldt Revisiting Fellowship for three months starting from June 1, 2022, at Leibniz University, Hannover, Germany.

Prof. Anupama Mittal, Department of Pharmacy, is a specially appointed Assistant professor, Graduate School of Biomedical & Health Sciences, Hiroshima University, for the period March 1, 2021 to March 31, 2023. She also visited Hiroshima University, Japan, from June 13 to July 7, 2022.

Prof. Sangeeta Sharma, Department of Humanities & Social Sciences, has published a co-authored book Technical Communication, 4th edition, Oxford University Press, New Delhi, 2022.
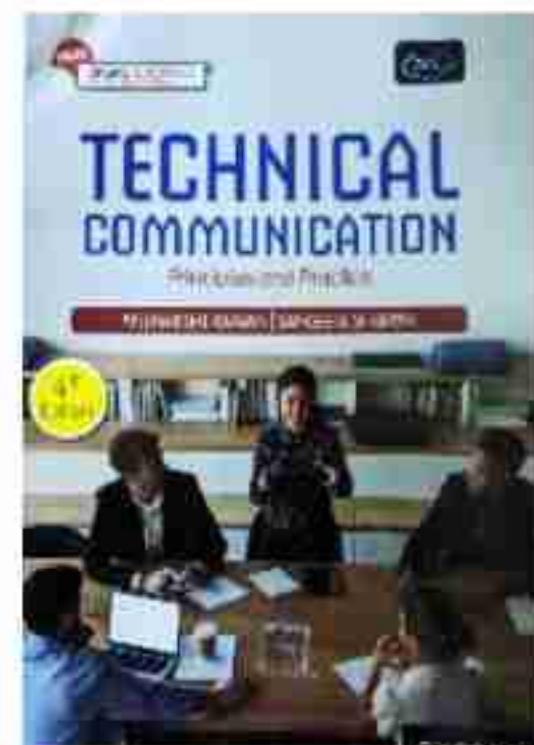
Invited Lectures/Talk by Faculty

1. **Dr. Veena Ramachandran, Department of Humanities and Social Sciences**, delivered a talk on "Harmonization to Exceptionalism: The Trajectory of Post-Civil War Sino-Sri Lankan Relations" at the Institute of National Security Studies, Colombo, Sri Lanka, on January 11, 2022.

2. **Dr. Gaurav Nagpal, WILP, Department of Management,** delivered a lecture on "Sampling Techniques" for Ph.D. students At SRM Institute of Science and Technology, Chennai, on March 23, 2022. He delivered lectures at SPJIMR, Delhi Centre on "Managing Service Operations Strategy" and "Measuring and Managing Service Quality" during May 21-22, 2022. He also delivered two lectures at the FORE School of Management on "Supply Chain Lessons from Covid-19" and "Supply Chain Digitalization" on July 21 & 22, 2022.

3. **Prof. Shamsher Bahadur Singh, Department of Civil Engineering,** delivered an invited lecture on "FRP Beam Failure Modes and Strengthening using FRP Laminates" organized by International Association for Bridge Maintenance and Safety (IABMAS) on July 20, 2022.

Distinguished Online Lectures at Pilani Campus

1. **Prof. James Mulholland, North Carolina State University, USA,** delivered a talk on "From Archive to Page: Academic Writing and Research in the 21st Century" at the Department of Humanities and Social Sciences on February 02, 2022.

2. **Mr. J. P. Singh, Scientist 'G,' IRDE, Dehradun,** delivered a talk on "Artificial Intelligence: Beginning of a New Warfare" at the Department of Mathematics on February 04, 2022.

3. **Dr. Anita Singh, Scientist 'E,' IRDE, Dehradun,** delivered a talk on "Roadmap of Artificial Intelligence in IRDE" at the Department of Mathematics on February 04, 2022.

4. **Mr. Shubhanshu Mishra, Machine Learning Researcher, Twitter,** delivered a talk on "Social Media Information Extraction - Multitask, Multilingual and Beyond" organized by the Department of Management on February 27, 2022.

5. **Prof. Dr. Bas Arts, Wageningen University, Netherlands,** delivered a talk on "Forest Governance: Hydra or Chloris" organized by the Department of Humanities and Social Sciences on March 21, 2022.

6. **Prof. Amit Singh, Schuellein Endowed Chair (2018-2021), Drosophila Development and Disease Lab, Department of Biology, University of Dayton, Dayton, OH, USA,** delivered a talk on "Drosophila eye model to study patterning and disease" organized by the Department of Biological Sciences on May 02, 2022.

Significant projects

S.No.	PI & Department	Co-PI & Department	Title of the Project	Funding Agency	Amount (INR)
1	Dr. Anirudh Singh Rana, Department of Mathematics	-	A novel modeling framework for condensation and evaporation processes in quiescent environment	SERB	6,60,000 3 Years
2	Dr. Sumanta Pasari, Department of Mathematics	-	Nowcasting Earthquakes: Understanding the Current Level of Seismic Progression of Indian Cities	SERB	6,60,000 3 Years
3	Dr. Rajesh Kumar, Department of Mathematics	-	Prion Proliferation Model Including Chaperone: Existence, Uniqueness and Stability Analysis	SERB	6,60,000 3 Years
4	Dr. Kamlesh Tiwari, Department of CS&IS	Ashutosh Bhatia, Department of CS&IS	Classification of Medical condition	LiveSmart KK Japan	15,50,000 3 Months
5	Dr. Gautam Singhvi, Department of Pharmacy	Dr. Venkatesh KP Rao Department of Mechanical Engineering	Design and evaluation of a lowcost lab-on-chip noninvasive device for diagnosis of Psoriasis skin disorder: investigation of skin elasticity in psoriatic disease condition and correlation with treatment efficacy of designed nanoformulations	ICMR	43,77,090 3 Years
6	Dr. Ashish Tiwari, Department of Mathematics	-	Creeping Flow Past a Swarm of Porous Elliptic Cylindrical Particles	SERB	6,60,000 3 Years
7	Dr. Pratik Narang, Department of CS&IS	Dr. Jagat Sech Challa Department of CS&IS	Enhancing emotion and demographic inference for low-resolution video feeds in the Indian context	Kwikpic Tech Services	6,00,600 2 Years
8	Dr. Rakesh Choubisa, Department of Physics	-	On the theoretical studies of vortex electron impact scattering and ionization of atoms and molecules	SERB	20,56,147 3 Years
10	Dr. Somak Chatterjee, Department of Chemical Engineering	Dr. Banasri Roy, Department of Chemical Engineering	Development of different grades of PVDF hollow fiber membranes for development of in-house water filtration systems	Gujarat Fluorochemicals ltd.	8,00,000 2 Years
11	Dr. Amit Dua, CS&IS	-	Sustainable impact on education through Blockchain technology	Neblio Technologies Pvt. Ltd (CoinDCX)	10,00,000 1 Year
12	Dr. Deepak Rawtani, Department of Pharmacy, Gujarat Forensic Sciences University Gandhinagar, Gujarat	Dr. Gautam Singhvi, Department of Pharmacy	Apremilast Loaded Halloysite Nanotubes Composite Encapsulated In Electrospun Nanopatches A Novel Treatment For Psoriasis	SERB	4,95,000 3 Years
13	Dr. Syed Mohammad Zafaruddin, Department of Electrical and Electronics Engineering	-	Analytical modeling of Integrated sensing and communication for cellular IoT and In-Vivo Nano networks	SERB	6,60,000 3 Years
14	Dr. Shibasish Chowdhury, Department of Biological Sciences	Dr. Rajesh Mehrotra BITS Goa, Dr. Sandeep Sundriyal, Dr. Rajdeep Chowdhury, Dr. Surojit Pandey, Department of Biological Sciences	An in-silico and in-vitro characterization of binding affinity and internalization potential of Indian SARS-CoV-2 spike protein variants with hACE-2 and identification of potential small molecules hindering the interaction	ICMR	27,35,250 3 Years

S.No.	PI & Department	Co-PI & Department	Title of the Project	Funding Agency	Amount (INR)
15	Dr. Sudhirkumar Barai, Department of Civil Engineering	Dr. Navneet Goyal, Department of CS&IS	AI Intervened Tribal development by improving water conservation, Livelihood and health	Ministry of Tribal Affairs	1,47,39,200 3 Years
16	Dr. S. B. Singh, Department of Civil Engineering	Dr. Sudhirkumar Barai, Department of Civil Engineering	Development of functionally graded hybrid fiber rainforced polymercomposites for high strain rate and elevated temperature Aeronautical application	DRDO	12,07,800 2 Years
17	Dr. Jyoti, Department of Management	Dr. Arun Kumar, ABC-IIITM, Gwalior	Development of a Framework for Knowledge Sharing Behavior: A Case of Indian Public Funded R&D Organizations	ICSSR	6,00,000 2 Years
18	Dr. Saurabh Chadha, Department of Management	Satyendra Kumar Sharma, Department of Management	Determining short term financing for Make in India Initiative: A Case Study of Small and Medium Enterprises in Rajasthan	ICSSR	7,00,000 2 Years
19	Dr. Krishna M., Department of Economics & Finance	Satyendra Kumar Sharma, Dr. Rajan Pandey, Prof. Srikanta Routroy	Opportunities and Challenges in Enhancing Farm Income through Farmer Producer Organizations: A Case study of Rajasthan	ICSSR	7,50,000 2 Years
20	Purse Program 2020, Institute wide	-	Promotion of University Research and Scientific Excellence (PURSE)	DST	11,70,06,160 4 Years
21	Dr Ajit Pratap Singh, Department of Civil Engineering	-	Preparation of District Environmental Plan (DEMP), Dist. Churu	Dept. of Environment, Govt. of Rajasthan	9,00,000 4 Months
22	Dr Ajit Pratap Singh, Department of Civil Engineering	-	Preparation of District Environmental Plan (DEMP), Dist. Sri Ganganagar	Dept. of Environment, Govt. of Rajasthan	9,00,000 4 Months
23	Dr Ajit Pratap Singh, Department of Civil Engineering	-	Preparation of District Environmental Plan (DEMP), Dist. Bikaner	Dept. of Environment, Govt. of Rajasthan	9,00,000 4 Months
24	Dr Kamlesh Tiwari, Department of CS&IS	Dr Ashutosh Bhatia, Yashvardhan Sharma Department of CS&IS	Big Data Management and Privacy Preservation for Wearable Biosensor Data in Healthcare Monitoring Using Feature Vector Store And Federated Deep Learning	mapmyIndia	18,85,400 3 Years
25	Jyoti Pandey, Department of Electrical and Electronics Engineering	Dr. Abhijit R Asati Mentor, Department of Electrical and Electronics Engineering	Convolutional neural networks and their hardware implementation for improved performance	DST	21,81,825 3 Years
26	Dr. Sai Sesha Chalapathi Gattupalli, Department of Electrical and Electronics Engineering	-	LoRa-WSN-based IoT Communication Platform for Precision Agriculture	TIH-IOT, IIT Bombay	25,28,900 2 Years
27	Dr. K. S. Sangwan, Department of Mechanical Engineering	-	Up-gradation of new modules in the existing facilities at Joint Indo-German Experience Lab, to achieve the objective of sustainable production in context of Industry 4.0.	TUB Germany	14,30,000 3 Months
28	Dr. Praveen Goyal, Department of Management	Dr. Saurabh Chadha, Department of Management	A Study on the problems and prospects of Agro-tourism in Rajasthan State	Ch. Charan Singh National Institute of Agricultural Marketing	5,00,000 1 Year

S.No.	PI & Department	Co-PI & Department	Title of the Project	Funding Agency	Amount (INR)
29	Dr. Nirankush Dutta, Department Pilani of Management	Dr. Udayan Chanda, Department of Management	Five years of the e-NAM platform: examining factors influencing its adoption and primary usage across product categories and states	Ch. Charan Singh National Institute of Agricultural Marketing	5,00,000 1 Year
30	Dr. Vinay Chamola, Department of Electrical and Electronics Engineering	-	Design and development of Blockchain-based schemes for Roadside Unit (RSU) and Vehicular communication	DRIFE Technologies Pvt. Ltd	25,71,800 2 Years
31	Dr. Suvanjan Bhattacharya , Department of Mechanical Engineering	-	CFD Analysis for Cement Manufacturing Processes	Aditya Birla Science & Technology Company Pvt. Ltd.	10,08,000 4 Months
32	Dr. Ashutosh Bhatia, Department of CS&IS	Kamlesh Tiwari, Yashvardhan Sharma, Haribabu, Department of CS&IS	Efficient domain-specific storage and query system for High-speed IP flow analysis	DRDO	45,95,800 2 Years
33	Dr. Shashank Gupta, Department of CS&IS	Ms. Oshin Rawlley Ph.D. Student CS&IS	Development of AI-Empowered Vision-Based Driver Support System for Autonomous Vehicles	IITI DRISHTI CPS Foundation NM ICPS - Indore	14,08,960 3 Years
34	Dr. Pawan K Ajmera, Department of Electrical and Electronics Engineering	Prof. Hitesh Datt Mathur, Department of Electrical and Electronics Engineering	Hyper spectral Image analysis and Machine learning for germ detection and precision agricultural	IITI DRISHTI CPS Foundation NM ICPS	9,90,000 1 Year
35	Dr. Navneet Goyal, Department of CS&IS	-	Making data driven quality management accessible to small scale dairy cooperatives in India	VESKI Study Melbourne Research Partnerships, Govt. of Victoria, Australia	14,79,225
36	Dr. Bharti Khungar, Department of Chemistry	-	Imidazolium-based fluorescent probes for Selective Sensing of Metal Ions in Environmental Samples	SERB	29,66,832 3 Years
37	Dr. Manjuladevi V., Department of Physics	-	Electro-optic Switching Devices based on Dual Frequency Nematic Liquid Crystals	SERB	25,58,600 3 Years
38	Dr. Rajeev Taliyan, Department of Pharmacy	-	Pharmacodynamic and Pharmacokinetic comparative study of tablets vs liquid Polyherbal formulation for prevention and management of Aβ-induced AD in Rats.	Zeon Lifesciences Ltd	12,76,170 1 Year

Student round up

Chittarth Dagar Memorial Award Ceremony

After a gap of two years, the annual Chittarth Dagar memorial award ceremony was held on April 22, 2022. This award was initiated in the year 2014 by Mr. Ramesh Dagar, father of the Late Chittarth Dagar, in the fond memory of his son. The award recognizes one best-performing student who is an active member of the Gurukul Club, and one 3rd year student of Mechanical Engineering with an all-round performance in academics, leadership, and social initiatives. The rolling trophy was received by Prof. S. K. Verma, Dean Administration, Pilani Campus. This year, the award was conferred on Mr. Mitesh Katariya from Mechanical Engineering and Mr. Siddanth Barua from Gurukul. The Gurukul team presented a mesmerizing Gazal recital on the occasion.

Chittarth Dagar Memorial Performance

National Service Scheme BITS Pilani organized "Netra Suraksha Divas"

NSS BITS Pilani, one of the oldest organizations at the campus, organized a "Netra Suraksha Divas". The camp was organized at the campus by the Health and Public Awareness (HPA) Department of NSS, BITS Pilani, on March 23, 2022, in collaboration with Mahadeo Singh Hospital, Pilani. It was specifically meant for the workers.

The camp was a massive success, with 316 people being checked by the team of doctors with more than 100 spectacles and 150+ medicines being distributed. The workers with severe problems in their eyes, who could not be treated on campus, received treatment at Mahadeo Singh Hospital. It was a great pleasure for NSS BITS Pilani to collaborate with Mahadeo Hospital and their hardworking team, who ensured smooth operation and made the camp a huge success.

Netra Suraksha Divas

The 40th edition of BITS Pilani's annual technical festival, APOGEE 2022, was held during April 7 - 10, 2022. The events revolved around the theme 'THE ENCRYPTED DIMENSION' through several events, exhibitions, guest lectures, and professional shows. The inauguration ceremony was held on April 7, 2022, at the auditorium, BITS Pilani. The chief guest for the event was Dr. Ajay Kumar, Defence Secretary, Government of India, an IAS officer of the 1985 batch, and an IIT Kanpur alumni. He was appointed as the Defence Secretary in 2019.

The fest kicked off with events like Night's Watch, which lit up astronomical wonder and inquisition in all participants, Murder Mystery which pushed its participants to think out of the box and solve clues using their creativity. Glow Run, the 4 km jogging event that challenged the students to their limits, and the Mechanix workshop challenged all participants to develop creative solutions to mechanical problems.

Continuing the fest for three more days, APOGEE Hackathon, Micromouse, IEEE Hackathon, ML Codeathon, Code Charades 2.0, and RIOT STORY piqued the interest of computer whizzes and coding enthusiasts, delivering innovative solutions to everyday problems. Think Again Conclave was a three day talk and interactive series with the greatest minds of the century which featured notable speakers such as Dr. Henry Throop, Program Scientist at NASA, Mr. Jeffrey Archer, Best Selling author, Former MP, UK, Life Peer in the House of Lords, UK, Ms Nagin Cox, Spacecraft and Operations Engineer, Dr. Soumya Swaminathan, Chief Scientist, WHO and Ms. Deepa Malik, Indian Paralympian. The fest saw lively performances by bands When Chai Met Toast and Lost Stories. The N2O Comedy Night starring Aakash Gupta and Pratyush Chaubey marked the end of a very successful and magical fest on the campus of BITS Pilani.

APOGEE Performances
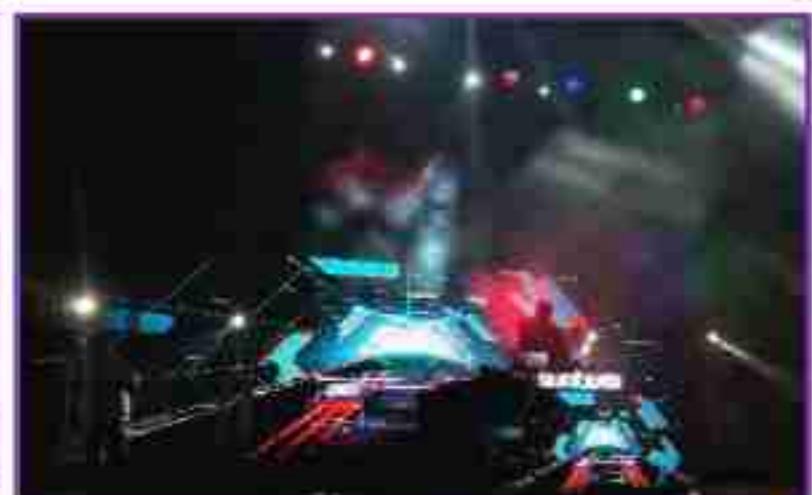
Students' Achievements

Logesh Rajendran (2020PHXF0104P) was awarded the Platinum award for academia at the CII MILCA award event held during January 27- 31, 2022.

Prakhar Gurunani (2021A2PS2620P) was selected as a contributor in Google Summer of Code (GSoC) 2022 for 52°North Spatial Information Research GmbH, Germany, for the duration May 2022 to September 2022.

Arihant Kumar Singh (2018PHXF0039P) was granted an Indian patent for "An Apparatus And A Method For Tracking Laboratory Animals" in March 2022 and received the "Science Scholar Award 2021" at the Sun Pharma Science Foundation Annual Conference held in New Delhi on April 25, 2022, for a paper titled "Drug-fatty acid conjugates in diabetes treatment: role of chain length and degree of unsaturation of fatty acids.

Arihant Kumar Singh

Neha Meena (2018PHXF0416P) received the ACS-sponsored best poster award for her work on "Mechanochemical Zinc-Mediated Hydroxyalkylation of Imidazo[1,2-a]pyridines under Ball-Milling Conditions" at the 29th CRSI - National Symposium in Chemistry, held at IISER, Mohali, India during July 7-9, 2022.

Saumitra Rai (2018A2TS0124P) secured the EES Fellowship from the CEE department at UIUC (for Master's studies) on April 5 2022, in recognition of his academic achievement and high aptitude for success in graduate study. The fellowship includes a complete waiver in tuition fees and a monthly stipend of $2284 for the duration August 2022 to July 2023. He also received the BITSAA Merit Scholarship amounting to 2500 USD for holding Department Rank 1 in Civil Engineering in January 2022 at BITS Pilani. Saumitra has coauthored a research paper with Rallapalli Srinivas and Joe Magner titled "Using fuzzy logic-based hybrid modeling to guide riparian best management practices selection in tributaries of the Minnesota River Basin", published in the Journal of Hydrology, Volume 608, February 2022. He also coauthored a paper with Ananya Jain, Rallapalli Srinivas, Riyadh I. Al-Raoush, titled "Bioinspired modeling and biogeography-based optimization of electrocoagulation parameters for enhanced heavy metal removal" published in the Journal of Cleaner Production, Volume 338, 2022.

Lakshya Jain (2020ABPS1858P), Hatim Mustafa Merchant (2020B4A11655P) and Shrish Kuthe (2020B1A11900P) secured the first place in Make the Case 2022 organized jointly by CAPP- Commitments Accelerator for Plastic Pollution, Goa Institute of Management, Ocean Recovery Alliance, and Indian Plastic Institute, held between March 2022 and April 2022. The event comprised of 3 phases of submission of case study, presentation and its publication in the journal of Indian Plastics Institute. The competition aimed to reduce plastic pollution in India and the Indian subcontinent by highlighting high-impact plastic waste solutions.

Abheek Mathur (2019A4PS0475P), Amarpal Singh Basra (2019B4A80336P), and Yoevansh Singh (2019B2A11016P) published a paper titled "Unembellised Digital Education: A Paradigm Shift of Education in India", Macmillan Education and an online publication by SSRN on February 9, 2022, and was listed on SSRN's Top Ten download list for: AARN Schools (Topic).

Srividya Gorantla (2018PHXF0414P) secured the second position at the All India Dissolution Research Presentation India (DRPI-2022) in association with the American Association of Pharmaceutical Scientists (AAPS) and APTI held during July 09-10, 2022.

Manisha Vinayak Choudhari (2019PHXF055P) secured the 3rd position in the Central east south Zone for her research on "Industrially Feasible and Scalable Approach in the Manufacture of HPMCAS-Stabilized Amorphous Solid Dispersion of Abiraterone Acetate" and became a semi-finalist at the Dissolution Research Presentation India (DRPI-2022) hosted online during July 9-10, 2022.

Krishna Veer Tiwari (2020PHXF0038P) published a research paper titled "The Impact of Productivity Improvement Approach Using Lean, Tools in an Automotive Industry" authored by Krishna Veer Tiwari and Prof Satyendra Sharma in the Journal, Process Integration and Optimization for Sustainability (Springer), on April 23, 2022. He also presented a research paper, "A Review of Evolution of the Last-Mile Delivery" authored by Krishna Veer Tiwari, Prof. Leela Rani & Prof. Satyendra Sharma in CERE 2022 at IIM Indore on June 4, 2022.

Anupama (2021PHXF0021P) received the Best Paper Award at the Third International Conference on Advances in Distributed Computing and Machine learning on January 15, 2022, at the National Institute of Technology, Warangal. She also contributed a book chapter published in Advances in Distributed Computing and Machine Learning (Springer Nature).

Introducing new faculty

S.No	Full Name	Designation	Department
1	Asish Bera	Assistant Professor	Computer Science and Information Systems
2	Avik Kumar Pati	Assistant Professor	Chemistry
3	Debi Prasad Bal	Assistant Professor	Economics and Finance
4	Deepak Sharma	Assistant Professor	Management
5	Jay Pandey	Assistant Professor	Chemical Engineering
6	Mohit Garg	Assistant Professor	Chemical Engineering
7	Pritam Kumar Jana	Assistant Professor	Chemistry
8	Rahul Kumar	Assistant Professor	Mathematics
9	Satyajit Patra	Assistant Professor	Chemistry
10	Soumyajit Roy	Assistant Professor	Mechanical Engineering

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2021H1540803P

Rajkishore S V
2022H1540802P

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Prof. Gajendra Singh Chauhan
Faculty In-charge,
Publications and Media Relations

Mr. Ramesh Sharma
Publications and Media Relations

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