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Semester-II notes 2020-21

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Pilani Campus



Editorial

Continuing the journey of commitment toward excellence, the second semester 2020-21, sailed through the challenging second wave of pandemic with achieving some significant milestones. To fight the upsurge of pandemic, BITS alumni came forward with tremendous support for Pilani community, funds being raised for daily wagers, and life-saving equipment such as concentrators, ventilators, and an oxygen plant installed at the Birla Sarvajanic Hospital, Pilani.

With great enthusiasm, Pilani campus celebrated the Republic Day, Founder's Day, Basant Book Festival and the World Book and Copyright Day. The Prestigious Informatics Innovation Award 2021 bagged by the BITS library, an upcoming Augmented Reality/Virtual Reality Lab with an alumnus support, and a two-day vaccination camp are some of the highlights of the semester.

A number of virtual conferences/symposium/workshops of contemporary importance were organized during the semester such as "5G and Beyond Communications: Key Technologies and Role of AI" and "Energy Management in Smart Cities" by the Department of Electrical and Electronics Engineering, "Recent Advancement on Data Envelopment Analysis and Applications (IWRADAA-2021)" by the Department of Mathematics, and Alumni Webinar Series on "Business Analytics" by the Department of Management. Pandemic did not deter the enthusiasm of faculty members and researchers. They actively participated in conferences and collaborative initiatives worldwide.

Several prestigious awards and accolades received by many faculty members for their outstanding contributions in teaching and research made BITS Pilani proud. Also, a large number of sponsored research projects from agencies like ICSSR, DST, SERB, SERB-POWER, DBT, Sun Pharmaceuticals, ICMR, CSIR, DRDO, Google Asia Pacific Pte. Ltd. etc. certainly set an inspiring benchmark.

Students' participation in various competitive events and involvement in initiatives for social cause, despite turbulent times, deserve applause. They won several fellowships and awards of international repute. Yuvaspark, a non-profit organization, run by a student, received appreciation from the Government of India for its exemplary work for the welfare of the people of India during COVID-19 pandemic. Nirmaan, a BITSIAN-run NGO, worked hand-in-hand with BITS alumni to support and establish medical infrastructure in Pilani together with BITS NSS volunteers.

Overall, this online semester exhibited a jubilant spirit excelling in academia and research and serving humanity in the difficult times of pandemic.

Our seamless journey in pursuit of excellence will continue...

Augmented Reality/Virtual Reality Lab at Pilani campus



An alumnus, Chaitanya Kalipatnapu, 1997-2001, M.Sc. (Tech) Information Systems, BITS Pilani, Pilani campus has pledged a substantial contribution toward building an Augmented Reality/Virtual Reality Lab. The AR/VR Lab would be set up in the upcoming 20,000 sq ft. dedicated Incubation and Innovation Centre at Pilani, and envisions to

make BITS Pilani a leading innovator in AR/VR solutions. The lab will work on a beginner-to-expert mode by welcoming students and faculty keen to explore the AR/VR tools, and prove to be a catalyst for AR/VR based ventures across sectors, with focus on education, healthcare, and engineering applications. Chaitanya, Co-founder of the Eruditus Executive Education, said, "BITS has played a pivotal role in shaping my outlook and opportunities. It is a privilege to be able to give back to the alma mater." He also said that, "The state-of-the-art lab will enable students to get hands-on experience with

emerging technologies, and to positively impact our future through projects, patents and ventures."

Prof Souvik Bhattacharyya, Vice-Chancellor, BITS Pilani stated, "The AR/VR Lab to be set up by the gracious donation by Chaitanya, will give a big boost to the robust culture of entrepreneurship and innovation at BITS Pilani. We have just scratched the surface when it comes to AR-VR-XR solutions and applications, and there are immense possibilities of their adoption across industries including EdTech. I urge our alumni and corporate organizations to partner with the lab, and help build the future with us."

Prof Arya Kumar, Dean, Alumni Relations, said, "We are grateful to Chaitanya for his contribution to the alma mater, and his shared vision to build an excellent AR/VR lab in India. The establishment of the lab is only the beginning, and we will continue to grow this lab to be at the forefront of AR-VR-XR innovations."

The Lab is expected to be operational in near future, and will be open for partnerships to creators & innovators, alumni, corporate organizations, and AR/VR based startups.

Indian Coding Workshop for KIDS (ICWK-2021)

The "Indian Coding Workshop for KIDS (ICWK-2021)", organized by the Teaching Learning Centre (TLC), BITS Pilani, Pilani campus, was held during January 4-10, 2021. The workshop was conducted for the 6th to 9th standard students. In total, 80 students from all over India joined the workshop as participants. Several theoretical and practical sessions were conducted by various professors from the Department of Computer Science and Information System (CSIS) to cover multiple aspects of effective coding skills to help school kids learn coding skills through experiments and strengthen their brains.

The welcome address was given by Prof Pushp Lata, Faculty In-charge, TLC. She talked about the genesis of conducting the ICWK-2021 workshop and how it is an effort by BITS Pilani to achieve the goals of New Education Policy (NEP). Prof Sudhirkumar Barai, Director, Pilani campus, addressed the kids and explained how not knowing the coding would be another form of illiteracy, known as digital illiteracy in the future. Dr Tamali Bhattacharyya, one of the coordinators of the workshop, discussed the importance of coding from NEP perspective. She showed some interesting videos to motivate students towards learning programming. Dr Ashutosh Bhatia, coordinator of the workshop, talked about the importance of having coding skills. Thereafter, a theoretical session on how a computer's internal components work, along with an introduction of algorithm and flow charts, and a training session on C programming basics were conducted by Prof J. P. Mishra.

Indian Coding Workshop for KIDS (ICWK-2021)



BITS Pilani, Pilani campus

72nd Republic Day Celebrations

The 72nd Republic Day was celebrated in BITS Pilani, Pilani campus. 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, also graced the event. Prof S.K. Verma, Dean Administration, many faculty members and students, attended the programme. Chief Security Officer Mr. Kishore Singh 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 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. Palak Sangal. The programme ended with the national anthem. The event was coordinated by Prof Shilpi Garg, Faculty In-charge, Institute Functions.

72nd Republic Day Celebrations



Virtual Symposium on RF and Microwave Propagation

The Department of Electrical and Electronics Engineering, BITS Pilani, Pilani campus initiated a virtual symposium series to overcome hurdles created by pandemic over learning. The virtual symposium series is envisioned to allow students, scholars and faculty members to interact with distinguished scientists and subject experts online. More than 300 participants from across India and neighboring countries registered with the symposium within a week of its announcement. The first symposium of the series on RF and Microwave Propagation was organized on January 30, 2021. It brought four young eminent scientists on one online conferencing platform to share their experiences, case studies and deliver talks on their areas of expertise. The invited speakers were Dr. Debdeep Sarkar, IISc, Bengaluru, Dr. Satyajit Chakrabarti, SAMEER, Kolkata, Dr. Ayan Kumar Bandyopadhyay, CSIR-CEERI, Pilani and Dr. Ashutosh Kedar, LRDE, Bengaluru.

The inauguration commenced with a formal welcome by the coordinator Prof Rahul Singhal. Prof H.D. Mathur, Head, Department of Electrical and Electronics Engineering, Pilani campus introduced the department's achievements and vision towards virtual symposium series. Chief Guest on this

occasion, Prof Sudhirkumar Barai, Director, Pilani campus discussed the significance of virtual events and appreciated speakers for sharing their expertise. Guest of Honor on the day, Prof Chandra Shekhar, Chancellor AcSIR and Professor Emeritus, BITS Pilani, Pilani campus elaborated on the role of radio frequency and microwave transmission in our daily lives and appreciated department's efforts towards symposium series. The symposium was technically supported by IEEE Rajasthan Subsection and IEEE APS Chapter, Jaipur.

Virtual Symposium, EEE



Symposium covered details on microstrip antenna miniaturization as well as technology employed in MIMO antennas and antenna arrays, with an overview on 5G technologies and beyond. The symposium gave the required momentum and inspiration to all the enthusiastic participants to find solutions for the engineering problems.

About 150 students, faculties, staff and their families enjoyed the live streaming of the event. At this occasion, 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 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. Undoubtedly, the event was filled with joyful moments and kindled the sense of belonging to the Institute.

Founder's Day Events



Founder's Day

With great passion and enthusiasm, BITS Pilani celebrated its 70th Founder's Day on February 16, 2021 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 celebrated as Founder's Day every year. The celebrations spanned over the entire day, with virtual participation of a large number of students and faculty members.

In the morning, Prof Souvik Bhattacharyya, Vice chancellor, BITS Pilani, Prof Sudhirkumar Barai, Director, Pilani campus, Prof S.K. Verma, Dean Administration, 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 Thyagaraja Aradhana Program by Ragamalika student association group, where many students recited beautiful classical Kritis originally composed by saint Thyagaraja. A grand cultural event was organized in the central auditorium in the evening with lighting of the traditional lamp followed by Saraswati Vandana. There were various dance and musical performances by students belonging to seventeen regional associations, exhibiting the cultural diversity of different states of India.

BITS Library, Pilani won the Prestigious Informatics Innovation Award 2021

The BITS Library, Pilani won the prestigious Informatics Innovation Award 2021 under Universities and Research Institutions Category. It was announced by Prof V.N. Rajasekharan Pillai, former Chairman of UGC, former Director of NAAC and the present Vice Chancellor of Somaiya Vidyavihar University, Mumbai during the International Library Technology Conclave 2021 (LTC 2021). The award was given in recognition of the excellent service provided by the library in developing the Innovation Zone and MakerSpace under the leadership of Mr Giridhar Kunkur, the Librarian with a support from Srishtaara Team, a creative students' club. The club is constituted by the library consisting of 15 students from various disciplines to support creative and innovative activities on the campus. Mr Kunkur informed that the nominations for the Innovation Award were invited from universities and research institutions from all over India. The selection of the nominees was based on the benchmark set by a team of juries for the best innovation in Library and Information Science.

Basant Book Festival

A popular annual Basant Book Festival of BITS Pilani's library was held during February 11-17, 2021 through virtual mode. Ten leading booksellers and publishers put up their virtual stalls in this event giving opportunity to faculty members, research scholars, students and staff recommend books for the library and purchase them for personal use from the comfort of their homes and offices.

Virtual Symposium on 5G and Beyond Communications: Key Technologies and Role of AI

The Department of Electrical and Electronics Engineering, BITS Pilani, Pilani campus organized a virtual symposium on the theme "5G and Beyond Communications: Key Technologies and Role of AI", on March 20, 2021. The event saw experts from industry and academia share their expertise and views on 5G and beyond 5G/6G communications, relevant technologies for India, and the role of AI. The symposium kick-started an early discussion and ideation on the research towards B5G and 6G communications and its relevance to India. The event saw stimulating discussion, participation from around the globe, and received a very encouraging feedback.

The symposium was inaugurated by Prof Sudhirkumar Barai, Director, Pilani campus. The coordinator Dr Sandeep Joshi, Department of Electrical and Electronics Engineering introduced the theme of the symposium. A historical context of the journey of wireless communications was presented by Prof Chandra Shekhar, Senior Professor Emeritus Department of Electrical and Electronics Engineering and Chancellor,

Academy of Scientific and Innovative Research (AcSIR), followed by a welcome of the speakers on behalf of the EEE Department by Prof S. Gurunaranayan, Dean Work Integrated Learning Programmes Division, BITS Pilani. The overview of the department was given by Prof H.D. Mathur, Head, Department of Electrical and Electronics Engineering, under whose able guidance the symposium was organized.

The speakers of the event, Prof K. Giridhar, Department of EE, IIT Madras, Mr. Ratnakar Rao, Senior Director, Engineering, Samsung R&D Bangalore, Mr. Subhas Mondal, Wipro Fellow and Chief Architect-5G, IEEE SA Board of Governors Member-at-Large, Vice Chair IEEE Communications Society, Bangalore, presented their talk focusing on Beyond 5G technology, its relevance and the scope of AI. Mr. Rohit Pandey, Senior System Design Engineer/Architect at Hughes Gurgaon and Mr. Pavan Kaivaram, Principal Engineer, Systems Group, Qualcomm Inc., Hyderabad talked about the AI based radio propagation modeling and the role of AI in 5G standardization landscape.

The key takeaways for the researchers were to provide solutions using beyond 5G and 6G research with the main aim to connect the unconnected and the significant role of AI in future wireless networks improving energy consumption and implementation complexities.

Alumni Webinar Series on "Business Analytics"

The Department of Management hosted an Alumni Webinar series on "Business Analytics" in collaboration with the Alumni Relations Office and BITSAA Silicon Valley Chapter from March 23- May 29, 2021. The series was a part of the BITSAA Propel, an initiative by alumni to provide additional opportunities by bringing the latest industry and research trends to the students. BITS alumni who are currently working in top-notch technology firms globally as Google, Amazon, Microsoft, etc. were the speakers in this series and more than 100 students participated in the webinars.

Alumni Webinar Series



International Virtual Workshop on Energy Management in Smart Cities

The Department of Electrical and Electronics Engineering, BITS Pilani, Pilani campus in collaboration with Centralesupelec, France organized a two-day international virtual workshop on "Energy Management in Smart Cities" during March 25-26, 2021, which witnessed an active participation of more than 600 academicians and scholars across the globe. The workshop was supported by Scheme for Promotion of Academic and Research Collaboration (SPARC), Ministry of Education, Government of India. The inaugural-cum-introductory session of the workshop held on March 25, 2021 was graced by Prof Sudhirkumar Barai, Director, Pilani campus and Prof Chandrasekhar, Chancellor, Academy of Scientific and Innovative Research. As a convener, Prof H. D. Mathur, Head, Department of EEE, apprised the audience about the theme of workshop and its significance for the global society.

International Virtual Workshop, EEE



The Chief Guest Mr. Rahul Kapoor, Director, Smart Cities Mission, Ministry of Housing and Urban Affairs, Govt. of India threw light on India's Smart Cities Mission, and urbanization as a multi-sectoral approach dealing with a range of issues like energy efficiency, metering, green technology, renewable, and e-mobility. The speakers Prof Romeo Ortega, National Autonomous University of Mexico, Prof Saikat Chakrabarti, IIT Kanpur, Prof Guillaume Sandou from L2S Laboratory, CentraleSupélec, France, Prof Akshay Rathore, Concordia University, Canada delivered their talks on the effective use of Phasor Measurement Units (PMUs) and identifying challenges and key solutions for efficient energy management system for zero carbon smart cities. Prof Espinosa Gerardo, National Autonomous University of Mexico, Prof Annirudh Desai, La Trobe University, Australia, and Prof H.D. Mathur, BITS Pilani and Principal Investigator of this project, expressed their views on the energy management for smart cities, challenges and opportunities particularly with Connected and Autonomous Vehicles (CAVs), and distributed energy resource management. Prof Johannes Schiffer, Brandenburgische

Technische Universität Cottbus-Senftenberg, Germany and Prof Alessio Iovine, CentraleSupélec, France also expressed their views on efficient energy management.

The event ended with a vote of thanks delivered by Prof G.S. Chauhan, Co-convener of the workshop, with key takeaways for the researchers to look at the problems in the context of sustainable smart cities and energy management and provide effective solutions to meet the increasing energy needs of the present and future cities.

Virtual Symposium on Recent Technological Advancement in Semiconductor Materials, Devices and Applications: A Step Towards Atma Nirbhar Bharat

The Department of Electrical and Electronics Engineering, BITS Pilani, Pilani campus sponsored and organized a one-day virtual symposium on "Recent Technological Advancement in Wide/Ultra-wide Bandgap Semiconductor Materials, Devices and Applications: A Step Towards Atma Nirbhar Bharat" on April 10, 2021. The inaugural-cum-introductory session of the symposium was graced by the presence of Prof Sudhirkumar Barai, Director, Pilani campus and Prof Chandrasekhar, Chancellor of the Academy of Scientific and Innovative Research and Dr. D.S. Rawal, Associate Director, SSPL New Delhi. The Convener, Prof Dheerendra Singh, Department of EEE, BITS Pilani apprised the audience about the symposium theme and its significance for the global society.

Virtual Symposium, EEE



The chief guest Dr. D.S. Rawal, Associate Director, SSPL, New Delhi, threw light on India's stand in the area of wide/ultra-wide bandgap semiconductor materials and devices fabrication and utilization. He talked about various initiatives taken by the Govt in order to make country self-reliant for the development and deployment of such devices. The speakers Prof Sriram Krishnamoorthy, Electrical and Computer Engineering, The University of Utah, Prof Ramesh Chandra, IIT Roorkee, Prof Satyabrata Jit, IIT Varanasi, Dr. Digbijoy N. Nath from IISc Bangalore and Dr. Sudipto Bhattacharya,

Scientist E, Research and Innovation Center, a DRDO unit), IIT Madras Research Park talked about various issues such as gallium oxide based device fabrication and challenges, need for energy storage devices on low dimensional materials, designing and fabrication issues related with GaN based HEMT for power electronics and Ga₂O₃ based devices for high power switching application.

Dr Satyendra Kumar Mourya, Department of Electrical and Electronics Engineering, Pilani campus gave an overview on the need of wide/ultra-wide bandgap semiconductors in modern day technology and his work on the design and development of SiC based devices for extreme environment electronics. The event ended with a vote of thanks delivered by Prof H.D. Mathur, Head, Department of Electrical and Electronics Engineering. The efforts of the organizing committee members especially that of Dr Satyendra Kumar Mourya and Dr Aditya R. Gautam, Coordinator and Co-coordinator of the symposium respectively were appreciated for making the event a great success.

The World Book and Copyright Day Webinar

The BITS Pilani Library in collaboration with Birla Balika Vidyapeeth and Birla Shishu Vihar, celebrated the World Book and Copyright Day on April 23, 2021 by organizing a webinar on: "5 Best Things I Learnt During Covid 19 Pandemic". Mr. Giridhar Kunkur, Librarian, BITS Pilani, Pilani campus formally commenced the event by stating the importance of World Book day and how BITS Pilani library, over the years, has encouraged the practice of reading and writing through multiple events. The Chief Guest, Prof Sudhirkumar Barai, Director, Pilani campus encouraged and appreciated the 10 invited students in the age group 9-12 from Birla Balika Vidyapeeth and Birla Shishu Vihar. Prof Barai's address highlighted the importance of books, reading and inculcating discipline within ourselves, especially during the pandemic. The panelists for the webinar were Prof Pushp Lata, Department of Humanities and Social Sciences, Dr Seema Sinha, Bursar from Birla Balika Vidyapeeth (BBVP) and Mrs Jyotsana Sharma from Birla Shishu Vihar (BSV). While Dr Sinha brilliantly moderated the session, she also emphasized how we, as human beings, are responsible to care for nature and our planet, and how one must always imbibe the attribute of kindness.

The ten exceptional speakers shared their experiences during the pandemic and how they used the opportunity to hone their skills and engage in activities that could help society.

The speakers Aarush Datta Class 5, BSV, Aranya Pareek and Shifa Zafar from Class 7, Karthik Kumar BSV, Shreya Taliyan class 5 BSV, Namya Gupta class 8 BSV, Abhoday Bandi Class

7, BSV, Aarohi Rana Class 7, BBVP, Vihan Vaidya Class 5, BSV, Shristhti Mishra Class 7, BBVP highlighted the importance of physical and mental well-being, taking care of ourselves and our surroundings, books, creativity, developing good habits, health, hygiene and staying motivated.

Prof Pushp Lata appreciated the inspiring young speakers with kind and encouraging words. Mrs Jyotsana Sharma from BSV emphasized that during these testing times, one must show resilience and promote the advancement of digital infrastructure. The webinar ended with a vote of thanks by Dr. Ishappa Bandi, Deputy Librarian, BITS Pilani, Pilani campus, and with Prof Sudhirkumar Barai and Mr Kunkur agreeing that the webinar will be documented digitally and made accessible on the virtual space.

The World Book and Copyright Day



Two-day COVID-19 Vaccination Camp

A two-day COVID-19 vaccination camp was organized by BITS Pilani, Pilani campus in coordination with Medanta - Medicity, Gurugram. While inaugurating the camp, Prof Sudhirkumar Barai, Director, Pilani campus stressed the necessity of vaccine to safeguard the society and urged everyone to get vaccinated.

COVID-19 Vaccination Camp



The camp was held for two days during June 22-23, 2021 for all the residents of the campus including faculty members, students, administrative staff, family members, housemaids and mess-workers. More than 550 people were vaccinated during the camp. Prof S.K. Verma, Dean Administration,

Prof Srikanta Routroy, Associate Dean, Student Welfare Division, Prof V.S. Nirban, Public Relation officer, Prof Navin Singh, Chief Warden, Dr. Bibin Chandra, Medical Officer, Prof Pankaj Sharma, Mr. Arvind Soundarajan, the HR Manager and Mr. Kishore Singh, Chief Security Officer were present at the inaugural event.

Two-day International Workshop IWRADDEAA-2021

The Department of Mathematics, Pilani campus conducted an International Workshop on "Recent Advancement on Data Envelopment Analysis and Applications (IWRADDEAA-2021)" during July 10-11, 2021 in online mode. A total of 130 national and international students/research scholars/faculty members participated in the workshop. In 4 academic sessions conducted during two days, 9 eminent speakers of international repute including 2 from USA (Prof Subhash Ray, University of Connecticut and Prof D. Khezrimotlagh, Penn State University), 2 from UK (Prof Ram Ramanathan, University of Bedfordshire and Prof V. Charlse, Anthrolytics Ltd.) and 5 from India (Prof S. P. Yadav & Prof S.P. Singh, IIT Roorkee, Prof Sunil Kumar, South Asian University New Delhi, Prof Sanjeet Singh, IIM Lucknow and Prof Aparna Mehra, IIT Delhi) delivered talks on various topics of DEA. In the inaugural session, Prof Sudhirkumar Barai, Director, Pilani campus welcomed the experts and participants, Prof Devendra Kumar, Head, Department of Mathematics explained about various activities of the department and Prof Shivi Agarwal, the Convener of the workshop enlightened the importance of DEA and Prof Trilok Mathur, organizing secretary of the workshop proposed a vote of thanks in the valedictory session.

International Workshop IWRADDEAA-2021



BITS Alumni Support Pilani Community Fight COVID

It is common for alumni to help their alma mater, but BITS alumni have set a distinct example to help out the community beyond their campus walls. When Pilani community needed to fight against Covid-19, BITS alumni stepped in a big way by setting up life-saving equipment such as concentrators, ventilators, and an entire oxygen plant, at the Birla Sarvajnik

Hospital, Pilani and raising critical funds for supporting daily wagers. Some of the notable initiatives undertaken by alumni for improving health-related services are:

- **Setting up oxygen plant by 1975 Batch Trust** – The oxygen plant, operational since August 2021, will make the hospital self-sufficient in terms of much needed oxygen for its critical patients. The trust also supported by donating two ventilators to the hospital.
- **Ventilators by Norton Kothari (1964 Batch)** – Norton Kothari, along with Trillion Health Partners Foundation, Canada donated 2 life-saving ventilators to the hospital. Kothari also donated several concentrators, ventilators and other medical equipment and funded for setting up 3 Oxygen plants in Community Health Centres in Churu district of Rajasthan and another 2 plants in Civil Hospitals in Assam through donations of more than Rs 2.50 Crore.
- **BITS Pilani 1964-69 Batch** – The 1964-69 batch technocrats in collaboration with an NGO of Jaipur I-India, served poor and marginalized slum street population economically affected by COVID -19 by providing 1000 kits of ration.
- **Oxygen Concentrators by BITSAA Jaipur Chapter** – The chapter was able to procure and provide several oxygen concentrators at a short notice, bringing relief and saving a number of lives in the deadly second wave during April-June period in Jaipur and Pilani. Several alumni associated with the chapter collected the requisite funds in a matter of 3-4 days.
- **Oxygen Concentrators and other equipment by Pilani Atmanirbhar Centre (PARC), set up by 1975-80 batch of alumni** – PARC, which provides livelihood, healthcare, and education related service to the Pilani community provided oxygen concentrators to Birla Sarvajnik Hospital and supported Pilani's Primary Health Care (PHC) centre, the only government healthcare facility, and few other hospitals during second wave of pandemic when there was a dire need for oxygen across the country.

Prof R.N. Saha, Acting Vice-Chancellor, BITS Pilani admired the various initiatives taken up by BITS alumni to respond to the challenges posed by COVID-19 and appreciated the efforts put in to upgrade the facilities in Birla Sarvajnik Hospital to take care of Covid patients. Prof Sudhirkumar Barai, Director, Pilani campus and Prof Arya Kumar, Dean Alumni Relations added that "BITS alumni were involved in relief work throughout India. Countless volunteers ran helplines to provide accurate information regarding plasma donors, medicines, and hospital beds. A lot of alumni formed

groups and actively participated in volunteering work and raising funds for their respective districts and states".

BITS Alumni Support Pili Community



An alumni couple Prashanth and Anuradha Palakurthi organized a live online musical event for fundraising called Vax India Now-Covid relief initiative for India. The event featured impressive lineup of singers and musicians. BITS alumni took up multiple initiatives across the country including serving ration kits for over 15 months to daily wagers in and around the campus.

At the commissioning of the ventilators received from BITS alumni, Dr. R.K. Jain, Chief Medical Officer of Birla Sarvajani Hospital said, "We are thankful to BITS Alumni for extending multiple support including ventilators to our hospital. This gesture will definitely help us in providing better services to the patients at our hospital".

Academia: a confluence of ideas

Seminars/Conferences/Workshops/ Training Programs

Enriching the Learning Experience: Visits by Faculty

Prof Shamsheer Bahadur Singh, Department of Civil Engineering, attended the 5th Brazilian Conference on Composite Materials-BCCM 5 Sao Carlos School of Engineering, University of São Paulo during January 18- 22, 2021.

Prof Kamalesh Kumar, Department of Civil Engineering, attended a virtual conference on "Disaster Risk Reduction - Civil Engineering for a Disaster Resilient Society", organized by NITK and NIDM during March 15-20, 2021.

Dr Anupam Yadav, Department of Humanities and Social Sciences, attended an International Philosophical Congress 2021: Roman Ingarden and Our Times and presented a paper "We-Identity and the Questions of Knowledge" at Jagiellonian University, Krakow, Poland during 12-15 April, 2021.

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, presented a paper "Preserving Biodiversity: An Initiative to save the National Bird of India" at the 14th Global Studies Conference, Concordia University, Canada during June 4-6, 2021.

Prof Sailaja Nandigama, Department of Humanities and Social Sciences, presented a paper "Forest Governance and Community Participation in India: Role of the Individual and the Collective Forest Rights" at the Association for Environmental Studies and Sciences (AESS), USA Annual Conference (online) 2021, held during June 28 to July 1, 2021. She also presented a paper "Equitable Development and Environmental Justice in Flux: A case of the Collective and the individual Forest Rights among the Forest Dependent Communities of India" at the Annual Conference (online) of Development Studies Association, UK at the University of East Anglia, UK during June 28 to July 2, 2021. She also presented a paper "Re-examining Gender within Research, Policy and Practice: Gender Dynamics in the Gaddi Pastoralist Community of India" as a co-author in the same conference.

Dr Tribeni Roy, Dr Radha Raman Mishra and Dr Divyansh Patel, Department of Mechanical Engineering, conducted an online Faculty Development Program sponsored by AICTE under the ATAL academy in the thrust area of 3D printing and design titled "Manufacturing: Hindsight to Foresight" during July 16-20, 2021.

Prof Shamsheer Bahadur Singh, Department of Civil Engineering, was the Coordinator of AICTE Training and Learning (ATAL) Faculty Development Program on "Analysis and Design of FRP Reinforced Concrete Structures" during July 25-29, 2021 and also that of Partnership 2020:US-India Higher Education Cooperation Workshop on "Bio-Based Fiber Reinforced Polymer Composites for Civil Engineering Infrastructure" held on July 29, 2021.

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, was invited as a chief guest and speaker at the FDP "Subject specific Faculty Development Program in English" at the Govt. Dungar College, Bikaner in association with Directorate College Education, Jaipur held on February 20, 2021. She spoke on "English Studies: Technology in Teaching and Research".

Accolades and Achievements: Academic attainments of faculty

Prof Navneet Gupta, Department of Electrical and Electronics Engineering has been conferred upon the "Outstanding Engineering Services to Society Award" by The Institution of Engineers (India), Rajasthan State Centre, Jaipur. Er. Sajjan Singh Yadav, Chairman of IE (I), Rajasthan State Centre presented this award to Dr. Gupta in Individual category for his remarkable contribution in teaching and research in the field of Electrical & Electronics Engineering. The award ceremony was held on January 26, 2021.



Dr Tribeni Roy, Department of Mechanical Engineering received an invited position as a Visiting Academic, School of Engineering, London South Bank University, United Kingdom since February 1, 2021.

Dr Vinay Chamola, Department of Electrical & Electronics Engineering and a team of students comprising Mr. Utkarsh Dwivedi and Mr. Aswin B. led by him received the 3rd Prize in the International BCI Competition at the 9th International Winter Conference on Brain-Computer Interface held in South Korea during February 22-24, 2021. Dr Chamola has



also been elected as an Associate Editor of the IEEE Internet of Things Magazine and the IEEE Networking Letters.

Prof Shamsher Bahadur Singh, Department of Civil Engineering, has been honored with "Bharat Shiksha Gaurav Puraskar and Certificate of Excellence" by KTK Outstanding Achievers and Education Foundation, New Delhi on February 28, 2021.



AIMS International Awards

AIMS International (Association of Indian Management Scholars, International USA), whose vision is to be an active participant in the development of a globally competitive India recognizes individuals as well as institutes for their outstanding work related to research, teaching, and administration through various awards. Prof Omprakash K. Gupta, President, AIMS International announced the winners of this year's prestigious AIMS International Awards during the 18th AIMS International Conference on Management organized by AIMS International and Jaipuria Institute of Management on March 5, 2021. The following two faculty members and the librarian received the prestigious AIMS International Awards 2020.

- **Prof Sangeeta Sharma, Department of Humanities and Social Sciences**, received AIMS-Jaipuria Outstanding Woman Management Teacher Award for the year 2020 in recognition of her contribution to Management Teaching.
- **Prof Udayan Chanda, Department of Management**, received the AIMS-Jaipuria Outstanding Management Researcher Award for the year 2020 in recognition of his contribution to management research.

- **Mr. Giridhar M. Kunkur, Librarian**, Pilani campus, received AIMS International Outstanding Management Librarian Award for the year 2020 in recognition of his significant contribution to management education at knowledge centers.

Prof Poonam Goyal, Department of Computer Science & Information Systems, has been recognized by "India AI" (a Govt. body, an initiative of MEITY, NeGD, and NASSCOM) as one of the 8 powerful and talented women who are making their mark in academic research areas of AI in the country. She specializes in Big Data Analytics, High Performance Computing, Multimedia Retrieval, Knowledge Graphs, NLP, & Multimodal Learning. The announcement was made by India-AI on International Women's day, March 8, 2021. Prof Goyal is also a recipient of the Google Impact Scholar Award, announced on May 26, 2021, under their "AI for Social Good" initiative for the project titled "Collating & Analyzing Multi-modal, Multi-lingual data for reducing Wildlife Crime". It is one of the 30 projects selected globally for funding by Google Research. The award money was USD \$10,000.

Dr Bansari Roy, Department of Chemical Engineering received a SERB-Power Fellowship on March 20, 2021. SERB has instituted SERB-POWER (Promoting Opportunities For Women in Exploratory Research) Fellowship to recognize and reward outstanding women researchers and innovators working in Indian academic institutions and R&D Laboratories. SERB Power Fellowship is an initiative for empowering Indian women researchers in Science, Technology and Innovation (STI).

Dr Rita Sharma, Department of Biological Sciences has joined the editorial board of Plant Biotechnology (specialty section of Frontiers in Bioengineering and Biotechnology and Frontiers in Plant Science) as Associate Editor on April 30, 2021. She was also invited to chair a session on plant biotechnology during an International Virtual Conference on "Synthetic Biology and Biotechnology (SBB) 2021" by SynBio and Akademisi, Indonesia, organized during May 29-31, 2021.

Prof Sailaja Nandigama, Department of Humanities and Social Sciences, initiated an International Academic Research Collaboration with Hiroshima University & HSS, BITS Pilani, Pilani (ongoing). In January 2021, She was invited by Prof Niraj Prakash Joshi from Hiroshima University, Japan to initiate this international academic research collaboration under the aegis of the Japan-India

International Linkage Degree Program (ILDLP). Besides, Prof Nandigama has won the 2021 Board of Directors elections conducted by the Association for Environmental Studies and Sciences (AESS), USA, and is elected as a board member of AESS for a period of two years from July 2021.

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, published two books: Advertising: Planning and Implementation, Third Edition Prentice Hall India: New Delhi, 2021 and BITS Pilani: Journey from Pathashala to an Institute of Eminence, Macmillan, New Delhi 2021.

Invited Lectures/Talks by Faculty

1. **Prof Sailaja Nandigama, Department of Humanities and Social Sciences**, was invited to deliver the 168th TAOYAKA seminar at Hiroshima University, Japan. She delivered a talk on "Forest Governance and Community Participation in India: Role of the Individual and the Collective Forest Rights" on February 19, 2021. She also delivered a keynote lecture on "Climate change and family/small farm in India", on March 15, 2021 at Hiroshima University, Japan.
2. **Dr Rita Sharma, Department of Biological Sciences** delivered a talk and conducted a hands-on workshop on RNA Sequencing Data Analysis at "Workshop on Omics Data Analysis" organized by IIIT, Noida in online mode during April 16-17, 2021.
3. **Prof Sangeeta Sharma, Department of Humanities and Social Sciences**, delivered a lecture on "Interview and Resume building" at MNIT Jaipur on March 9, 2021 and delivered another lecture on "Monitoring Human Values and Ethics" at five-day FDP on "Inculcating Human Values and Professional Ethics in Students" at Amity University, Noida on May 12, 2021.
4. **Dr Tribeni Roy, Department of Mechanical Engineering** delivered a talk on "Need of mentoring and counselling of students in technical education" in the AICTE-ISTE Refresher Program on "Learner Oriented Teaching Methods" at IPS College of Technology and Management, Gwalior, India (via webinar) on April 12, 2021 and delivered a talk on "Multiscale modelling of manufacturing processes" in

the AICTE-ISTE sponsored online Induction/ Refresher program on "Sustainable Product Design and Manufacturing" at Shri Mata Vaishno Devi University, Katra, Jammu and Kashmir, India, (via webinar), on May 27, 2021. She also delivered a talk on "Multiscale Modelling of Micro/Nano Machining processes" in one week STTP on "Advances in Materials and Manufacturing Techniques" at ADCET Maharashtra, India (via webinar) on July 3, 2021.

5. **Dr Vinay Chamola, Department of Electrical & Electronics Engineering** gave a talk on "Service provisioning for the Upcoming Intelligent Transportation Systems" at the ILDP-START Plus program organized by Hiroshima University, Japan on July 13, 2021.
6. **Prof Devendra Kumar, Department of Mathematics**, delivered a talk on "The Regular and Singular Perturbations" at Teerthanker Mahaveer University, Moradabad, on July 24, 2021.
7. **Prof Raj Kumar Gupta, Department of Physics**, delivered distinguished lectures on "Surface Plasmon Resonance: Sensing and Beyond" in a Web-colloquium on Light-Matter Interaction at Nano Scale, organized by KSCSTE- Srinivasa Ramanujan Institute for Basic Sciences, Kottayam & Centre for Materials for Electronics Technology (C-MET), Thrissur from July 22-25, 2021
8. **Prof Shamsheer Bahadur Singh, Department of Civil Engineering**, delivered lectures for 4-sessions

at 5-day AICTE Training and Learning (ATAL) Faculty Development Program (FDP) during July 25-29, 2021. The topic of the Workshop was "Analysis and Design of FRP Reinforced Concrete Structures". He also delivered an invited lecture on "Engineered cementitious composites for Sustainable Construction", at Faculty Development Program on "Sustainable Construction Technology held during July 26-30, 2021.

Distinguished Online Lectures

1. **Prof Aleksandra Derra, Nicolaus Copernicus University, Torun, Poland**, delivered a lecture on "Feminist studies as an attempt to build complementary knowledge: The case of disease" at the Department of Humanities and Social Sciences, BITS Pilani on March 15, 2021.
2. **Prof T. Gudi, Indian Institute of Science, Bangalore**, delivered a lecture on "Approximation of Dirichlet Boundary Control Problem using Energy Spaces" at the Department of Mathematics, BITS Pilani on March 20, 2021.
3. **Prof Janice Yoder, Kent State University, USA** delivered a talk on "Asking "So What?" about our Scholarship: Why Values Matter when Planning, Doing, and Disseminating Research" at the Department of Humanities and Social Sciences, BITS Pilani on April 6, 2021.

Significant projects

S.No.	Principal Investigator and Name of Department	Title of the Project	Funding Agency	Amount & Duration
1	Dr Srikanta Routroy – PI Department of Mechanical Engineering Co-PI – Prof Satyendra K Sharma, Prof. P. Srinivasan, Prof Jitendra Panwar, Prof. Anupam Singhal, Dr Krishna M.	Doubling Farm Women's income: Entrepreneurship development through post-harvest and technology integration in arid zone	DST	70,20,481.00 36 Months
2	Dr Venkatesh KP Roa - PI Department of Mechanical Engineering Co-PI - Dr Rajdeep Chowdhury, Dr Syamantak Majumder and Dr A.R. Hanikrishnan	"Neuronal" regulation of tumor cell migration- understanding the role of semaphorins in tumor cell undergoing EMT and subjected to differential flow dynamics	SERB	54,16,000.00 36 Months
3	Dr Puneet Mishra – PI Department of Electrical & Electronics Engineering Co-PI - Dr H.D. Mathur, Dr Jitendra Panwar	Development of a real time crop advisory system exploiting nanotechnology based nitrogen sensor with internet of farming (IoF) framework	DBT	46,16,240.00 36 Months
4	Dr Inamur Rahman Laskar, Department of Chemistry (BITS Pilani), Mr. Santosh Manabala (CSIR-CEERI) - PI Co-PI - Dr Syamantak Majumder, Dr Rajdeep Chowdhury, Dr Shibasish Chowdhury, Dr Rajiv Gupta (Medical Centre), Mr. Ranjan Kumar Maurya (CSIR- CEERI Pilani)	Rapid Low cost fluorescent AIE-based detection of renal dysfunction from urine samples and fabrication of portable and real time device	DBT	37,57,120.00 36 Months
5	Dr Sandhya Amol Marathe, Dr Vidya Devi Negi NIT. Rourkela – PI Department of Biological Sciences Co-PI - Dr Meghana Tare	To study and gain mechanistic insights into the regulation of salmonella pathogenesis by endogenous CRISPER- Cas system	DBT	35,90,870.00 36 Months
6	Dr Poonam Goyal – PI Department of Computer Science and Information Systems	An automatic multi-modal learning system for image/video analytics	SERB	32,19,832.00 36 Months
7	Dr Banasri Roy - PI Department of Chemical Engineering	Study of the conversion of Agricultural residues to catalysts for renewable Energy source production	SERB-POWER	30,00,000.00 36 Months
8	Dr Paritosh Shukla – PI Department of Chemistry	Design, Synthesis, Pharmacokinetic and Pharmacodynamic Evaluation of Acridine and Related Moieties for the Treatment of Alzheimer's Disease	CSIR	29,32,000.00 36 Months
9	Dr Rajeev Sakhuja – PI Department of Chemistry	Metal-catalyzed and Metal-free Strategy for the Synthesis of Modified Bile Acids as Novel Anticancer Agents	CSIR	27,14,000.00 36 Months
10	Dr Aniruddha Roy - PI Department of Pharmacy Co-PI - Dr Sustil Kumar Yadav	Development of a complete skin substitute by autologous cell grafting using an in-situ forming bioactive scaffold for burn wound healing	DBT	24,97,640.00 12 Months
11	Dr Inamur R. Laskar – PI Department of Chemistry Co-PI - Dr Rajdeep Chowdhury Dr Aniruddha Roy	Development of novel 'Aggregation Induced Emission' (AIE) Active iridium(III) based Near IR Emissive compounds and their encapsulation into pH sensitive nanoparticles for tumor targeting and photodynamic therapy	ICMR	23,50,000.00 36 Months
12	Dr Chennu Ranganayakulu – PI Department of Mechanical Engineering Co-PI - Dr Suvanjan Bhattacharyya	Specific Generation and system identification of environmental control system based on requirement analysis and system modelling	DRDO	23,00,000.00 18 Months
13	Dr Nitin Chaturvedi - PI Department of Electrical & Electronics Engineering	A Dual Mode Hybrid In-Memory Computing array for high performance applications using conventional CMOS technology and emerging ferromagnetic technology	DST-NSM	22,26,000.00 24 Months

S.No.	Principal Investigator and Name of Department	Title of the Project	Funding Agency	Amount & Duration
14	Dr Navneet Goyal – PI Department of Computer Science and Information Systems Co-PI - Dr Poonam Goyal, Dr Manish Dave	SWATCH	Founding Years Learning Solutions	21,37,300.00 11 Months
15	Dr Shibashis Chowdhury – PI Department of Biological Sciences Co-PI - Dr P.N. Jha, Dr Sudeshna Mukherjee, Dr Syamantak Majumder	In silico genome wide prediction of human gut microbiota derived microRNA and exploring their association with altered gene expression in host cells during cancer and cardiovascular diseases	DST-NSM	20,41,200.00 24 Months
16	Dr Shyam Sundar Yadav – PI Department of Mechanical Engineering Co-PI - Dr Arkoporvo Ghosal	Development and Usage of a 3D, Parallel, Multiphysics Solver for Simulating Electrically Assisted Melt and Solution Spinning with High-velocity Gas Jets Using the Rheo-logical Constitutive Approach for Liquid Jet Dynamics	DST-NSM	19,42,600.00 24 Months
17	Dr Vaibhav Dixit – PI Department of Pharmacy	Exploiting the electron transfer (ET) parameters for the prediction of selectivities in Cytochrome P450 (CYP450) catalyzed biotransformations of industrial importance	DST	19,16,900.00 24 Months
18	Dr Sangita Yadav – PI Department of Mathematics	Super convergent Discontinuous Galerkin Method for Parabolic integro-differential Equations with Smooth and Non Smooth Data	SERB	19,10,832.00 24 Months
19	Dr Yashvardhan Sharma – PI Department of Computer Science and Information Systems Co-PI - Dr Kamlesh Tiwari, Dr Ashutosh Bhatia	Multilingual Conversational AI to Enhance Customer Experience	Towards vision technologies (C-Zentrix) private ltd	18,60,640.00 36 Months
20	Dr Dalip Kumar – PI, Department of Chemistry	Design and Synthesis of API impurities for Drug Development- PART I	Sun Pharmaceuticals Industries Ltd	17,00,000.00 24 Months
21	Dr Rajeev Sakhuja – PI Department of Chemistry	Design and Synthesis of API impurities for Drug Development- PART II	Sun Pharmaceuticals Industries Ltd	17,00,000.00 24 Months
22	Dr Rajdeep Chowdhury – PI Department of Biological Sciences Co-PI - Dr Syamantak Majumder, Dr Shibashis Chowdhury, Dr Sandeep Sundriyal	Targeting Chromatin modifiers- Jumonji Histone Demethylases in tumor cells surviving acute drug stress : an in vitro and in vivo study	ICMR	14,91,208.00 36 Months
23	Dr Jyoti – PI Department of Management Co-PI - Dr Surekha Bhanot	Gender Advancement for Transformation Institutions (GATI)	DST	7,99,200.00 18 Months
24	Dr Sangeeta Sharma – PI Department of Humanities & Social Sciences	A Study on impact of assessment tools to regulate positive thinking in the society during COVID- 19	ICSSR	7,80,000.00 06 Months
25	Dr Poonam Goyal – PI Department of Computer Science and Information Systems Co-PI - Prof Navneet Goyal	"Collating and analyzing multi-modal, multi-lingual data for countering wildlife crime"	Google asia pacific Pte ltd	7,27,055.00 12 Months
26	Dr Rajeev Talyan – PI Department of Pharmacy	Pharmacological and Safety evaluation of protein based ketogenic diet supplement in STZ induced Alzheimer's Type of Dementia in Rats	Zeon Lifesciences Ltd	5,70,000.00 24 Months
27	Dr Arya Kumar – PI Department of Economics & Finance Co-PI - Mr. Manish Dave & Mr. Saurabh Suman	Nai Disha	Seth Motilala PG College, Jhunjhunu	4,80,000.00 2 Months
28	Dr Pratik N. Sheth – PI Department of Chemical Engineering Co-PI - Dr Pratik N. Sheth	Characterization of Indigenous Cow's Dung and Urine for Scientific Advancement and Development of Utility Items	DST	2,43,585.00 24 Months

Student Events

NIRMAAN

Covid-19 Aid Efforts by MOFA with Nirmaan



The second wave of the Covid-19 has been destructive for the whole country, but the rural population of the country was acutely affected and the same was the case with Pilani. Pilani being a remote town with a population of about 40,600 and relatively a small area witnessed a huge surge in daily infections. During the second wave of Covid-19 pandemic, Nirmaan organization, a BITSian run NGO showed its commitment towards serving the community in Pilani. Despite being in their houses, Nirmaan volunteers, spread all across the country, fought this crisis at the forefront with the support of Pilani volunteers. They did a comprehensive need assessment by engaging with various stakeholders to support

the medical infrastructure in Pilani. On the request of Nirmaan, BITSian alumni initiative Medical Oxygen for All (MOFA) came in full support and readily agreed to donate 4 nebulizer machines and 4 oxygen concentrators in Pilani. As per requests given by CMO, the MOFA agreed and donated these Covid aids on May 15, 2021 to PHC, Pilani with Nirmaan being the implementation partner on ground. In addition to Nirmaan, BITS Pilani NSS volunteers played a very significant role in the entire process.



Inauguration of a Sewing Training Center for Women by Nirmaan and Pilani Self-Reliant Resource Center

Under the aegis of BITS Pilani, Pilani campus Nirmaan Association and Pilani Self-Reliant Resource Center inaugurated a sewing training centre for women in Pilani. The Chief Guest Prof Sudhirkumar Barai, Director, Pilani campus inaugurated the center on January 10, 2021. The other guests during the function were Prof S.K. Verma, Dean Administration, Pilani campus, Prof Chandra Shekhar, Sr. Professor Emeritus and Chairman, Pilani Atmanirbhar Resource Center, Prof Ashish Tiwari, Professor In-charge, Nirmaan Association, Dr V.K. Dubey, Director, Pilani Atmanirbhar Resource Center and Prof Arya Kumar, Dean Alumni Association.

The women present in the function were motivated to become self-reliant and to improve their art further. All the guests encouraged the women and advised them to move forward and make themselves self-reliant and empower themselves. Prof Ashish Tiwari and the students Pankaj Saini, Rakhi Shama, Priyanka Shekhawat, Kusum Saini and others played the main role in organizing the function. Other students of Nirmaan Association also attended the function through Google Meet and at the end of the function Prof Sudhirkumar Barai, Director, Pilani campus praised the students by releasing the website of Nirmaan Association prepared by the students.

Inauguration of a Sewing Training Center



Nirmaan - Joy of Giving Week (JOGW '21)

Through Joy of Giving Week (JOGW), a series of events organized each year, Nirmaan aims to educate people about this joyous art of giving. This year Yashveer Singh, former SU president Pilani 2006-07, was the chief guest for the joy of giving week inauguration. Prof Souvik Bhattacharyya, Vice-Chancellor, BITS Pilani, Prof Sudhirkumar Barai, Director, Pilani campus and Prof Ashish Tiwari were also present. Yashveer has earned his MBA at the University of Oxford. He has been recognized in "Forbes 30 under 30 Asia" in 2016. He was the only MBA student to receive the Vice-chancellor Social Impact award 2014 for his initiatives as Co-Chair Social Impact, Oxford Business Network (OBN). He has been a part of Ashoka, one of the largest social entrepreneurs' networks founded way back in 1980. Nirmaan was proud to have hosted Mr. Yashveer in a virtual conference on March 12, 2021. This year, JOGW was celebrated for 2 days, starting with some sports events and drawing competitions in schools and basti, where Nirmaan generally operates. Along with this, Nirmaan volunteers also distributed thermally insulated bottles to the BITS guards as a thanking gesture. They also organized visits to orphanages in some places in India and had an interactive fun event with the professors.

Mr. Yashveer Singh @ JOGW



Akarsh Shroff (2018A7PS1121P) has been described as "One of the Brightest Minds of India" by Forbes India. He was selected for the Forbes Teenpreneurs series in 2020 and it was published in January 2021 edition of the Forbes India magazine. He was one of the 19 Ashoka Young Changemakers selected among 1800+ applicants in January 2021. He was the youngest of the 63 invitees at the Government-Industry Dialogue in January 2021. Akarsh presented his views on the importance of policies to promote sustainable growth. His suggestions were included in the report submitted to the Honorable Prime Minister of India, Narendra Modi and the chief ministers of the various states in



January 2021. He was one of the three youngest panelists who were invited to speak at the Forbes India Leadership Awards on March 10, 2021 alongside industry leaders like Narayana Murthy, Azim Premji, Cyrus Poonawalla, Virat Kohli and Sonu Sood. He founded the tech start up Grey Night and the non-profit, YuvaSpark (formerly S.P.A.R.K). His organization YuvaSpark was recognized by MyGovIndia in June 2021 for the commitment toward the welfare of the people of India during COVID-19 pandemic. YuvaSpark procured 18 oxygen concentrators, 600 oxygen masks, 157 oximeters, 1056 face shields, 1920 PPE kits, 270 boxes of gloves, 5100 N95 masks, 400 liters of sanitizers, 7600 surgical masks, 200 thermometers, 2 desktops, 2 laptops, and 1 ECG machine. This was deployed in 8 districts (Satara, Cachar, Bangalore Urban, Bangalore Rural, Mysore, Hassan, Hubli, Ballari) across 3 states (Karnataka, Maharashtra and Assam). They also set up their own 12-bed facility at a Covid-care center in Bangalore by working with the municipal corporation and received Rs. 17 Lakhs worth equipment through corporate partnerships. Shroff has been honored with the Diana Award on 28th June 2021, the highest accolade a young person can achieve for social action or humanitarian efforts. He was also invited by the Department of Management Studies, Ramaiah Institute of Technology, Bangalore to deliver a talk on the topic "Change making spirit in young minds". He has featured at various news publications in 2021. Tribune describes him as a "Teen Role Model" and Bangalore Mirror has called him "The Young Champ of the underprivileged".

Hari Raghavendran B. (2018A4PS0514P) was invited to present his paper "Comparing Environmental Impact of Various Energy Sources Powering Data Centres's at Indian Candidate Locations" among professors from Harvard Business School, Oxford Said Business School, etc., at the International Conference on Economic Management and Green Development (ICEMGD) 2021 held virtually at Stanford University during January 25-28, 2021. His was one of the top 7 research papers out of 59 selected papers from 175 entries.

Kartikeya Arya (2018B5AB0133P), Divy Prakash (2018B3A20744P), Manisha Garg (2018B3A70916P) and Samarth Mahapatra (2017B2A80751P) were the Global Semi-finalist for the Copenhagen Business School case study competition held at Copenhagen (remote) on February 26, 2021.

Kartikeya Arya (2018B5AB0133P), Divy Prakash (2018B3A20744P), Manisha Garg (2018B3A70916P) and Himanshu Sharma (2018A4PS0556) were the Regional Winner for ASCM Deloitte case competition held at Deloitte Hyderabad (remote) on March 15, 2021.

Shruti Gangwar (2019B2A10920P), Isha Srivastava (2019B1A31034P), Nehal Gupta (2019B1A80990P), Kajal Kukreja (2019B2A41021P) and Anvesha Dubey (2019B5A80831P), formed

a team named Earthlings and were the winner of the event named "She the Force - India's largest women focused Hackathon", conducted by WIT Ace in association with IBM. The event was held virtually during June 16-18, 2021.



Priyanka Verma (2016B3A70492P) presented a paper at ACM SIGCAS Conference on Computing and Sustainable Societies held during June 28 to July 2, 2021. Her project was "A WhatsApp Chat Bot for Citizen Journalism in Rural India", at an NGO called CGNet Swara, in collaboration with Microsoft Research India.



Yugal Joshi (2020A7PS0002P) was selected for the Avery Dennison Foundation InvEnt Scholarship for the academic year 2020-21 on July 23, 2021.

Amulya Dwivedi (2018B5A30035P) presented his research poster titled "Controlling Polarization through Defects in Silicon Integrated Barium Titanate" at a prestigious symposium on In Situ Electron Microscopy-2021 held online during July 8-9, 2021. He worked remotely under Prof Pavan Nukala, of the Centre for Nano Science and Engineering, IISc Bangalore.



Saumil Agarwal (2018A7PS0268P) received the MITACS Globalink Research Internship Award for the duration May 20, 2021 to August 11, 2021.

Saumitra Rai (2018A2TS0124P) was awarded with MITACS Globalink Research Intern Award. MITACS Globalink Research Internship (MITACS GRI) program was held during May 26 to August 20, 2021. He was also selected for The University of Tokyo Summer Internship Program, Kashiwa (UTSIP Kashiwa) held during June 28 to July 16, 2021 at the Graduate school of Frontier Sciences, University of Tokyo, Kashiwa campus, Japan. He was one of the 15 students selected across the globe and one of the 4 students selected from India for this internship program.

Shreekar Puranik (2020A7PS0035P) has been selected as a member of Reap Benefit Youth Board. Reap Benefit is a Bangalore-based NGO dedicated to solving civic issues. Recently, it has been inducted into Tejasvi Surya's (an MP from Bangalore South), 'Youth Can Lead' program. As part of the youth board, Shreekar anchors the 'Call your representative' campaign, where people are encouraged to call their corporators and MLAs to fix local issues.

Shreyas Samir Kolte (2018A7PS0376P) was awarded with the Mitacs Globalink Research award from Mitacs and SICI (worth 2800 CAD) for Research Internship in Medical AI under the University of Toronto, for a period of May 24 to August 13, 2021.

Advik Singh (2020A2PS1735P) co-founded Chhalaang Foundation, a non-profit organization in February 2021, and was recognized for distributing 2,00,000 meals worth INR 17,00,000+, impacting the lives of 8000+ people during the recent lockdown in New Delhi.



Tathambika Tejeswini Senhas (H20210319) participated in the 2nd International E-Conference on Modern Research in Agriculture, Biological, Medical and Environmental Sciences organized by Indian Academicians and Researchers Association on June 14, 2021. He also participated in review article writing competition organized by Academic Decipher, Mumbai on July 30, 2021. His review article on the study of animal derived perfumes and aromatic medicinal ingredients was published by the International Journal of Advance and Innovative Research (IARA).

V. Sushant (2019A7PS0045P) received the AI & Analytics Student of the Year Award for the event 3AI Pinnacle Awards 2021 on July 31, 2021.



Preyansh Agrawal (2019A7PS0052P) received the AI & Analytics Student of the Year Award for the event 3AI Pinnacle Awards 2021 on July 31, 2021.



Introducing new faculty

S.No	Full Name	Designation	Department
1	Rita Sharma	Associate Professor	Biological Sciences
2	Balakumaran Chandrasekar	Assistant Professor, Gr-I	Biological Sciences
3	Mukul Joshi	Assistant Professor	Biological Sciences
4	Sarbani Ghosh	Assistant Professor, Gr-I	Chemical Engineering
5	Mrinmoyee Basu	Assistant Professor, Gr-I	Chemistry
6	Partha Sarathi Addy	Assistant Professor, Gr-I	Chemistry
7	Sarah Mariam Abraham	Assistant Professor, Gr-I	Civil Engineering
8	Sayantan Chakraborty	Assistant Professor, Gr-I	Civil Engineering
9	Subhasis Pradhan	Assistant Professor, Gr-I	Civil Engineering
10	Md Rushdie Ibne Islam	Assistant Professor, Gr-I	Civil Engineering
11	Jagat Sesh Challa	Assistant Professor, Gr-I	Computer Science & Information Systems
12	Balakrushna Padhi	Assistant Professor, Gr-I	Economics and Finance
13	Prateek	Assistant Professor, Gr-I	Humanities and Social Sciences
14	Pamula Santhosh Kumar	Assistant Professor, Gr-I	Mathematics
15	Md Qaisar Raza	Assistant Professor, Gr-I	Mechanical Engineering
16	Chennu Ranganayakulu	Visiting Professor	Mechanical Engineering
17	Sandipan Dutta	Assistant Professor, Gr-I	Physics

Editorial team

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Student Members:



Ankita Upadhyay
2021H1540803P



Sayantan Paul
2021H1540807P

Special Thanks



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



Mr. Ramesh Sharma
Publications and Media Relations



BITS Pilani
Pilani Campus

mediaspeak

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इंडियन कोडिंग वर्कशॉप फॉर किड्स का शुभारंभ
दैनिक भास्कर, 24 मार्च 2021

सिलाई प्रशिक्षण केंद्र का शुभारंभ
दैनिक भास्कर, 19 जनवरी, 2021

राष्ट्रीय कार्यशाला व वेबिनार का आयोजन
दैनिक भास्कर, 19 जनवरी, 2021

बिट्स में माइक्रोवेव संचार पर संगोष्ठी का आयोजन
दैनिक भास्कर, 28 मार्च 2021

बिट्स में पूर्व विद्यार्थी के सहयोग से बनेगी अत्याधुनिक प्रयोगशाला
दैनिक भास्कर, 28 मार्च 2021

नी लाइब्रेरी प्रतिष्ठित इन्फोमैटिक इनोवेशन
दैनिक भास्कर, 12 जनवरी, 2021

बिट्स के पूर्व विद्यार्थियों ने बिरला स्मार्टनिक अस्पताल को बेंट किए वॉट्सऐप
दैनिक भास्कर, 14 मार्च 2021



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