



BITS Pilani
Pilani Campus

Semester-I notes 2019-20

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Pilani Campus



editorial

First semester of 2019-2020 commenced with BITSians' day to celebrate the global gathering of BITS alumni in different cities and organizations. A marathon was organized on the campus to commemorate the event. Another remarkable event was the inauguration of Mpower centre by Ms. Neerja Birla, a novel initiative to disseminate information about mental health on the campus.

Marching ahead in its journey towards excellence, BITS Pilani, Pilani campus is now being led by Prof Sudhirkumar Barai. Prof Barai has joined the institute as the new Director of BITS Pilani, Pilani campus. An exemplary and renowned researcher, Prof Barai has a brilliant track record in both Research and Teaching.

Both the faculty and students kept on adding to the glory of the institute. Faculty members received distinguished awards and several sponsored research projects by agencies like DST-SERB, ICMR, DBT etc. Exemplary faculty performance is evident from their participation and involvement in several academic forums, organization of conferences such as the 3rd Indo-German Conference on Sustainability in Engineering, Teaching-Learning Workshop for the Next Generation Academicians, etc.

Life at BITS is magical! Nothing can describe it more accurately than Oasis, the annual cultural fest. This time the 49th edition of Oasis, was celebrated. From its humble beginnings in 1971, this cultural fest has come a long way to become the very soul of BITS Pilani and the second largest of its kind in India. A fun-filled musical extravaganza, it comprised of different spectacular events along with performances by some very well-known artists like Sunidhi Chauhan, Nucleya, etc. OASIS once again proved to be a multi-coloured collage of students' efforts and a melting pot of diverse ideas and cultures providing an amazing platform to students' creativity.

34th edition of BOSM, the sports fest of the Institute, also brought together participants from different institutes to showcase their talent promoting healthy competition in sports activities. As a part of their societal contribution, Nirmaan, a voluntary organization by students organized Joy of Giving Week and invited renowned personalities to deliver motivational talks to the students.

The success story of BITS was scripted and is being scripted by the achievements of its alumni and their contributions to the world at large. Another remarkable event of the semester was the alumni gathering celebrating Golden, Silver and Coral jubilee reunion of batch 1969, 1994 and 1983 respectively. It was a memorable semester for BITS Pilani, providing numerous opportunities to faculty and students in academics and research, paving way for yet another enriching semester.

Appointment of Director



Prof Sudhirkumar Barai has been appointed as the Director of Pilani Campus with effect from January 14, 2020 for a period of five years. Prof Barai was previously the Dean (Undergraduate Studies) and Professor (HAG) in the Department of Civil Engineering at IIT Kharagpur specializing in Structural Engineering. He obtained his Ph.D. from the Indian

Institute of Science, Bangalore in 1995. He completed his bachelor's and master's in Civil Engineering from MS University, Baroda. Apart from this, he was a Postdoctoral Fellow, Visiting Fellow at various reputed institutes abroad. Prof Barai has published over 220 articles in leading Journals & Conferences, 3 books published by Springer, and has co-edited a conference proceedings published by Springer. Prof Barai has also served in various administrative positions at IIT Kharagpur such as Chairman/Vice-Chairman of GATE (Graduate Aptitude Test in Engineering) for four years. Prof Barai also received the 11th CIDC Vishwakarma Award (2019) for his achievements as an academician.

BITS Pilani has been awarded FICCI Higher Education Award 2019

BITS Pilani has been awarded the Federation of Indian Chamber of Commerce and Industry (FICCI) Higher Education Award 2019 for "Excellence in Employability through Industry Engagement". The award was presented by Mr. Nitin Gadkari, Minister of Road Transport and Highways of India and Shipping Ministry of Micro, Small and Medium Enterprises, Government of India. Vice Chancellor, Prof Souvik Bhattacharyya received the award from the Honorable Minister on November 28, 2019.

Higher Education Award 2019



BITSians' Day

A marathon was organized at the Pilani campus on the occasion of BITSians' Day celebrated on August 2, 2019. The event was jointly organized by FitBITS and Alumni Relations Cell. A large number of students and faculty members participated in the 3-kilometre race. The run was organized to spread awareness on maintaining a healthy lifestyle. Former Director, Prof. Ashoke K. Sarkar appreciated the efforts of the students and wished everyone success. The event was graced by 1991 Batch Alumni, Mr. Sujit Arungundram who is a Computer Engineer from Chicago, USA. First Friday of August every year from 2013 onwards has been celebrated as BITSian Day across the globe in different cities and organizations. This day is celebrated as a global gathering of BITS Alumni to reflect, recognize and share their valuable experiences of the campus.



Alumni achievements



Dr. Milind Tambe (1987 Batch) has been appointed as the Director of AI for Social Good at the Artificial Intelligence (AI) Lab of Google Research India in Bengaluru. The company announced this at the Google India event in New Delhi. The AI lab will partner with researchers across India and use developments to enhance the apps and

services it offers along with using the research in the field of healthcare and education. Dr. Tambe has served as the Professor of Computer Science and Director of the Center for Research in Computation and Society (CRCS) at Harvard University.

Mr. Peeyush Shukla (1988 batch), M.Sc.(Tech.) in Computer Science has been appointed as a Chief Information and Technology Officer of Heitman LLC - A global real estate investment management



company. Peeyush would be responsible for leading Heitman's Information Technology Initiatives and Infrastructure Group in support of its global investment management business.

Mr. Baba Kalyani, Bharat Forge's Chairman and MD has been



conferred with the 'Order of the Rising Sun, Gold and Silver Star' by the Government of Japan. He is one of the foreign recipients of this year's Autumn Decorations for his contribution to strengthen business ties between Japan and India. A Padma Bhushan awardee, he received his Bachelor's degree in Mechanical Engineering from BITS

Pilani. The Order of the Rising Sun was established by Emperor of Japan in 1875. It is the Japanese government's second-highest national honour, which is awarded to those who have made distinguished achievements in international relations, promotion of Japanese culture, advancements in their field and development in welfare or preservation of the environment.



Mr. Amur Swaminathan Lakshminarayanan (1983 batch), BE-Mechanical Engineering has been appointed as the Managing Director and Chief Executive Officer of Tata Communications. Prior to joining Tata Communications, Lakshminarayanan was the president and CEO of TCS Japan where he was in charge of accelerating the company's market opportunity and developing the brand in the region. He joined TCS in 1983 and has served in a broad range of leadership roles across regions and industries.



Mr. Bala Vishwanath (1990 Batch), BE-Electrical and Electronics Engineering has been appointed as the Chief Marketing Officer of CoreStack. He will be responsible for global brand positioning and product marketing strategies, as well as for leading CoreStack's market development, communications, events, digital marketing and demand generation. CoreStack is a global cloud governance platform provider that empowers enterprises to achieve continuous and autonomous cloud compliance and operations.

Mr. Sanjeev Kaushik (1990 Batch), BE-Mechanical Engineering and 1992-Batch officer of Kerala cadre has been appointed as the Additional Secretary, Department of Financial Services, Government of India. Prior to this, he was the Vice Chairman and Managing Director of Kerala Financial Corporation (KFC). He has also held multiple positions such as Chairman & MD of India Infrastructure Finance Corporation Limited (IIFCL), CEO of IFCI Limited and Director of Capital Markets, Department of Economic Affairs, Ministry of Finance. He is also a whole-time member of SEBI. Mr. Kaushik has also served as the Managing Director, HSBC Global Banking and Markets; Managing Director, Lehman Brothers; Equity Research Analyst, Bank of America and Mergers Acquisitions, ING Bearings.



Mr. Sid Mookerji (1989 Batch), BE-Electrical & Electronics Engineering and Silicon Road Founder and Managing Director has been conferred with the Sig Mosley Entrepreneurial Leader-2018 award by TechBridge, Inc. He is being awarded for his exceptional IT leadership values that nurture bright ideas, promote a fertile innovation ecosystem and build community among Georgia's dynamic

technologists. Techbridge is Atlanta's premier non-profit organization using innovative technology to break the cycle of generational poverty. He is also the CEO and co-founder of Silver Spirit Global LLC which operates tech parks in India and the US.

Mr. Chandradeo Arya (2017 Batch), founder of social impact startup, CheckRoof has secured the first position in 'Airbus Global Earth Observation Challenge 2019'. The competition was organized by Airbus Defense and Space unit in Toulouse, France. His Project CheckRoof has become the first Indian project to achieve this feat amongst 141 other companies from over 50 countries of the world. Check Roof is solving the problems related to harvesting of rainwater, solar power and energy conservation. It calculates the amount of natural resource that can be saved by using satellite imagery, 3D mapping and data analytics of historical data. CheckRoof was founded by Mr. Arya in March 2019. The Startup has also been recognized by NITI Aayog and selected under an acceleration programme for social startups at Atal Innovation Centre.



Mr. Harish Bhat (1985 Batch), BE-Electrical & Electronics Engineering and Brand Custodian, Tata Sons has been recognized as one of LinkedIn's Top 25 Voices in India for 2019. He joined the Tata Group in 1987, as an officer in the Tata Administrative Service (TAS). During his career spanning over 30 years with the Tata Group, Mr Bhat has held several senior roles. These include stints as Managing Director of Tata Global Beverages Ltd., Chief Operating Officer of the Watches and Jewelry businesses of Titan Company Ltd., and the telecom business of the Group. LinkedIn, in its 5th Annual Top Voices list highlighted professionals in a variety of industries and regions who are building communities and starting thoughtful conversations on LinkedIn through their articles, posts, videos and comments.



Mr. Prince Singhal (2016 Batch) received the National Youth Awards at a function organized by the Ministry of Youth Affairs and Sports in New Delhi on August 12, 2019. Hon'ble Union Minister for Youth Affairs & Sports Kiren Rijju, conferred the awards on individuals (aged between 15-29 years) and organizations for excellent work and contribution in different fields of development and social service. Prince has been working in the Left Wing Extremism - LWE affected districts of Godda, Dumka and Deoghar to lead tribals to development. In the last two years, he has worked in collaboration with the government, administration, organizations and people to start a change on the ground.



Ms Nithya Balasubramanian, (2005 Batch) BE (Hons)-Electrical & Electronics Engineering is presently the Vice President of Cipla. She has been featured in the coveted list of 40 under 40 Young Business Leaders of 2019 by the Economic Times. The Economic Times 40 under 40 is the definitive listing of India Inc.'s top business leaders. The list honours 40 of the brightest corporate leaders, entrepreneurs and owner-professionals of the country under the age of forty.



Padma Shri Mr Pratap Pawar (1969 Batch) B.E. in Civil Engineering has been elected as the Chairman of Media Research Users Council (MRUC). The announcement was made at its Board meeting following the 25th Annual General Meeting in Mumbai on September 4, 2019. Media Research Users Council (MRUC) is a registered not-for-profit industry body. The Council is committed for producing research



studies that help media organizations to build credible business models. Shri Pratap Pawar is an Indian industrialist, and chairman and managing director at Sakal Papers Pvt Ltd. He was conferred with Padma Shri Award, the fourth highest civilian award in the country for his contribution to trade and industry in India. Apart from being on the Board of the Sakal Group since 1985, he has also served on the Boards of several prestigious Indian and International companies. Pawar is also chairman of the ASK Chemicals Foundry Solutions India Pvt. Ltd and a director on the board of several companies like Bharat Forge, Finolex Cables, Kirloskar Oil Engines and Force Motors.

TapChief, founded in 2016 by Mr. Shashank Murali (2016 Batch) MSc Mathematics, Mr. Binay Krishna (2016 Batch) BE-Mechanical engineering, and Mr. Arjun Krishna (2016 Batch), BE, Computer Science has raised a Pre-Series, a round of \$1.5 million from homegrown investment firm Blume Ventures. TapChief is a platform for professionals to earn without a full-time job. This is its second financing round this year after it raised \$550,000 from marquee investors like Paytm, 500 Startups, Cred founder Kunal Shah and former Flipkart executive Mehin Maheshwari in June. Also, the company has grabbed the third spot in 2019 LinkedIn "Top Startups List" and shortlisted in the Best on Campus category at The Economic Times Startup Awards 2019.



Life at BITS and Beyond: Panel Discussion (ACC)

Academic Counselling Cell organized a panel discussion on the topic 'Life at BITS and beyond' on August 3, 2019. Notable Alumni, Students and Professors were the panelists of the discussion. Srajan Jain (Flipkart), Anupam Punwar (Amazon), Ajay Shrinivas (Higher Studies - University of Saskatchewan) and students like Saniya Dasot, Padmavilochani, Sahiti VT, Prof Srinivasan and Prof Naveen Singh were also in the panel. Prof P. Srinivasan, as the moderator, navigated the discussion around academia, extracurricular activities, life at BITS Pilani and future prospects. More than 500 students participated in the panel discussion.

Panel Discussion



Independence Day

The 73rd Independence Day was celebrated at BITS Pilani. The Former Director, Prof Ashoke K. Sarkar did the flag hoisting. Mrs. Tamali Bhattacharyya was the special guest of the event. The programme was graced by more than 800 students, staff members and their families. The fervor of patriotism, was beautifully brought forth through the songs sung by the Gurukul students. The National Pledge was administered by Ms. Dishia Jain. The programme ended with the National anthem.



La Trobe University's research initiative

The Asian Smart Cities Research and Innovation Network (ASCRIN), developed by La Trobe University (Melbourne, Australia) along with partners (IIT Kanpur) and (BITS Pilani) – was announced by La Trobe's Vice-Chancellor, Prof John Dewar during his visit to India. The aim of the large-scale initiative is to build a critical mass of resources, know-how and targeted research strength from the three universities, along with close engagement with industry and local government, to deliver impact for the sustainability, liveability and efficiency of cities across Asia.



The research network will include La Trobe – IIT Kanpur Research Academy and a joint PhD and research framework with BITS Pilani, guided by a network of industry experts comprising senior leaders from corporates, consulting houses, small and medium businesses and Government. Key themes for research and industry collaboration are Infrastructure and Technology; Economic development; Mobility and Transport; Health and Well-being; Education; Urban planning; Governance and Engagement; Security and Safety; Culture and Heritage; and Energy, Water and Waste.

More than 70 academicians from the three universities have already joined the research and innovation network, with the aim of creating new joint research professorships and a joint PhD program with more than 50 PhD scholarships offered. Director of IIT Kanpur, Prof Abhay Karandikar, said the Institute specialises in smart energy grids which are the backbone of any Smart City. The Vice-Chancellor, Prof Souvik Bhattacharyya, said the university is collaborating with La Trobe on various themes to

address existing and new challenges in Smart Cities. This covers areas from mobility and transport to sanitation and waste management, using disruptive technologies such as IoT, AI, Machine Learning, blockchain and real-time data analytics. La Trobe also launched an innovation competition called Technology Infusion Grand Challenge where undergraduate students apply skills gained in their studies to solve some of today's pressing societal or industry problems in Smart Cities.

Teaching Learning Centre

Teaching Learning Centre (TLC) organized a half-day workshop titled "Teaching-Learning Workshop for the Next Generation Academicians" on September 07, 2019. Focusing on three modules of "Communication", "Laboratory Instruction with an Emphasis on Assessment" and "Ethical Practices in Teaching-Learning" the workshop roped in more than 15 resource persons including faculty and senior research scholars to address questions/doubts from over 78 participating PhD scholars. The five hours' workshop saw lively discussions, group activities and informative interventions by both the scholars and faculty members.

Teaching Learning Centre Workshop



3rd Indo-German Conference on Sustainability in Engineering: Enhancing Future Skills and Entrepreneurship was held during September 16-17, 2019 organized by the Indo-German Center for Sustainable Manufacturing, a joint project of Technische Universität Braunschweig, Germany and BITS Pilani during September 16-17, 2019. 60 participants from Germany, USA, and India participated in this two day conference.

Dean Administration, Prof S.K. Verma welcomed the delegates and shared the journey of BITS Pilani from a small school to university. Prof Reza Asghari from TU Braunschweig emphasized the role of entrepreneurship in the new era of digitalization. Prof Manbir Sodhi, from University of Rhode Island, USA delivered keynote lecture on the role of India in circular economy with simple models. Mr Volker Schmid, Head, FESTO Didactic's Asia and South Pacific, highlighted the role of training, vertical integration, etc. in the digitalization industry. Prof K S Sangwan, head of the Indo-German Center for Sustainable Manufacturing and Chair of the conference explained the three

themes of the conference – Engineering sustainability, Engineering education, and Engineering entrepreneurship – and how can these be useful for fulfilling India's aspirations for "Make in India", "Skill India" and "Start-up India". Dr Rajni Singh proposed the vote of thanks. There were eight technical sessions and eight keynote lectures from academia and industry. DAAD, FESTO, Mitutoyo, Nerolac, and CSIR sponsored the conference.

Indo-German Conference



Inauguration of Mpower Centre

Ms. Neerja Birla, the Founder & Chairperson of Mpower, inaugurated the Mpower Centre on September 27, 2019. The broad objective of Mpower Centre is to disseminate information about mental health in an accessible and easy to understand manner to a large audience in a short span of time.

Ms. Neerja Birla addressing the gathering



A strong foundation of knowledge is the first step towards destigmatization of mental health problems. The Center would extend professional support and empower BITS Community to overcome their mental health related concerns. In her address during the inauguration ceremony, Ms. Neerja Birla shared the details of the need and the working of Mpower with the audience. She talked about the causes, the acceptance and the stages of treatment of mental illness. She said Mpower is an initiative to help people talk about their mental health concerns and seek

professional help without there being any fear of stigma attached to it. Vice Chancellor, Prof Souvik Bhattacharyya in his address emphasized on the importance of Mpower in addressing the mental health related concerns of students and other people and thanked Ms. Neerja Birla for opening the Mpower Centre at Pilani Campus.

The Former Director, Prof Ashoke K. Sarkar spoke about the idea of mental health in World Health Organization (WHO) and the immediate need to address the mental health related concerns of people so that they are able to live healthy human lives. He said the first task should be to help people to understand that mental illness is not a stigma but just like a physical illness because the greatest challenge lies in overhauling the deep-rooted conditioning in society which perceives mental illnesses as an inherently bad thing. Ms. Ananya Birla, Co-Founder & Co-Chairperson of Mpower appeared on stage after the addresses of dignitaries and enthralled the audience with her brilliant musical performance.

Ms. Ananya Birla's musical performance



Symposium on Carbon Nanomaterial Electronics

A Symposium on Carbon Nanomaterial Electronics 2019 was organized by the Department of Electrical and Electronics Engineering in association with Tel Aviv University, Israel during November 8-9, 2019.

Symposium on Carbon Nanomaterial Electronics 2019



Sponsored under SPARC, Ministry of Human Resource Development, Government of India, the theme of the symposium was focused on theoretical, experimental and application-oriented research on Carbon Nanomaterials and their derivatives. Dr Arnab Hazra was the convener for the event and Prof Navneet Gupta and Dr Rupam Goswami were the co-conveners. Head, Electrical and Electronics Engineering, Prof V. K. Chaubey, was the Chairman. The two-day event commenced with the inaugural session on November 8, 2019. Vice Chancellor, Prof Souvik Bhattacharyya was the Chief Guest, while Prof Bansi Malhotra, Delhi Technological University, graced the occasion as a Guest of Honor for the session. The event comprised of one keynote lecture by Prof Bansi Malhotra, and six plenary lectures by other Professors.

Interactive session

An interactive session by Mr Hari Menon (co-founder and CEO of BigBasket) and Mr Anil Agrawal (a senior ranking IPS Officer and head of Startup India Program) was organized by Alumni Relations Cell (ARC) and BITS Embryo on November 14, 2019. Mr Hari Menon and Mr Anil Agrawal shared their experience related to entrepreneurship and interacted with students about becoming a successful entrepreneur.

Mr. Menon shared memories of his entrepreneurial journey and mentioned the importance of a ready ecosystem for starting a business. Mr Anil Agrawal mentioned that aspiring entrepreneurs from the student community should have the courage to experiment, research and go ahead in their ventures without worrying about the outcome. More than 250 students participated. The entrepreneurship experts gave tips to students and answered many queries put forth by them. Dean, Alumni Relations, Prof Arya Kumar thanked the speakers for sharing their time & knowledge with the students.

Mr Menon addressing the gathering



BITS Pilani signed MoA with DSCI

A Memorandum of Association (MoA) was signed between BITS Pilani, represented by Vice Chancellor, Prof Souvik Bhattacharyya and Data Security Council of India (DSCI), a NASSCOM initiative, represented by Vice President, Mr Vinayak Godse. The MoA is valid for four years from the date of signing. BITS Pilani and DSCI will work together to focus on various

areas of Cybersecurity and Privacy. BITS Pilani will be responsible for academic and educational support, execution of co-creation research, and technology development and provide logistics support for industry interactions. DSCI will be responsible for visibility at the level of industry and government and will assist in organizing skill and capability building programs, workshops, challenges, hackathons, and other initiatives.

Signed MoA with DSCI



Alumni Reunion

Silver Jubilee reunion

The batch of 1990-94/95 celebrated its Silver Jubilee Reunion, during November 22 - 24, 2019. The reunion saw participation from over 130 alumni from across the world. The event was filled with smiles, laughter, warm embraces and friendly banter. Vice-chancellor, Prof Souvik Bhattacharyya welcomed the alumni back on campus and said that BITS is proud of its alumni and feels happy to have such an illustrious set of alumni. Prof Bhattacharyya also shared various developments and updates with the alumni. Student-Alumni interactive session was also conducted. Alumni from various industries enlightened the students about the startup and corporate life.

Alumni batch of 1990-94/95



Coral Jubilee

The batch of 1979-83 celebrated its Coral Jubilee Reunion of their graduation during November 14-17, 2019. More than 80 alumni gathered with their family members to celebrate their reunion. Reliving their old days, alumni visited their respective departments, and other memorable spots in the campus. They

also interacted with students and shared their life experiences. On this occasion, the Vice-Chancellor, Prof Souvik Bhattacharyya stressed that the alumni of the institute have been excelling in their respective fields and their achievements make BITS proud.

Alumni batch of 1979-83



Golden Jubilee

The pioneering 1964-69 batch (BITS-69) celebrated the Golden Jubilee Meet of their graduation during November 1-3, 2019. Over 250 members including 140 alumni of the batch, along with their children and grandchildren attended the 3-day festivities. Alumni rejoiced with gala musical evening wherein Siddharth Kauf stole the show with his mellifluous singing. Another highlight of the show was the recreation of the fierce student election between Vijay Reddy and Jatin Gill. The batch took a lot of interest in the growth of their Alma Mater and future strategic thrust areas to give it a big push in the coming years.

1964-69 Batch



Director's Tea Party

The Director's Tea Party for the graduating class of 2020 was organized at the VFast lawn on November 28, 2019. The program commenced with the comments from the Former Director, Prof Ashoke K. Sarkar. He said, that to be successful, one has to develop different skills. Dean Alumni Relations, Prof Arya Kumar emphasized the importance of keeping in touch through the alumni network and stressed upon the BITS culture of sharing and caring. Prof Srikanta Routroy, Associate Dean

SWD, Prof Navin Singh, Chief Warden and Prof Surekha Bhanot, Warden, Meera Bhawan also shared their thoughts to future leaders. Few students also shared their experiences, aspiration and plans.

Director's Tea Party



Indian Workshop on Applied Deep Learning

Indian Workshop on Applied Deep Learning (IWADL-2019) was organized during December 15-16, 2019 by the Department of Computer Science and Information Systems. It was the third meeting of IWADL, earlier two times it was conducted at IIT Mandi. The workshop targeted professionals, scholars at Undergraduates/Masters/PhD level and faculty members who want to pursue work in the area of advanced machine learning. Researchers and experts from various premier Indian institutes (such as IIT Delhi, IIT Jodhpur, IIT Mandi, BITS Pilani, etc.) participated as resource persons. The aim of the workshop was to give exposure to recent advances in the area of deep learning.

IWADL-2019



Workshop on Stochastic Simulation and its Applications

Department of Mathematics organized a four days International workshop on "Stochastic Simulation and its Applications" (WSSA 2019) during December 24 – 27, 2019. In this workshop, more than 40 scholars from different places participated. Workshop focused on the theory of simulation and also provided the lab practice on different simulation softwares. The aim was to provide the basic tools that would allow the participants to understand the theoretical concepts related to Stochastic Simulation and apply it to various fields such as supply chain management, communication network, reliability modeling, etc.

The Convener for the workshop was Prof Rakhee, Head, Department of Mathematics. Prof Bhupendra K Sharma, introduced the department and informed the participants about the opportunity for collaboration. Chief Guest, Prof Srinivas Chakravarthy from Kettering University, USA, addressed the gathering by highlighting the significance of Stochastic Simulation in real life applications and also about the importance of this workshop. Organizing secretary, Prof Chandra Shekhar proposed vote of thanks.

WSSA 2019



International Conference on Advances in Operations Research, Statistics and Mathematics (AOSM 2019)

Department of Mathematics organized a three days International Conference and 22nd Annual Convention of Vijnana Parishad of India on 'Advances in Operations Research, Statistics and Mathematics (AOSM 2019)' during December 28 - 30, 2019. The eminent speakers and delegates from USA, Nigeria, South Africa, Taiwan and different universities of India participated in the conference. The conference provided scientific platform to young researchers to discuss their new findings. During the inauguration, convener of the conference, Prof Rakhee introduced the theme of the conference and highlighted the importance of Mathematics in real life situations.

AOSM 2019



Head, Department of Mathematics, Prof Bhupendra K Sharma welcomed the participants and summarized the achievements of the department. Chief Guest, Prof Aynish Kumar, Chairman, Commission for Scientific and Technical Terminology, MHRD introduced the commission and informed that they would be publishing all scientific terminology in different Indian languages. He presented a set of dictionaries to BITS Pilani. Prof Madhu Jain and Prof R.C.Singh Chandel introduced in detail the Vijnana Parishad of India and scientific journal "Jñānābha".

Events at Library

Librarians' Day celebrations

August 12, 2019 is celebrated as Librarians' Day to commemorate the birth anniversary of National Professor of Library Science, Dr. S R Ranganathan who had spearheaded Library Development in India.

Librarians' Day



BITS Pilani Library celebrated the Librarians Day by organizing a Brainstorm session on Creating Collaborative Spaces in the Library to foster innovation. Former Director Prof Ashoke K Sarkar, paid floral tributes to Dr S R Ranganathan and chaired the session. Mr. Giridhar Kunkur, Librarian talked about Dr. Ranganathan and his contributions to the Library Science.

Inauguration of Innovation and MakerSpace Zone

The 78th birth anniversary of 'The Missile Man of India'- Dr. APU Abdul Kalam was celebrated along with the inauguration of the Innovation Zone and MakerSpace in the Library. It aims to fuel the innovation and creative culture in the campus. The Former Director, Prof Ashoke K. Sarkar in presence of Guest of Honor- Mr. Ajay Chaturvedi (Founder-Harva), Chief Librarian, Mr. Giridhar Kunkur - Faculty In-Charge, CIIE, Dr Satyendra Sharma - Chief, Publications and Media Relations Prof Sangeeta Sharma, and some other faculty members inaugurated the space by cutting the ribbon and starting the 3D Printer. Chief Librarian Mr. Giridhar Kunkur in his welcome address said, due to significant changes in higher education, the expectations of present day students particularly in the field of Science and

Technology have also changed including their perception of using the libraries for learning, accessing, collaborating, interacting, innovating and for gaining knowledge and experience. Therefore the library has provided space for experimentation, creativity, innovation and research. The students club called Srishtaara - means creator in Sanskrit with a tagline Catalyzing Creativity has been set up. Mr. Pranay Didwania, one of the founding members of Srishtaara and a fourth year student gave a presentation on Srishtaara. He provided an overview about what the community's ambitions are, how they are thinking of achieving them, what can be expected from the community in the foreseeable future and how it will help the BITS campus and society at large. He also gave a brief introduction about the resources and features of the space. Former Director Prof Ashoke K. Sarkar, in his keynote address, informed about the visit of our former President Dr. A.P.J. Abdul Kalam in the year 2007 where he spent a lot of time in BITS Pilani Library discussing with students. He told that the innovation and creativity should become a movement in the campus, as it will be a crucial step in developing successful entrepreneurs. He informed that the institute is planning to build a innovation center in the campus. He was very happy to see a innovation and Makerspace facility in the Library and congratulated the Library team and the new club members of Srishtaara for their effort in developing this facility. The Guest of Honor, Mr. Ajay Chaturvedi, in his speech on Darshan Shastra stressed on the importance of Indian culture and how it is important to think critically. He also mentioned the power of cost-effective innovation on all aspects that will lead to value creation across the world, especially in India that supports the Socio-Capitalistic business models as the drivers of inclusive growth.

Inauguration of Innovation and MakerSpace Zone



Quality Management to Knowledge Management Talk

Library organised a talk by Prof Jagtar Singh, Department of Library and Information Science, Patiala University, Punjab on Quality Management to Knowledge Management: Value-addition for the transformation of Library and Information Services in academic libraries. Librarian, Mr. Giridhar Kunkur, in his

welcome address said that digital technologies today are aiming at transforming present day user's continuing quest for enhanced learning and understanding. Prof. Singh talked about the importance of categorization and dissemination of knowledge by the library professionals. He mentioned the three categories of the library professionals i.e. lead, follow or quit. He explained about the importance of listening skills for library professionals where they should listen to users' needs in order to serve them better and improving abilities and common-sense to avoid problems. He also talked about the quality of library services which should delight the end-users. He educated the library professionals that when the choice of becoming a librarian is executed, then it is the responsibility of each librarian to provide value-based services to users. In the end, Deputy Librarian, Dr. Ishappa Bandi, thanked the speaker and the audience.



Competition on Academic Writing

Library in collaboration with Department of Mathematics and Balani Infotech Pvt Ltd organised an "Academic Writing Competition" for Research Scholars of Mathematics Department and also an awareness programme on Society for Industrial and Applied Mathematics on November 4, 2019. Dean Administration, Prof S K Verma, was the chief guest on the occasion. The first, second and third cash prizes worth Rs. 5000/- Rs. 3000/- and Rs. 2000 were won by Ms. Pinki, Mr. Shreekanth Varshney and Mr. Shah Pallav respectively. Prof S K Verma gave away the cash Prizes to the winners.

Academic Writing Competition



Academia: a confluence of ideas

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

Prof Arya Kumar, Department of Economics and Finance, was a panel member in the discussions on "BITS Education and Entrepreneurship" organized by BITS Singapore Chapter on August 24, 2019 wherein Alumni Mr. Narinder Singh, Mr. Nana V, Mr. Naresh and Ms. Tuhina Singh participated. He also participated in BITSync organized by BITSAA International in Sunnyvale on September 21, 2019 and presented a perspective on BITS growth plans and strategy for Alumni Connect.



Prof Poonam Goyal, Department of Computer Science & Information Systems, presented a research paper titled " μ DBSCAN: An Exact Scalable DBSCAN Algorithm for Big Data Exploiting Spatial Locality" in an international conference on IEEE Cluster 2019, held at Albuquerque, USA during September 23-26, 2019.



Dr. Sailaja Nandigama, Department of Humanities and Social Sciences, attended the 5th Annual Flare Network Meeting hosted by the University of Michigan, and presented a research paper titled, "Forest rights as drivers of livelihood security of forest dependent communities: An ethnographic account of the implementation of Forest Rights Act across three states of India and its impact on the formal and the informal forest management practices" at University of Michigan, USA during August 23-25, 2019.





Dr Virendra Singh Shekhawat, Department of Computer Science and Information Systems, attended IEEE International Conference on Systems, Man, and Cybernetics (SMC) and presented a research paper titled "A Graph Partitioning Approach for Fast Exploration with Multi-Robot Coordination Efficient Content Caching for Named Data Network Nodes" at Bari, Italy during October 6-8, 2019. He also attended 16th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2019) and presented a

research paper titled "Efficient Content Caching for Named Data Network Nodes" at Houston, USA during November 12-14, 2019.

Dr Amit Dua, Department of Computer Science and Information Systems, organized a one day workshop on "Blockchain technology and applications" at BITS Pilani on November 10, 2019.



Dr Kamalesh Kumar, Department of Civil Engineering, presented a paper titled, "Safe finite slope height estimation of pilani soil using ultrasonics" at International Conference Trending Moments & Steer forces-Civil Engineering Today (TMSF-2019), at Don Bosco College of Engineering, Fatorda-Goa, jointly organized by Department of Civil Engineering, Don Bosco College of Engineering, Fatorda-Goa & Department of Civil Engineering, National Institute of Technology, Surathkal, Karnataka during October 31, 2019 and November 1, 2019.

Prof Manoj Kumar Soni, Department of Mechanical Engineering, visited Institut für Werkzeugmaschinen und Fertigungstechnik (IWF), (Institute of Machine Tools and Production Technology), Technische Universität Braunschweig, Germany as a Guest Scientist during December 15 - 22, 2019.

Prof Smita Raghuvanshi, Department of Chemical Engineering, attended and presented a paper titled "A Sustainable Approach Towards Non-Photosynthetic Conversion

of Carbon-Di Oxide to Bio-Diesel Utilizing Mixed Microbial Culture-Steps Towards Climate Change" at Engineering Sustainable Development Conference at Seoul, Korea, during December 12-13, 2019 organized by AIChE Institute for Sustainability & APRU.



Dr Kamlesh Tiwari and Dr Ashutosh Bhatia, Department of Computer Science and Information Systems organized 3rd Indian Workshop on Applied Deep Learning (IWADL-2019-Pilani) during December 15-18, 2019 as a Convener/Coordinator.



Prof Yashvardhan Sharma, Department of Computer Science and Information Systems, attended IEEE BigData Conference and presented a paper titled "Language Identification and Context-based Analysis of Code-switching Behaviors in Social Media Discussions" at Los Angeles, CA, USA during December 9-12, 2019.



Dr Rahul Singhal, Department of Electrical and Electronics Engineering, attended Second IEEE Indian Conference on Antennas & Propagation (InCAP-2019) organized by SAC, ISRO; IETE; IEEE AP and MTT Joint Chapter Gujarat section to present a paper titled "Characteristics Analysis of a Square Loop-based Artificial Magnetic Conductor," at Ahmedabad, Gujarat during December 19-22, 2019.



Invited Lectures by Faculty

Prof Pushp Lata, Department of Humanities and Social Sciences, was invited to conduct a workshop on Essentials of Effective Communication Skills in a fifteen day long Induction Programme of Engineering Students on varied topics related to Science, Technology, Engineering and Management organized by the Department of Applied Sciences, Humanities and Management, Government Engineering College, Bharatpur during August 03-18, 2019 held under the aegis of TEQIP-III.

Prof Manoj Kumar Soni, Department of Mechanical Engineering, delivered a talk on "Trends & Technology in Energy" in Aditya Birla Group Senior Manufacturing Leaders Technology Conference series "REPRISM 2019", on August 16, 2019 at Bangkok, Thailand and at Gurugram on August 8, 2019.



Prof Shamsheer Bahadur Singh, Department of Civil Engineering, delivered keynote lectures at NIT Surathkal on November 18, 2019 on "Fiber Reinforced Concrete and its Application" sponsored by TEQIP III and also delivered an invited lecture on Application of Composites for Structural Strengthening at NIRMA University on August 3, 2019.

Dr Deepak Chitkara, Department of Pharmacy, visited the University of Miyazaki, under the framework of Sakura Science Exchange program (Sakura science plan) administered by Japan Science and Technology Agency conducted by the Faculty of Medicine, University of Miyazaki, Japan during December 16-22, 2019.

Mr. Giridhar Kunkur, Librarian, delivered a talk on "Engaging Users through Innovative Library Practices" during the International Conference on Digital Technologies and Transformation in Academic Libraries held at National Institute of Technology, Surathkal, Karnataka on December 27, 2019.

Dr Virendra Singh Shekhawat, Department of Computer Science and Information Systems, delivered a talk on "Network Simulation and Modeling using ns-3 Simulator" in an International Workshop on Stochastic Simulation and its Applications (WSSA 2019) organized by the Department of Mathematics on December 27, 2019.

Prof Arya Kumar, Department of Economics and Finance delivered a key note talk on "Entrepreneurial opportunities in 21st Century and Eco system in Educational Institutions" on September 17, 2019 in the 3rd Indo-German Conference on Sustainability in Engineering: Enhancing Future Skills and Entrepreneurship. He also delivered an invited talk on "Technology Driven Entrepreneurship -Role of Higher Educational Institutions in Building an Eco -system" in the International conference organized by High Technology Entrepreneurship and Innovation Forum and TU during November 20-21, 2019 at Braunschweig University, Germany.



Prof Navneet Goyal, Department of Computer Science & Information Systems, was invited as an expert in a panel discussion on "Opportunities & Future: AI, Analytics, & Health" in First Regional Workshop on Startups organized by the Department of Information Technology (DIT), Govt. of Rajasthan in collaboration with the Department of Promotion of Industry & Internal Trade (DPIIT), Govt. of India during July-29-30, 2019 at Jaipur. He was also invited as a speaker & panelist for the session "Private AI - Enabling businesses with power of AI while reducing their liability" at the fourteenth edition of the NASSCOM-DSCI Annual Information Security Summit (AISS), during December-3-5, 2019 in New Delhi. He also gave an invited lecture on "Private AI: Federated Learning & Data Encryption" at the International Workshop on Applied Deep Learning (IWADL), held at BITS-Pilani during December-15-18, 2019 and was also a part of a panel discussion on "Use of AI/ML/DL skilling in Indian Scenario".

Prof Manjuladevi. V, Department of Physics, delivered an invited talk on "Langmuir-Blodgett Films of Unsymmetrical Bent-core Liquid crystal at air-water and air - solid interfaces" in the International Conference on Liquid Crystals, Liquid Crystalline Polymers and Nanosystems (ICLCPN 2019), organized by School of Energy Materials, MGU, Kottayam, Kerala and University of Maribor, Slovenia during December-13-15, 2019.

Prof Raj Kumar Gupta, Department of Physics, delivered an invited talk on "Self Assembly of discotic liquid crystal molecules and its sensing application" in the International Conference on Liquid Crystals, Liquid Crystalline Polymers and Nanosystems (ICLCPN 2019), organized by School of Energy Materials, MGU, Kottayam, Kerala and University of Maribor, Slovenia during December-13-15, 2019.

Accolades and Achievements: Academic attainments of faculty

Prof Sangeeta Sharma, Department of Humanities and Social Sciences, has been selected in the panel of experts for conducting workshops in the area of Gender Studies for the Police Officials by the National Commission for Women, Government of India on August 19, 2019.

Dr Neetu Yadav, Department of Management, was awarded 2019 Emerald Literati Award in Highly Commended category for teaching case "Amazon India's 'Apni Dukaan': Branding Strategy" published in Emerald Emerging Markets-Case Studies and also received the Best Paper Award in Performance Management track at British Academy of Management (BAM 2019) Conference held at Aston University, Birmingham, UK during September-3-5, 2019.

Dr Sailaja Nandigama Department of Humanities and Social Sciences, was awarded USD 1000, and was given registration fee waiver for USD 250 for presenting her research paper titled, "Forest rights as drivers of livelihood security of forest dependent communities: An ethnographic account of the implementation of Forest Rights Act across three states of India and its impact on the formal and the informal forest management practices," by the FLARE network in the 5th Annual International Conference held at the University of Michigan, USA during August-23-25, 2019.

Prof Yashvardhan Sharma, Department of Computer Science and Information Systems, participated in Multilingual 2019 Bigdata Cup Competition and secured second position with an award of \$1000.

Prof Arya Kumar, Department of Economics and Finance, was the Chief Guest in the International conference organized by Vivekananda Global University on "Entrepreneurship and Management: Challenges, Issues and Opportunities in Global Economy" in association with Tribhuvan University, Nepal in partnership with Headstart, Wadhvani Foundation, Elica Da Terra, Edukarron International & Startup on November-9, 2019.



Distinguished Lectures

Mr. Deepak Gadhia, Chairman, Sunrise CSP Pvt. Ltd, delivered a lecture on "Renewable Energy -Opportunities and Future Prospects for Budding Engineers and Entrepreneurs" in the Department of Mechanical Engineering on September 17, 2019.

Prof Nivedita Kaul, Associate Professor, Department of Civil Engineering, MNIT Jaipur delivered a guest lecture titled, "Sustainable Engineering" in the course Environment, Development and Climate Change course on November 23, 2019.

Prof G.D. Veerappa Gowda, TIFR Centre for Applicable Mathematics, Bangalore delivered a lecture on "Applications of Hamilton-Jacobi equations in shape from shading" in the Department of Mathematics on September 9, 2019.

Prof Dilip K. Maiti, Vidyasagar University, West Bengal, delivered a lecture on "Entropy Generation in a MHD Couette-Poiseuille Flow Through a Microchannel with Slip, Suction-Injection and Radiation" in the Department of Mathematics on September 7, 2019.

Mr. Anurag Srivastava, University of Turin, Italy delivered a research talk on "Understanding the role of enolase post-translational modification in Pancreatic Cancer" and "Bust the myth of international application and fly to the study destination abroad" in the Department of Biological Sciences on September 7, 2019.

Prof Nisith Gupta, Humboldt University, Germany delivered a talk on "Intracellular Parasitism 101: Survival strategies of a eukaryotic cell inhabiting another eukaryotic cell" in the Department of Biological Sciences on November 11, 2019.

Dr Vidhi Pareek, Res. Asst. Prof., The Huck Institutes of Life Sciences, Pennsylvania State University, PA, USA delivered a research talk on "Unveiling the unseen life of the peroxisome metabolon by metabolomics and mass spectral imaging" in the Department of Biological Sciences on November 16, 2019.

Prof Suresh Arya, NIH, USA delivered a guest lecture to the students registered in course BIO G523 (Advance & Applied Microbiology) on Synthetic Microbiology in the Department of Biological Sciences on November 18, 2019.

Dr Arun K. Sinha delivered a talk on "Innovation Towards Green Future: Natural Product-inspired synthesis of small molecules of biological and industrial relevance" in the Department of Chemistry on November 11, 2019.

Dr Noorullah Baig delivered a talk on "Synthesis, Characterization, Optical Properties and Porous Applications of Organic Materials" in the Department of Chemistry on August 6, 2019.

Dr R. Narayanasamy, NIT Tiruchirappalli delivered a talk on "Metallurgy of automotive steels and aluminum alloys for automobile" in the Department of Mechanical Engineering during August 30 to September 1, 2019.

Mrs. Vasanthi Hariprakash, Media Strategist, Journalist, TV and Radio Anchor, conducted a workshop on "Journalism" for the students of Introduction to Mass Communication course in the Department of Humanities and Social Sciences during September 4-5, 2019.

Mr. Rafiq Iqbal, Co-Founder, Cybotics, GmbH and Head of the German Indian Round Table (GIRT) of North Bavaria, Germany visited the Department of Humanities & Social Sciences on October 21, 2019 and discussed the possibilities of collaboration in teaching German and Green Energy supply by Battery Power.

Dr. Sriram Rajamani, a distinguished scientist and Managing Director of Microsoft Research India gave Lecture Series on Principles of Programming Languages from October 12-15, 2019 in the Department of Computer Science & Information Systems.

Mr. Akash Agrawal, Management Consultant with Nexus Angels Consulting, delivered a lecture on "Creating Sustainable Competitive Advantage" for MBA students in the Department of Management on September 7, 2019.

Mr. Rahul Kohli, Chief Executive Officer (Fertilizer Business) at Aditya Birla Group and Adviser to Chancellor, Mr. Kumar Mangalam Birla for Higher Education, visited and interacted with faculty and MBA students in the Department of Management on September 13, 2019.

Mr. Coumura Radja, President-Global Business at ZCL (earlier Zandu Pharma) delivered two sessions on "Career on a Fast-Track" and "International Market-Entry Strategies" in Department of Management on September 15, 2019.

Dr M. B. Anand, Former Principal Economic Adviser, Government of India delivered a lecture on "Industrial Growth Experience: Policies, Institutions and Instruments" for MBA students in the Department of Management on November 19, 2019.

Significant projects

S.No	Principal Investigator and Name of the Department	Co-PI	Project Title	Agency	Amount (INR) and Sanctioned Date
1.	Dr Vaibhav Dixit Department of Pharmacy	-	Sequential Comprehensive and holistic (SeqComHol) drug metabolism predication methodology to reduce drug failures	Royal Society of Chemistry, UK	3.23 Lakhs 15.8.2019
2.	Prof Indresh Kumar Department of Chemistry	-	Design and development of synthetic industrial methods to access chiral drugs	Praveen Laboratories Pvt. Ltd, Surat	20.80 Lakhs 13.8.2019
3.	Prof Navneet Gupta Department of Electronics and Electrical Engineering	-	Design and Analysis of Metamaterial Based Antenna for Wearable Application	DST (Indo-Bulgaria Joint Bilateral Research)	11.82 Lakhs 9.8.2019
4.	Dr Syamantak Majumder Department of Biological Sciences	Prof Rajdeep Chowdhury	Studying the efficacy of ADAM inhibitors in treating diabetic nephropathy	ICMR	14.25 Lakhs 28.8.2019
5.	Prof Shibashis Chowdhury Department of Biological Sciences	Dr Syamantak Majumder, Prof Rajdeep Chowdhury, Dr Aniruddha Roy	Repurposing of CNS accumulating drugs as autophagy modulators for potential treatment against glioblastoma: as in-silico, in-vitro and in-vivo study	ICMR	12.51 Lakhs 30.8.2019
6.	Dr Pradipta Chattopadhyay Department of Chemical Engineering	-	Understanding emulsion kinetics of surfactants	Total Oil India Pvt. Ltd	7.41 Lakhs 1.9.2019
7.	Prof G.S. Chauhan Department of Humanities and Social Sciences	Dr Rajnesh Choubisa, Dr Tanu Shukla, Dr Sailaja Nandigama, Dr R.P. Pariek	Efficacy & Effectiveness of Information, Education and Communication (IEC) Activities for Health Awareness and Promotion among Women in Rajasthan: Towards a HOPE Approach	ICMR-ICSSR	13.49 Lakhs 23.9.2019
8.	Dr Elita Krishna Chaitnya Department of Chemical Engineering	-	Development of microporous PVC films for synthetic leather applications	M/s Mayur Uniquoters Pvt. Ltd	7.67 Lakhs 25.09.2019
9.	Dr Deepak Chitkara Department of Pharmacy	-	Self-assembling pH-sensitive tamoxifen-oleic acid conjugate nanomedicine for treatment of glioblastoma multiforme	ICMR	8.24 Lakhs 25.9.2019
10.	Prof Ravi Kant Mittal Department of Civil Engineering	Prof Mahoj Kumar Soni	Design and development of fixed and floating solar PV installation for water management infrastructures	First Green Consulting Pvt. Ltd	11.38 Lakhs 30.9.2019
11.	Dr Rajnesh Choubisa Department of Humanities and Social Sciences	Prof Gajendra Singh Chouhan, Dr Tanu Shukla	Development & Validation of a Prototype of a Web/Mobile App Based Positive Psychological Intervention for Adolescents	ICMR-ICSSR	8.82 Lakhs 21.10.2019
12.	Prof Rajdeep Chowdhury Department of Biological Sciences	Dr Syamantak Majumder, Dr Shibashis Chowdhury	High altitude-hypoxia mediates thrombosis in soldiers; modulation of autophagy as a strategy to combat high altitude-hypoxia induced thrombosis	DRDO	42.24 Lakhs 23.10.2019
13.	Dr Meghana Tare Department of Biological Sciences	-	Understanding the genetic interactions of parkin and α -synuclein affecting pathogenesis of Parkinson's disease	SERB	22.55 Lakhs 13.11.2019
14.	Prof Leela Rani Department of Management	-	Developing active social learning interventions and assessing their impact on environmentally sustainable consumption behavior of primary children	NCERT	5.14 Lakhs 26.11.2019

S.No	Principal Investigator and Name of the Department	Co-PI	Project Title	Agency	Amount Sanctioned (INR) and Sanctioned date
15.	Prof Ashish Kumar Das Department of Biological Sciences	Dr Dinesh Gupta, International Centre for Genetic Engineering, New Delhi and Dr Sanjay Kumar Kochar, SPMC, Bikaner	Developing active social learning interventions and assessing their impact on environmentally sustainable consumption behavior of primary children	ICMR	42.29 Lakhs 03.12.2019
16.	Dr Bhanuvaradhan Reddy Kuncharam Department of Chemical Engineering	-	Assessment of mixed-matrix membrane system for CO ₂ separation for upgradation of Biogas to Bio-compressed Natural Gas (Bio-CNG)	SERB	24.48 Lakhs 26.11.2019
17.	Dr Rupam Goswami Department of Electronics and Electrical Engineering	-	Nanocavity-in-body tunnel field effect transistor architectures for low power sensing applications	SERB	10.49 Lakhs 26.11.2019
18.	Prof Rajiv Gupta Department of Civil Engineering	-	Structured Dialogues for sustainable urban water management (SDSUWM)	DST-WTI	229.88 Lakhs 26.11.2019
19.	Prof Galkwad Anil Bhanudas Department of Pharmacy	-	Klotho regulation as a novel therapeutic strategy against acute kidney injury: induced comorbidity; Impact of epigenetic driven and epigenetic independent reactivation of endogenous Klotho expression	SERB	50.33 Lakhs 6.12.2019
20.	Dr Mukul Joshi Department of Biological Sciences	-	Exploring Known and novel HSPs and HSFs in a thermo-tolerant plant Prosopis cineraria by genome-wide studies and application of genome editing for enhanced heat stress tolerance in rice	DBT-Ramalingaswami Fst	42.50 Lakhs 6.12.2019
21.	Dr Rajesh Kumar Department of Mathematics	-	Numerical methods and Error Analysis for Solving coagulation and non-linear fragmentation equations	SERB	9.62 Lakhs 3.12.2019
22.	Prof Srikanth Routroy Department of Mechanical Engineering	Prof Anupam Singhal and Prof Dipendu Bhunia	Waste Management of Generated Sludge from Indian Steel and Steel related plants: A sustainable Business Model	Ministry of Steel	6.77 Lakhs 19.12.2019
23.	Dr Rahul Singhal Department of Electronics and Electrical Engineering	-	GaN Gratings-on-Diaphragm based Optical Pressure Sensing in Harsh Environments	CARS-DRRO	9.66 Lakhs 11.12.2019
24.	Prof Anshuman Dalvi Department of Physics	-	Li ⁺ NASICON-Polymer hybrid composites for solid state super capacitor applications	SERB(CRG)	43.97 Lakhs 18.12.2019
25.	Dr A R Harikrishnan Department of Mechanical Engineering	-	Effective anti-icing strategies for power transmission cables and pipelines using macro structured super hydrophobicity	SERB(SRG)	30.17 Lakhs 13.12.2019
26.	Dr Syed Zafaruddin Department of Electronics and Electrical Engineering	-	Machine learning techniques for resource allocation in cell-free massive MIMO communications	SERB(SRG)	18.48 Lakhs 31.12.2019
27.	Prof Anshuman Dalvi Department of Physics	-	EXAFS Investigations on - ion conducting polymer nanocomposites for conductivity structure correlation	UGC-DAE	2.08 Lakhs 9.1.2020

Student Events

BOSM 2019

The 34th edition of BITS Open Sports Meet (BOSM) commenced on September 13, 2019. The inaugural ceremony kicked off with music, drama and dance performances by the students. Tania Sachdev, a renowned chess player who holds the title of Grandmaster, was the Chief Guest for the event. The meet hosted 1700 participants from various Institutes throughout the country competing in different sports such as Athletics, Badminton, Basketball, Cricket, Chess, Football, Hockey, Powerlifting, Tennis, Table Tennis, Squash, Swimming, etc. Tania Sachdev addressed the importance of sports in students' lives. She expressed her admiration for BITS, Pilani and mentioned that her mother had participated in a debate during OASIS, the annual cultural festival. Addressing the meet, Former Director Prof Ashoke K Sarkar, lauded the efforts of students for conducting the event. He also motivated students to participate in sports by referring to the achievements of BITS alumni in sports. BOSM 2019 also included performances of comedian and YouTube sensation Anubhav Singh Bassi, and Mumbai-based rock bands, As-We-Keep-Searching and Paradigm Shift. In addition, there was a social awareness campaign called Junoon to raise awareness on child education. The underprivileged children from various NGOs were invited to watch and spend time with participants. With the tag line 'Grit, Guts, Glory', BOSM provided a platform to colleges from all over India in a thrilling 4-day affair to showcase their talents by promoting healthy competition. It gave attendees an opportunity to take part in a variety of sports and other events.



Oasis 2019

The 49th edition of Oasis commenced on October 19, 2019. The inauguration ceremony of this five-day fest kicked off with a performance by the Music Club, followed by the screening of the previous edition's after movie. Madhur Bhandarkar, the acclaimed filmmaker of the films *Fashion* and *Heroine* was the chief guest for the event. He talked about the importance of good cinema and requested the audience to keep watching meaningful cinema. He added that it motivates him to make 'real, topical, issue-based films' that strike at problems deeply ingrained in the society. The Former Director Prof Ashoke K. Sarkar, addressed the gathering and welcomed the participants. It was followed by a vote of thanks by the General Secretary. The programme ended with performances by the Dance Club and the Mime Club. Event was also graced by the presence of Film Director, Imtiaz Ali. He shared his thoughts and provided a glimpse into his life as a director, theatre artist and a small-town guy. Oasis 2019 included performances by some of the most well-known artists of the time, like Dan Deacon, Abhishek Raghuram, Nucleya, and Sunidhi Chauhan. The traditional events: Rockfaves, Razzmatazz, and Andholika were warmly received as always, having been perfected and polished with the passage of time. The fest attracts thousands of outstation participants, from all over India who participate in a wide variety of activities comprising music, dance, drama, art, quizzes, fashion, etc.



Nirmaan

Joy of Giving Week 2019

Nirmaan, a voluntary organization initiated by BITS, Pilani students in 2005 that works in the areas of education, livelihoods and social leaderships, organized the Joy of Giving Week 2019 on September 4, 2019. Mr. Sharad Sagar, an Indian youth icon and a globally renowned entrepreneur who has done significant work in the field of education and public service graced the occasion. He spoke at the flagship event of Nirmaan and inspired the students with his story of rising from humble and remote dwellings of Bihar to being listed in global Forbes 30 under 30. He said that the information gap is majorly responsible for creating differences among people beyond any socio-economic barriers. He motivated the students by discussing stories of great leaders such as Mahatma Gandhi, Swami Vivekananda, Vallabhbhai Patel and their efforts in revolutionizing the society along with gaining significant education and skills. The event was also graced by Former Director Prof. Ashoke K. Sarkar.



L'Oréal Sustainability Challenge 2019

The team Growth Hackers, comprising of Palash Dhakar (2018B3A40462P), Harshwardhan Mittal (2018B2A40855P) and Disha Jain (2018B2A10797P) won the L'Oréal Sustainability Challenge 2019.



L'Oréal Sustainability Challenge is a Digital Challenge for B-School & Engineering Students which integrates the mission of Sharing Beauty with Employer Branding. The problem statement of the challenge was to tackle key problems like the 3R model, how to minimize waste during procurement and production and other aspects of a product life-cycle. 14,900 students registered in this challenge which began in September. The top 5 teams were invited for the Grand finale which was held in Mumbai on October 14, 2019.

Ragamalika

Second semester started with the Freshers' Concert on August 30, 2019 which kicked off the preparation for Nrityaranjani. Held on the November 4, 2019, Margam, the show, was a collection of pieces in Bharatnatyam and Kathak to show the audience the multiple facets of these centuries-old traditions. During Oasis, the club invited Abhishek Raghuram, one of the rising stars of Carnatic music on October 21, 2019. Ragamalika also organized Tandav and Swaranjali, the classical dance and music competitions. This time, the concerts witnessed a highly enthusiastic participation, with the events being a roaring success. The semester concluded with a Psenti Concert by the outgoing seniors on November 19, 2019 bringing an end to the club's activities for the semester.



Abhimanyu Raj Shekhar (2017A1PS0790P) received First degree project funding (standalone) amounting to Rs. 50,000 for a novel project titled "Steady state thermal and aging analysis of secondary cells varying on chemistry and structural aspects" on October 5, 2019.

Start-up UrbanStack, launched by Shivam Soni (2017D2TS1238P), Utkarsh Doot (2017B1A10403P) and Sparsh Jain (2017B5A40892P) successfully participated in iPreneur Social Venture Competition (India's Biggest Social Entrepreneur summit) by presenting their idea of innovation in the field of transportation. The Team secured third position in the Top 5 teams amongst 350+ teams.

Neelam Mahala, (2015PHXF0419P) Department of Biological Sciences working under the supervision of Prof Uma Dubey attended 2nd National Biomedical Research Competition (NBRCCom-2019) and presented a poster titled "Studies of Anticancer Activity of Camelus dromedaries Milk Lactoferrin" at Postgraduate Institute of Medical Education & Research Chandigarh Under the aegis of Society of Young Biomedical Scientists (SYBS) on November 17, 2019. (Got Certificate of Appreciation). She also attended Young Scientists' Conference in India International Science Festival and presented a poster titled "Studies on Anti-cancer Property of Proteins isolated from Camelus dromedarius Milk" at Biswa Bangla Convention Centre, Kolkata, India during November 5-7, 2019.



Junction Hackathon 2019

Yajat Dawar (2015B4A70620P), Garv Sachdeva (2015B4A70551P) and Nikhil Ranjan (2015B1A70773P) of team "Spam Redressal" won the challenge: "Protection Against Targeted and Personalized Email Attacks" presented by D-Fence at the most prestigious hackathon of Europe -Junction. They were awarded with a prize money of €1000. The Hackathon was held at Aalto University in Helsinki, Finland during November 15-17, 2019.



Rohit K Bharadwaj (2017B4A70633P) won the Singapore India Hackathon 2019 Encouragement Prize at the Singapore India Hackathon held in IIT Madras, Chennai on 30th September, 2019. The team of Indian students were all BITSians- Rohit was from Pilani campus while Samarth Jain and Gargi Balasubramaniam were from Goa campus.



Ms. Akankshya Mishra (2016A7PS0026P), mentored by Prof Yashvardhan Sharma, Associate Professor, Department of Computer Science & Information Systems, secured second position in the Workshop "Understanding Multilingual Communities through Analysis of Code-switching Behaviors in Social Media Discussions" in IEEE Big Data Cup Challenge 2019 and was awarded \$1000 as prize money.



Neelanchal Joshi (2017B5A30624P) presented a paper titled "Implementation of CCSDS Hyperspectral Image Compression Algorithm on FPGA onboard a nanosatellite" at the 8th European Conference for Aeronautics and Space Sciences in Madrid, Spain during July 1-4, 2019.



Shagufta Gurmukhdas (2019H1030012P) received full sponsorship to present on Machine Learning To Interpret Sign Language at the Strange Loop conference 2019, held in St. Louis, Missouri, USA on September 14, 2019.



Introducing new faculty

S.No.	Name	Designation	Discipline	
1.	Dr. Jagat Sesh Challa	Assistant Professor	Computer Science and Information Systems	
2	Dr. Amitesh Singh Rajput	Assistant Professor	Computer Science and Information Systems	
2.	Dr. Suvanjan Bhattacharyya	Assistant Professor	Mechanical Engineering	
3.	Dr. Amit Rajnarayan Singh	Assistant Professor	Mechanical Engineering	
4.	Dr. Shelaka Gupta	Assistant Professor	Chemical Engineering	
5.	Dr. Divyumi Sharma	Assistant Professor	Mathematics	
6.	Dr. Gourab Sil	Visiting Faculty	Civil Engineering	
7.	Dr. Raj Singh	Visiting Faculty	Electrical and Electronics Engineering	
8.	Dr. Shishir Maheshwari	Assistant Professor	Electrical and Electronics Engineering	
9.	Dr. Sai Sessa Chalapathi Gattupalli	Assistant Professor	Electrical and Electronics Engineering	
10.	Dr. Satyandra Kumar Mourya	Assistant Professor	Electrical and Electronics Engineering	
11.	Dr. Chintalapalli Vijayakumar	Assistant Professor	Humanities and Social Sciences	

Editorial team



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Mr. Ramesh Sharma, Publications and Media Relations



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