



BITS Pilani
Pilani Campus

Semester-I notes 2024-25

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Pilani Campus



Editorial

Dear Readers,

Welcome to the 45th edition of BITScan, your window into the vibrant academic, research, and student life at BITS Pilani, Pilani Campus. This issue arrives at a moment of celebration and recognition, as BITS Pilani was honored with dual accolades at the Confederation of Indian Industry (CII) Annual Summit highlighting our sustained commitment to bridging academic research and fostering a culture of innovation across the institute.

This edition brings you highlights from a semester filled with academic excellence, innovation, and celebration. Our Convocation 2024 was a proud moment, with nearly 1,500 degrees awarded and inspiring addresses from leaders in science and technology, alongside the announcement of a \$100 Million Endowment Fund as part of our Diamond Jubilee. We also marked national pride through spirited celebrations of the 78th Independence Day, as well as Gandhi and Shastri Jayanti, reinforcing the values that bind our community.

Our faculty and students continue to make headlines—whether it's the inauguration of the DBT BUILDER National Facility for cutting-edge research in epigenetics, or the successful transfer of an innovative anti-diabetic nanoformulation to industry, showcasing the translational impact of our research. This issue spotlights major recognitions, such as BITS Pilani's felicitation for advancing women's role in STEM, and the achievements of faculty members who have garnered national and international honors. Student achievements shine brightly, with students excelling at global competitions like WorldSkills 2024 in France, winning national hackathons, and contributing impactful research.

Campus life thrived with the successful organization of OASIS and BOSM 2024, where student leadership and creativity shone through various events, inspiring talks, and spirited competitions. OASIS's "Regal Roulette" theme brought royal elegance and casino-inspired excitement, while BOSM's upgraded facilities and diverse sporting events showcased athletic excellence across disciplines, both fests highlighting BITS Pilani's vibrant community spirit. From groundbreaking research and global collaborations to student triumphs and community engagement, this edition of BITScan is a testament to the relentless pursuit of knowledge, innovation, and service that defines BITS Pilani. We invite you to explore these stories and join us in celebrating the achievements and aspirations of our ever-growing BITSian family.

BITS Pilani Receives Dual Recognition at CII Awards Summit

BITS Pilani was honored with two prestigious accolades—the *CII Industry-Academia Partnership Award* and the *CII Industrial Innovation Award*—at the Confederation of Indian Industry (CII) Annual Summit on Technology, Intellectual Property, and Industry-Academia Partnerships, held on December 12 to 13, 2024, at The Lalit, New Delhi. The Industry-Academia Partnership Award recognized BITS Pilani's sustained commitment to fostering meaningful collaborations with industry leaders, effectively bridging academic research and real-world applications.

The Industrial Innovation Award celebrated the Institute's culture of innovation, driven by its faculty, students, and

researchers in their pursuit of impactful, solution-oriented research.

- Prof. V. Ramgopal Rao and Mr. Rajiv Tandon Receive CII Awards on Behalf of BITS Pilani



On this prestigious occasion, Prof. V. Ramgopal Rao, Vice Chancellor, BITS Pilani, received the Industry-Academia Partnership Award on December 12, 2024. The Industrial

Innovation Award was accepted on December 13, 2024, by Mr. Rajiv Tandon, CEO, Strategic Initiatives & Industry Research Partnerships, on behalf of BITS Pilani.

- Prof. V. Ramgopal Rao and Mr. Rajiv Tandon Receive CII Awards on Behalf of BITS Pilani



Convocation 2024

BITS Pilani, Pilani Campus celebrated its Convocation on November 10, 2024, in the main auditorium, honouring the graduating students of First Degree, Higher Degree, and Ph.D. programs. The event was graced by Dr. S. Somanath, Chairman of ISRO and Secretary of the Department of Space, as the Chief Guest, and Mr. Sanjay Mehrotra, President and CEO of Micron Technology, as the Guest of Honour. The ceremony was conducted in-person and live streamed on YouTube, marking a proud moment for the institute and its students. A total of 1,483 degrees were awarded, including 1,010 undergraduates, 377 postgraduates, and 96 doctorate degrees. The academic procession was led by Col. Soumyabrata Chakraborty, Registrar, BITS Pilani, Pilani Campus.

- Convocation 2024



In his address, Mr. Kumar Mangalam Birla, Chancellor, BITS Pilani, reflected on the institute's 60-year journey and inspired students to explore future opportunities in technology, entrepreneurship, and sustainability. Prof. V. Ramgopal Rao, Vice Chancellor, BITS Pilani laid out the 2030 vision focused on Interdisciplinary research, Internationalization, and Industry Connect, and highlighted the prestigious SATHI grant awarded to the institute. A major announcement during the ceremony was the launch of a \$100 Million Endowment Fund as part of the Diamond Jubilee celebrations.

Dr. Somanath, in his inspiring keynote, spoke about India's growing space ambitions and the need for innovation and collaboration in science and technology. Mr. Mehrotra highlighted the global demand for semiconductor talent and encouraged students to stay rooted in values while aspiring for excellence.

Prof. Sudhir Kumar Barai, Director, BITS Pilani, Pilani Campus, shared recent campus achievements and lauded the "Graduating Class Campaign" started by the Class of 2024 to support future batches. Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus, delivered the Vote of Thanks, concluding the memorable event.



Awards and Recognitions Presented

Convocation 2024 was a grand celebration that honoured the achievements of BITSians across various fields through a series of prestigious alumni awards. The BITS Ratna Award 2024 was conferred upon two distinguished personalities. Mr. Pratul Shroff, leader and manager of the Dr. K. R. Shroff Foundation. Mr. Ranvir Trehan, founder of SETA Corporation. In the Academia and Research category of the Distinguished Alumnus Awards (DAA) 2024, the recipients were Prof. Venkataramanan Raman and Prof. Sudhir Kumar.

In the category of Entrepreneurship, Public Life, and Philanthropy, the DAA 2024 was awarded to several notable alumni. Mr. Adarsh Nair, co-founder and general partner at Optica, a quant hedge fund. Ms. Anindita Sampath, co-founder of YogaBars. Dr. George Jacob, president and CEO of the Smithsonian-affiliated Bay Ectarium. Mr. Goutham Kurra, co-founder of Wisq and Glint. Mr. Sanjay Nath, co-founder and managing partner at Blume Ventures. Mr. Shishir Joshipura is the CEO and MD of Praj Industries. Dr. Anil Gupta is the Founder of Microtek, Okaya, and Okaya EV. Mr. Gunender Kapur currently serves as Investor CEO at Vishal Mega Mart. Mr. Sanjeev Tirath, founder and CEO of Pyramid Consulting, Inc. Mr. Vinod Saraf is the Chairman of Vinati Organics Ltd.

The Distinguished Services Award 2023 recognized alumni who have made remarkable contributions in their respective domains. Mr. Sudeep Jain, currently serves as the Additional Secretary in the Ministry of New & Renewable Energy (MNRE), Government of India. Dr. Satya Gupta, president of the VLSI Society of India. Lt. Gen. Arvind Walia holds the position of Engineer-in-Chief of the Indian Army. Mr. Sundi Natarajan is the Co-founder of Sparksoft Corporation and plays a key role in supporting the entrepreneurial ecosystem for BITSian startups. Ms. Swati Bhatia currently leads Retail Banking and Transformation at Santander Bank. Dr. Shilpa Sambashivan is the Chief Technology Officer and Chief Scientific Officer at Nura Bio. The BITS Young Alumnus Achievement Awards 2024, presented to alumni under the age of 40, celebrated the achievements of emerging leaders and innovators. The recipients of this award included Gaurav Chaudhary, Aravindhan P., Vikas Ramachandra, Shubham A. Mishra, Vrushali Prasade, Hari Valiyath, Sanskriti Dawle, Aman Srivastava, Dilip Ramesh, and Saif Shaikh. These recognitions reflect the diverse achievements of the BITS Pilani community and the lasting impact its alumni continue to make across the globe.



Panel Explores India's Foreign Policy Shifts Post-G20

The Department of Humanities and Social Sciences, BITS Pilani, Pilani Campus, in collaboration with the Indian Council of World Affairs (ICWA), hosted a panel discussion titled *"Indian Foreign Policy Post-G20: Exploring New Discourses and Trajectories"* on November 25, 2024.

The event brought together diplomats, academicians, and scholars to examine India's evolving global role and foreign policy priorities in the wake of its G20 presidency. Mr. Hitesh J. Rajpal, Indian Foreign Service (IFS) Officer, delivered an insightful talk on *"77 Years of Indian Foreign Policy"*, tracing India's shift from non-alignment to multi-alignment, and highlighting how the G20 presidency bolstered India's global influence.

The panel opened with a conceptual note by Prof. (Dr.) Veena Ramachandran, Department of Humanities and Social Sciences, BITS Pilani, Pilani Campus, who framed India's G20 presidency as a major diplomatic milestone. She discussed India's leadership in the Global South, South Asian geopolitics, and the roles of multilateral platforms such as SAARC and BIMSTEC.

- Panel Discussion on India's Foreign Policy Post-G20 Hosted by BITS Pilani, Pilani Campus



BITS Pilani Recognized at CII Awards on Excellence for Women in STEM

BITS Pilani was honored at the CII Awards on Excellence for Women in STEM 2024, held in November 2024. Organized by the Confederation of Indian Industry (CII), the awards celebrate organizations that have demonstrated exceptional efforts to enhance women's representation and empowerment in Science, Technology, Engineering, and Mathematics (STEM).

From over 100 submissions across industry and academia, 50 winners were shortlisted. BITS Pilani was recognized among the top winners for its impactful initiatives, policies, and programs fostering gender inclusivity in STEM fields.

As a part of this recognition, BITS Pilani was invited to contribute to a special compendium showcasing

Dr. Swaran Singh emphasized India's *"New Imagination"*, advocating for a decolonization of foreign policy thought and a shift toward development-driven diplomacy. Predicting India's rise as the third-largest economy by 2030, he called India the *"Voice of the Global South"*, particularly in light of the African Union's inclusion in the G20.

Prof. (Dr.) Sreeradha Datta examined the *"Neighbourhood First"* policy, proposing a reframing of India's regional leadership from a "big brother" to a more inclusive "big sister" role. She highlighted challenges like small state insecurity and diplomatic hedging due to limited geopolitical choices.

Moderated by Prof. Ramachandran, the discussion also touched on India's strategic alignments with ASEAN, BIMSTEC, and QUAD, and explored the growing impact of cultural diplomacy and the Indian diaspora in shaping soft power. The session concluded with an engaging Q&A and a vote of thanks by Prof. Ramachandran, offering participants a nuanced understanding of India's post-G20 foreign policy trajectory.

organizational best practices. This compendium will be circulated among key stakeholders, including government bodies, industries, academic institutions, and research organizations.

- BITS Pilani Felicitated for Advancing Women's Role in STEM



Workshop on Enhancing Scholarly Research with Sage Journals and Research Methods

The Department of Humanities and Social Sciences, BITS Pilani, Pilani Campus, organized a workshop titled *"Enhancing Scholarly Research: Sage Journals Awareness & Sage Research*



Methods Product Demonstration" on November 23, 2024. The event was coordinated by Prof. Pushp Lata.

Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus, graced the event as the Guest of Honour. The resource persons were Mr. Kirt Raj Phagna, Deputy Manager (North India), and Mr. Manoj Kumar Gupta, Deputy Manager (Training and Analytics), Sage Publishers.

The workshop began with a welcome address by Prof. Sangeeta Sharma, Head, Department of Humanities and Social Sciences, BITS Pilani, Pilani Campus, who emphasized the importance of scholarly resources in maintaining research excellence. Prof. Rao, in his special address, appreciated the initiative and encouraged scholars to uphold research quality and ethics. The interactive session led by Mr. Phagna and Mr. Gupta offered hands-on demonstrations of Sage Journals and Sage Research Methods, equipping participants with practical tools for research.

The event concluded with a Q&A session, where participants actively engaged with the speakers. Winners of quiz responses received Sage goodies, adding enthusiasm to the session. Feedback was collected to inform future workshops.

Inauguration of DBT BUILDER National Facility & Symposium on Epigenetics and Genome Editing

BITS Pilani, Pilani Campus inaugurated the DBT BUILDER National Facility on October 24, 2024, marking a key milestone in epigenetics and genome editing research. The event was presided over by Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus, and

inaugurated by Chief Guest Prof. V.M. Katoch, Former Director-General, ICMR, and Founding Director, Department of Health Research, Government of India.

Prof. Ashis Das, DBT BUILDER Coordinator and Senior Professor, Department of Biological Sciences, introduced the facility's vision to enhance bioscience research under the DBT-BOOST initiative for interdisciplinary life science departments.

Prof. V. Ramgopal Rao, Vice-Chancellor, BITS Pilani, emphasized the institute's commitment to translational research and student innovation through initiatives like SOLVE, SPARKLE, and CDRF, backed by a strong alumni network. Prof. Rao hailed the facility as a milestone in addressing critical healthcare challenges. Prof. Rajdeep Choudhary and Prof. Rajeev Taliyan highlighted the departments' strengths in interdisciplinary research and therapeutic innovation.

Prof. V.M. Katoch underscored epigenetics' potential in diagnostics and therapeutics, while Prof. Agam P. Singh, National Institute of Immunology (NII), showcased advanced genome editing in *Plasmodium*, reflecting the wide scope of these technologies.

- Inauguration of DBT BUILDER Facility at BITS Pilani, Pilani Campus



BITS Pilani Strengthens Global Ties at RMIT Higher Education Academy

Hon'ble Minister of Education, Shri Dharmendra Pradhan, led a high-level delegation to Singapore and Australia from October 20–26, 2024. Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus, and Chair/Co-Chair of the BITS RMIT Higher Education Academy, was a key member of the delegation.

During the Melbourne visit, Shri Dharmendra Pradhan, Australian Minister of Education Mr. Jason Clare, and RMIT University President Prof. Alec Cameron toured RMIT's advanced facilities and the *Discovery to Device* exhibition, highlighting innovation and research excellence. Prof. Barai emphasized how India's National Education Policy (NEP) 2020 enables global academic partnerships such as the BITS RMIT Higher Education Academy.

This collaboration offers integrated undergraduate and PhD programs, enabling students to study at both BITS Pilani and RMIT Melbourne. It promotes academic excellence, global exposure, and world-class research opportunities. The ministers and Prof. Cameron appreciated the growth of the academy, now comprising 200+ undergraduate students and 60+ PhD scholars. The visit reaffirmed India and Australia's shared commitment to education and research, with NEP 2020 as a key enabler for India's higher education transformation.

- Prof. Barai with Hon'ble Minister Shri Dharmendra Pradhan at RMIT, Melbourne



BITS Pilani Transfers Innovative Anti-Diabetic Nanoformulation to Anya Capital Holding Pvt. Ltd.

BITS Pilani successfully transferred its indigenous anti-diabetic nanoformulation technology to Anya Capital

Holding Pvt. Ltd. on October 11, 2024. The nanoformulation, "Orally Active Nanoformulation of the Anti-Diabetic Molecule Lisofylline (LFA)," developed by Prof. Anupama Mittal, Department of Pharmacy, BITS Pilani, Pilani Campus significantly boosts Lisofylline's bioavailability—three times more than the free drug—enhancing its effectiveness in treating Type 1 diabetes. The breakthrough has been featured in *Nature India*.

The transfer was facilitated by the Technology Transfer Office and BITS Technology Enabling Centre (BITS TEC), a DST-supported hub promoting innovation and commercialization. The agreement was signed by Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus, and Mr. Ajay Patel, Director, Anya Capital Holding Pvt. Ltd., in the presence of Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus, Prof. Deepak Chitkara, Coordinator, IPEC & BITS TEC, and Mr. Rajneesh Kumar, Head, Technology Transfer Office.

Mr. Patel praised BITS Pilani's innovation ecosystem and affirmed Anya Capital's commitment to advancing and commercializing the technology. Prof. Barai emphasized the institute's mission to drive research with real-world impact, especially in combating chronic diseases like diabetes. Prof. Mittal highlighted the importance of translating research into accessible healthcare solutions through active industry collaboration.

Technology transfer ceremony with representatives from Anya Capital Holding Pvt. Ltd.



Gandhi and Shastri Jayanti Celebrations at BITS Pilani

The celebrations commenced on October 2, 2024, with the traditional lamp lighting by Prof. Sudhir Kumar Barai, Director, BITS Pilani, Pilani Campus, Col. Soumyabrata Chakraborty, Registrar, BITS Pilani, Pilani Campus, and Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus.

The event featured soulful bhajans by children from Blossoms Kids Zone, captivating the audience with their innocence. BITS Pilani students, under the guidance of Dr. Anil Rai, also performed bhajans, infusing the gathering with renewed energy. Documentaries on Mahatma Gandhi and Lal Bahadur Shastri were screened, highlighting their teachings. An oath-taking ceremony reaffirmed the values espoused by these great leaders. The program concluded with a floral tribute to Gandhiji and Shastriji, followed by a spirited rendition of the National Anthem. The event was coordinated by Prof. Sushila Shekhawat, Faculty In-charge, Infant Care Centre and Institute Functions.

- Gandhi and Shastri Jayanti Celebrations



Social Outreach and Women Empowerment Program for Pilani

A Social Outreach Program was conducted on September 28, 2024, under the DSIR-funded research project "Recycling for Conservation of Environment", aimed at empowering rural women in and around Pilani through sustainable waste paper recycling.

The program was led by Prof. Monica Sharma, Head, Innovation and Incubation Center, MNIT Jaipur, and organized by Prof. Sangeeta Sharma, Head, Department of Humanities and Social Sciences, BITS Pilani, Pilani Campus. Held at the Pilani Advanced Academic Research Center (PAARC), the event provided entrepreneurial training to selected project participants and members of women's Self-Help Groups (SHGs), equipping them to turn recycled paper products into marketable commodities.

Prof. Monica Sharma emphasized on market analysis, financial planning, and value addition, stating, "This initiative is not just about recycling but about empowering

women to build sustainable enterprises that benefit both their communities and the environment."

The session fostered an entrepreneurial mindset, promoting self-reliance and growth in the green economy. Participants expressed enthusiasm for the training, gaining direction and confidence for their ventures.

- Women trained in sustainable paper recycling social outreach program



World Pharmacists Day Celebration at BITS Pilani with Industry Leaders

The Department of Pharmacy, BITS Pilani, Pilani Campus, in collaboration with the DST-supported BITS-Technology Enabling Centre (BITS-TEC), celebrated World Pharmacists Day on September 25, 2024. Themed *"Pharmacists: Meeting Global Health Needs"*, the event focused on the evolving role of pharmacists and academia-industry collaboration in healthcare innovation.

Distinguished industry guests included Dr. Ramakrishna Vydana, Deputy General Manager, Sun Pharma; Mr. Pawan Kumar Verma, Assistant General Manager, Alembic Pharmaceuticals; and Mr. Mithilesh Nagpure, a Quality Assurance expert with over 18 years of experience.

Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus, and Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus also graced the occasion. Prof. Barai highlighted pharmacists' crucial contribution to global healthcare and emphasized the role of AI and machine learning in transforming pharmaceutical research.

Dr. Vydana delivered an engaging talk on biowaivers and virtual bioequivalence, stressing AI-driven drug formulation as a cost-effective strategy. A panel discussion, moderated by Prof. Deepak Chitkara, Coordinator, BITS-TEC, fostered dialogue on strengthening industry-academia partnerships.

The event concluded with reflections on discipline, ethics, and innovation in pharmacy. Prof. Atish Paul, Department of Pharmacy, convened the session.

- Glimpses from World Pharmacists Day Celebrations at BITS Pilani



Research Talk on Building Scalable AI Infrastructure

The Department of Computer Science and Information Systems (CSIS), BITS Pilani, Pilani Campus organized a research talk on *"Realizing Artificial Intelligence: Edge-to-Cloud-to-Exascale"* by Dr. Puneet Sharma, Director, Networking and Distributed Systems Lab, Hewlett Packard

Labs, USA, on September 23, 2024. The event was conducted in hybrid mode at TP Classrooms across BITS Pilani's Pilani, Goa, Hyderabad, and Dubai campuses.



Dr. Sharma, an IEEE Fellow and ACM Distinguished Scientist, engaged in a thought-provoking discussion with Prof. V. Ramgopal Rao, Vice-Chancellor, BITS Pilani, exploring potential collaborations between BITS Pilani and HP Labs in India and the USA. He also discussed launching a course on Software-Defined Networks for BITS students, following interest expressed by Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus.

Addressing the growing demands of AI infrastructure, Dr. Sharma emphasized the need for scalable, resilient, and efficient systems to meet the computational challenges of emerging AI technologies. Prof. Navneet Goyal shared key AI initiatives by the CSIS department, while Prof. Yashvardhan Sharma, Head, Department of Computer Science and Information Systems, introduced the speaker and highlighted the department's growth journey.

The session inspired dynamic discussions among students, faculty, and researchers, fostering new ideas for innovation in AI infrastructure.

- Research Talk on AI Infrastructure by Dr. Puneet Sharma



BITS Pilani Hosts AGILE Workshop 2024

The AGILE Entrepreneurship Workshop was held from August 27 to September 7, 2024, at BITS Pilani, Pilani Campus, bringing together students from Hiroshima University, The University of Sheffield, and BITS Pilani to promote entrepreneurship and cultural exchange. The program began with an introduction to Indian culture and ice-breaking sessions led by Prof. Arya Kumar, helping students from diverse backgrounds connect and collaborate.

Participants attended sessions by Prof. Leela Rani, Prof. Ashutosh Bhatia, Prof. Sangeeta Sharma, Prof. Hari Nair, and Prof. Rajiv Kumar Chaturvedi on entrepreneurship, blockchain, and design thinking. An industry visit to MapmyIndia, including an interaction with Mr. Rohan Verma, deepened students' understanding of geospatial technologies.

- Prof. Leela Rani interaction with students'



To offer rural exposure, participants visited a farm and village, interacting with Mr. Rahul Kaswa (MP, Churu), Mr. Manoj Nyangli (MLA, Sadulpur), and Mr. Pitram Kala (MLA, Pilani), gaining insights into policymaking and rural development. Cultural activities like yoga and mehendi sessions enriched their experience.

The farewell ceremony featured Indian classical performances and a valedictory attended by Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus, Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus, Prof. A.P. Singh, Dean (AUGSD), BITS Pilani, Pilani campus; Prof. Arya Kumar; and Prof. V.K. Dubey.

The workshop concluded with excursions to Jaipur and Delhi, where students explored iconic landmarks, further deepening their appreciation of India's heritage. Beyond academics, the AGILE Workshop nurtured innovation, leadership, and lifelong international friendships.

- Global Exchange Program



Anti-Ragging Awareness Week Held at BITS Pilani, Pilani Campus

BITS Pilani, Pilani Campus observed Anti-Ragging Week from August 13-15, 2024, in line with the UGC initiative to promote a safe, inclusive, and respectful campus environment.

The week commenced with an invited talk on August 13 by Mr. Gaurav Singhal, who addressed students on "Eradication of Ragging: Ways to Ensure a Safe Educational Environment." Through compelling real-life stories and case studies, he emphasized the psychological and legal consequences of ragging and shared strategies for prevention and support.

Glimpses from Anti-Ragging Week at BITS Pilani, Pilani Campus



On August 15, the Anti-Ragging Poster and Slogan Challenge encouraged students to express their perspectives on creating a ragging-free campus. Creative entries highlighting messages of empathy, unity, and vigilance were submitted, and selected works will be featured on the Student Welfare Division's website.

The initiative saw enthusiastic participation from students and faculty, reinforcing BITS Pilani's ongoing commitment to student welfare and campus safety. The event was coordinated by Prof. Navin Singh, Associate Dean (SWD), BITS Pilani, Pilani Campus with support from Prof. Pawan Ajmera, Prof. Prateek, and Prof. R.P. Mishra.

The week's activities were conducted under the guidance of Prof. V. Ramgopal Rao, Vice-Chancellor, BITS Pilani; Prof. Sudhirkumar Barai, Director, Pilani Campus; and Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus.

Celebration of 78th Independence Day at BITS Pilani

BITS Pilani, Pilani Campus celebrated the 78th Independence Day with pride and enthusiasm on August 15, 2024. The event highlighted India's post-independence achievements, aligning with this year's theme, "Viksit Bharat," envisioning India as a fully developed nation by 2047.



The National Flag was hoisted by Prof. V. Ramgopal Rao, Vice-Chancellor, BITS Pilani accompanied by Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus; Col. Soumyabrata Chakraborty, Registrar, BITS Pilani, Pilani Campus; and Prof. N.V.M. Rao, Dean (Administration), BITS Pilani, Pilani Campus. Simultaneously, Chief Security Officer Mr. Kishore

Singh and his team saluted the tricolor, symbolizing the nation's unity and resilience. The event was meticulously coordinated by Prof. Shilpi Garg, Faculty-in-Charge of Institute Functions. Students, under the guidance of Dr. Anil Rai, performed patriotic songs, reflecting India's cultural diversity and unity. This was followed by the National Pledge, administered by Ms. Ananya, urging all to uphold their duties as responsible citizens. The celebration concluded with a spirited rendition of the National Anthem, marking a moment of national pride and collective aspiration.

- Moments from The 78th Independence Day



BITS Pilani Collaborates with Springer Nature for Global Research Access

BITS Pilani signed an agreement with Springer Nature in July 2024 to provide open access publishing opportunities for its researchers across Pilani, Hyderabad, and Goa campuses. The collaboration aims to enhance the visibility and global reach of research from the institute. The agreement allows BITS Pilani researchers to publish in over 550 open-access journals under Springer Nature, including BMC, Springer, and Nature Portfolio, significantly improving research dissemination and fostering global academic collaboration.

The MoU was signed by Prof. V. Ramgopal Rao, Vice-Chancellor, BITS Pilani, and Mr. Venkatesh Sarvasiddhi, Managing Director, Springer Nature India Pvt. Ltd., in the presence of Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus; Mr. Arun Khetan, CFO, BITS Pilani and CEO, BITS Pilani, Mumbai Campus; Prof. N.V.M. Rao,

Dean (Administration), BITS Pilani, Pilani campus; Col. Soumyabrata Chakraborty, Registrar, BITS Pilani, Pilani Campus; and Dr. Ranjan Sinha Thakur, Librarian, BITS Pilani, Pilani Campus. This partnership marks a significant step in BITS Pilani's commitment to advancing open-access research and increasing the global impact of its scholarly output.

- Snapshot from the MoU signing between BITS Pilani and Springer Nature



Academia: a confluence of ideas

Seminars / Conferences / Workshops / Training Programs

Dr. Kamalesh Kumar, Department of Civil Engineering, participated in the II International Scientific Conference, Space. Time. Civilization (STC-2024) organized by BITS Pilani in collaboration with Bauman University. The event was conducted online via Zoom, across India, Egypt, and Russia, from November 2–7, 2024.

B. P. Sharma, I. Sarma, A. Gupta, and C. Shekhar presented the paper “A 12.11 mW, 99 pJ/Conv.-Step SAR ADC with Optimal Power Efficiency for IoT” at the 5th IEEE Industrial Electronics and Applications Conference (IEACON) held in Kuala Lumpur, Malaysia, on November 4-5, 2024.

B. P. Sharma, A. Gupta, and C. Shekhar presented the paper “Device Characterization and Threshold Voltage Extraction of Multi-VT Transistors in UMC 65nm Technology: A Methodological Approach” at the IEEE 11th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON) held in Lucknow, India, from November 29 to December 1, 2024.

Dr. Kamalesh Kumar, Department of Civil Engineering, attended and participated in the 10th Annual Research Meet – ARM 2024, organized by the Centre for Research and Innovation, Venus International Foundation. The conference was held at Green Park, Chennai, India, on December 7, 2024. The theme of the conference was “Diverse Approaches to Address Societal Challenges and Deliver Novel Solutions” (Scientific Conference ISBN: 978-81-969897-1-2).

Accolades and Achievements: Academic attainments of Faculty

Prof. S.B. Singh, Department of Civil Engineering, received the Distinguished Alumnus Award (DAA-2024) for Professional Excellence in Academics and Research from NIT Warangal on October 10, 2024.

Col Soumyabrata Chakraborty (Retd), Registrar BITS Pilani, was selected as a Fulbright Scholar and attended the USIEF Senior Administrators Fulbright Program 2024 in the USA from October 12–26, 2024. The program included interactions with leadership and senior administrators at premier institutions including University of Chicago, Gallaudet University, Art Institute of Chicago, Northwestern University, Purdue University, University of Maryland Baltimore County (UMBC), and the Kellogg School of Management provided valuable insights into their academic frameworks, strategies for global engagement, and approaches to diversity and inclusion.

- Col Soumyabrata Chakraborty (Retd), attended the USIEF Senior Administrators Fulbright Program 2024



Prof. Raj Kumar Gupta, Department of Physics, was awarded the prestigious Silver Medal (SM) by the Indian Liquid Crystal Society (ILCS) for the year 2024. This recognition honors Prof. Gupta's remarkable contributions to the field of Soft Matter, particularly Liquid Crystals, as well as his outstanding dedication to teaching and administration. He delivered the SM Award Lecture at the 31st National Conference on Liquid Crystals (NCLC-2024) held in Surat, Gujarat, from December 20–22, 2024.



Dr. Kamalesh Kumar, Department of Civil Engineering, was conferred the award of Distinguished Researcher in Geotechnical Engineering for his contributions and achievements in the discipline of Engineering at the 10th Venus International Research Awards – VIRA 2024, held during the 10th Annual Research Meet – ARM 2024 at Green Park, Chennai, India, on December 7, 2024.



Invited Lectures/Talks by Faculty

1. **Prof. Shibasish Chowdhury**, Department of Biological Sciences, delivered an invited talk on *"Molecular Modeling: A Special Domain of Structural Bioinformatics"* at the DBT-supported Workshop on Bioinformatics, titled *"Emerging Frontiers in Stress Biology"*, held at the Department of Bioscience and Biotechnology, Banasthali Vidyapith, Rajasthan, during October 18-20, 2024.
2. **Prof. Jitender Panwar**, Department of Biological Sciences, delivered an invited talk on *"Potential Applications of Metal-Tolerant Rhizospheric and Phyllospheric Fungi"* at the National Conference on *"Fungal Frontiers: Biodiversity, Biomolecules, and Bioengineering Applications for Sustainable Perspectives"* and the 51st Annual Meeting of the Mycological Society of India (MSI-2024), held at the Department of Botany, J.N.V. University, Jodhpur, on November 29, 2024.
3. **Prof. S. B. Singh**, Department of Civil Engineering, delivered an invited talk on *"Application of FRP Materials for Sustainable Structures"* at the Workshop on *"Implementation of FRP Reinforcements in Concrete Structures – Current Trends and Future Prospects"*, held at IIT Bombay on December 13, 2024. He also presented a talk on *"Structural Response of FRP-Concrete Composite Beams"* at the 4th R.N. Raikar Memorial International Conference & Ghosh-Mukherjee International Symposium on Advances in Science and Technology, held at The Lalit Hotel, Mumbai, on December 14, 2024.
4. **Prof. Mukund Lahoti**, Department of Civil Engineering, delivered an invited talk on *"Strength-Preserving Self-Healing Mortar Using Novel Supplementary Cementitious Materials-Based Bacterial Carrier"* at the 4th International Conference on Bioprocess for Sustainable Environment and Energy, held at NIT Rourkela, India, on November 30, 2024.
5. **Prof. Sarbani Ghosh**, Department of Chemical Engineering, delivered an invited talk on *"Microscopic Insights of Electrochemical Switching of N-Type Polymeric Thin Films for Organic Mixed Ionic-Electronic Conduction: Theoretical Perspectives"* at the *International Conference on Functional Nanomaterials and their Applications in Sustainability, Environment, Energy, and Biotechnology (ICFNA-2024)*, held at BITS Goa from November 16 to 18, 2024.
6. **Prof. Banasri Roy**, Department of Chemical Engineering, delivered an invited talk on *"Biomass and Renewable Energy"* at the DAE-BRNS 10th Interdisciplinary Symposium on Materials Chemistry (ISMC-2024), held from December 4 to 7, 2024, at the DAE Convention Centre, Anushaktinagar, Mumbai.
7. **Prof. Anil Kumar**, Department of Chemistry, delivered a talk on *"Synthesis and Functionalization of Heterocycles Employing Emerging Tools and Techniques for Organic Synthesis"* at Government Madhav Science College, Ujjain, on August 27-28, 2024. He also delivered a talk on *"Design and Synthesis of Pincer-Transition Metal Complexes and Their Application in Direct C-H Bond Functionalization of Selected Heterocycles"* at Maharshi Dayanand University, Rohtak, on November 21-22, 2024, and a talk on *"Synthesis of Polyheterocyclic Systems by Transition-Metal-Catalyzed Dehydrogenative Annulation Reactions"* at Berhampur University, Odisha, on December 20-21, 2024.
8. **Prof. Ram Kinkar Roy**, Department of Chemistry, delivered a talk on *"In Search of Mechanism of Aggregation-Induced Emission"* at Bhabha Atomic Research Centre, Mumbai, from September 26 to 28, 2024.
9. **Prof. Surojit Pande**, Department of Chemistry, delivered a talk on *"Effect of Single Atom on Ni-Based Chalcogenide Nanomaterials for Overall Water-Splitting Reaction"* at BITS Goa from November 16 to 18, 2024.
10. **Prof. Inamur R. Laskar**, Department of Chemistry, delivered a talk on *"Towards Effective Detection of Nitroaromatics with Molecular Luminescent Compounds: A Journey"* at Cochin University of Science and Technology, Kerala, from December 11 to 13, 2024. He also delivered a talk on *"Tunable Emission Across Visible Range: Strategy to Explore"* at Trivandrum Engineering Science and Technology (TrEST) Research Park, Kerala, from December 13 to 15, 2024.
11. **Prof. Avik K. Pati**, Department of Chemistry, delivered a talk on *"Single-Molecule Fluorescence Analysis of Biomolecules"* at BITS Pilani on December 12, 2024.

12. **Prof. Sundaresan Raman**, Department of Computer Science and Information Systems, delivered an online invited talk on *"Introduction to Machine Learning"* for the workshop *"Understanding AI – Techniques and Their Application in Retinal Care"*, organized by the All India Ophthalmological Society (AIOS), on September 29, 2024.
13. **Prof. Jagat Sesh Challa**, Department of Computer Science and Information Systems, was invited as a panelist for the discussion on *"Supporting AI in Higher Education for a Global Workforce"*, part of UNGA 2024, organized by the Institute of International Education, New York, on September 13, 2024. He was also a panelist in the *"Global Symposium on Inclusive NLP"*, an online event conducted by OpenNLP Labs, San Francisco, on September 14, 2024.
14. **Prof. Aprajita Pandey**, Department of Economics & Finance, delivered an expert talk in the Faculty Development Programme on *"Blockchain Governance Structures and Trust: From Theory to Practice"* at BIT Mesra, held online from December 23 to 28, 2024.
15. **Prof. Rahul Arora** and **Prof. Krishna M.**, Department of Economics & Finance, were invited as delegates by the Government of Rajasthan for the Rising Rajasthan Global Investment Summit, Jaipur during December 9–11, 2024.
16. **Prof. Balakrushna Padhi**, Department of Economics & Finance, was invited as an expert at the *"Microeconomic Modeling Using Large Scale Survey in India"* workshop, held at the School of Economics, Central University of Hyderabad, from September 20 to 22, 2024. He was also invited to conduct a workshop on *"Household Consumption Expenditure Survey"* for the MA Public Policy and Governance students on September 20, 2024, organized by the School of Public Policy and Governance, Tata Institute of Social Sciences, Hyderabad.
17. **Prof. Arya Kumar**, Department of Economics & Finance, delivered the Keynote Address on *"Green Innovation and Investment Dialogue"* at the Round Table conference organized by the Centre for Economy and Growth, Observer Research Foundation, in Delhi on September 12, 2024. He also engaged in a session for faculty members across Rajasthan on *"Quality Improvement Initiatives – UGC"* on September 19, 2024, under *GURU-DAKSHATA: 8th Faculty Induction Programme* organized by Rajasthan University during September 2-28, 2024.
18. **Prof. Geetilaxmi Mohapatra**, Department of Economics & Finance, was invited to deliver a talk titled *"Assessment of Urban Water Stress Using Water Poverty Index: A Comparative Analysis of Indian States"* at the *Sustainable Urban Water Management for Fast-Growing Cities* conference, held at BITS Pilani, Hyderabad Campus, from October 21 to 23, 2024.
19. **Prof. Hari Om Bansal**, Department of Electrical & Electronics Engineering, chaired a session at the *11th IEEE Power India International Conference (PIICON)* at MNIT Jaipur, India, from December 10 to 12, 2024. He also delivered the keynote lecture on *"Energy Management and Charging Strategies in XEVs"* at the *4th International Conference on Flexible Electronics for Electric Vehicles (FlexEV 2024)* at Manipal University, Jaipur, on December 20, 2024.
20. **Prof. Upendra Mohan Bhatt**, Department of Electrical & Electronics Engineering, delivered an invited talk on *"Charge Trap Based 3D NAND Flash Memories"* at the *Advanced Electronic Systems Workshop* conducted by the Department of Electrical & Electronics Engineering, BITS Pilani, Pilani Campus, Rajasthan, under the SERB Scientific Social Responsibility (SSR) Policy, on November 22-23, 2024. He also chaired a session at the *3rd IEEE International Conference on Communication, Control, and Intelligent Systems (CCIS-2024)* at Mathura, India, on December 6-7, 2024.
21. **Prof. Satyendra Kumar Mourya**, Department of Electrical & Electronics Engineering, delivered an invited talk on *"Wide Bandgap Semiconductors for Photodetector Applications"* at the *Advanced Electronic Systems Workshop* conducted by the Department of Electrical & Electronics Engineering, BITS Pilani, Pilani Campus, Rajasthan, from November 22 to 23, 2024.
22. **Prof. Pushp Lata**, Department of Humanities and Social Sciences, conducted a workshop on *"The Art of Writing Quality Research Papers: Navigating the Path to Quality Publications"* at the *18th International and 54th Annual Conference on "Exploring Languages and Literatures for Evolving Pedagogical Practices"* at Assam Royal Global University, Guwahati, Assam, from October 23 to 26, 2024.

23. **Prof. Sushila Shekhawat**, Department of Humanities and Social Sciences, conducted a workshop on *Soft Skills*, organized by MNIT Jaipur, on December 30-31, 2024.
24. **Prof. Tanu Shukla**, Department of Humanities and Social Sciences, gave an expert talk on *"Cognitive Skills and Empowerment"* at the Himsagar Foundation, New Delhi, on December 27, 2024.
25. **Prof. Shuchita Goyal**, Department of Mathematics, delivered an invited talk titled *"Grid Graphs and their Matching Complexes"* at IISER Tirupati on October 11, 2024.
26. **Prof. Trilok Mathur**, Department of Mathematics, chaired a session and delivered an invited talk on *"Advancements in Image Processing: Leveraging Fractional Calculus and Neural Networks"* at the *Emerging Frontiers in Mathematical and Computational Sciences (EFMCS-2024)* held at the Department of Mathematics, North-Eastern Hill University (NEHU), Shillong, India, from October 24 to 26, 2024. He also delivered an invited talk on *"TFP Analysis of the General Insurance Sector in India through the NSM-DEA Model-based Approach"* at the *International Conference on Data Envelopment Analysis (DEA2024)* held at Birla Institute of Management Technology (BIMTECH), Greater Noida, India, from November 18 to 21, 2024.
27. **Prof. Sangita Yadav**, Department of Mathematics, delivered two lectures in the *'Refresher Course in Mathematics and Statistics'* organized by UGC-Malaviya Mission Teacher Training Centre, Patna University. The first was entitled *"HDG Method for Elliptic Problems: Development"* on October 17, 2024, and the second, *"HDG Method for Elliptic Problems: Error Analysis"* on October 25, 2024.
28. **Prof. Pramod Eyyunni**, Department of Mathematics, delivered an online invited talk in the *Student Seminar Series* at Tezpur University on *"A New Generalization of the Minimal Excludant Arising from an Analogue of Franklin's Identity"* on August 26, 2024.
29. **Prof. Divyum Sharma**, Department of Mathematics, delivered an invited talk titled *"Diophantine Equations Arising from Numeration Systems"* at the *International Conference on Diophantine Equations, Polynomials and Related Areas* held at the Indian Statistical Institute, Delhi, from November 26 to 30, 2024. He also delivered an invited talk titled *"On Diophantine Equations Arising from Numeration Systems"* at the *Number Theory Symposium of the Annual Conference of the Ramanujan Mathematical Society*, organized by CHRIST (Deemed to be University), Bengaluru, from December 27 to 29, 2024.
30. **Prof. Balram Dubey**, Department of Mathematics, delivered a plenary talk on *"Effects of Fear, Refuge, Carry-over, and Trade-off on the Dynamics of a Prey-Predator System"* at the *Annual Conference of Indian Society for Mathematical Modeling and Computer Simulation (ISMMCS)* and the *International Conference on Differential Equations: Theory, Computation, and Applications* held at South Asian University, Delhi, from November 29 to December 1, 2024.
31. **Prof. Shivi Agarwal**, Department of Mathematics, delivered an invited talk on *"An Extended Transportation Model with Multiple and Uncertain Attributes"* at the *Emerging Frontiers in Mathematical and Computational Sciences (EFMCS-2024)* held at the Department of Mathematics, North-Eastern Hill University (NEHU), Shillong, India, from October 24 to 26, 2024. She also chaired a session and delivered an invited talk titled *"Cross Efficiency Evaluation of Sugarcane Cultivation in the Northern Region of India"* at the *International Conference on Data Envelopment Analysis (DEA2024)* held at Birla Institute of Management Technology (BIMTECH), Greater Noida, India, from November 18 to 21, 2024.
32. **Prof. Sumanta Pasari**, Department of Mathematics, delivered an invited talk on *"Statistics of Earthquakes: Forecasting and Nowcasting"* at the *International Workshop on Observing Ground Deformation from Space and in the Field* held at CSIR-CSIO, Chandigarh, from December 16 to 19, 2024.
33. **Prof. Chandra Shekhar**, Department of Mathematics, delivered an invited talk on *"Innovative Inventory Management: A Comprehensive Approach to Deteriorating Item Optimization"* at the *International Conference on Innovative Trends in Statistics, Optimization, and Data Science (IC-ITSODS-2024)*, organized by the Department of Statistics and Operations Research, Kurukshetra University, Kurukshetra, in conjunction with the 44th Annual Convention of the Indian Society for Probability and Statistics (ISPS) and the 8th Convention of the Indian Association for Reliability and Statistics (IARS), from December 21 to 23, 2024.

34. **Prof. Srikanta Routroy**, Department of Mechanical Engineering, delivered a keynote lecture on “*LCA Approach for Sustainability Assessment*” at the SPARC Sponsored International Workshop on “*Green Energy and Sustainable Development*” held from September 26 to 28, 2024, at BITS Pilani, Pilani Campus.
35. **Prof. Leela Rani**, Department of Management, delivered an interactive session for a 5-day online workshop on “*Innovative Strategies for Enhancing Student Engagement: Advanced Teaching Pedagogies*” organized from October 21 to 25, 2024, at Manipal University Jaipur.
36. **Prof. Gaikwad Anil Bhanudas**, Department of Pharmacy, delivered an invited talk titled “*Pharmacological Interventions Targeting Different Pathophysiological Aspects of Diabetic Acute Kidney Injury*” on November 14, 2024, at the *Symposium on Emerging Therapeutic Strategies for the Treatment of Diabetes and Diabetic Complications* held at NIPER SAS Nagar. The talk was delivered online.
37. **Prof. Pragyanshu Khare**, Department of Pharmacy, gave an invited talk on “*Chill Out: How Menthol Boosts Energy Burn and Fights Insulin Resistance*” on November 14, 2024, at the same symposium mentioned above, held at NIPER SAS Nagar. This talk was delivered online.
38. **Prof. Atish T. Paul**, Department of Pharmacy, delivered an invited talk on “*Microplastics in Food and Food Products: Global Trend, Health Impact, Analysis, and Challenges*” on November 28, 2024, at the *International Conference on Emerging Approaches in Risk Analysis and Translational Aspects of Health and Environment (EARTH-2024)* held at IITR, Lucknow. This talk was delivered offline.
39. **Prof. Rajeev Taliyan**, Department of Pharmacy, delivered an invited talk titled “*Repurposing of Repaglinide to Treat Neurodegenerative Disorders Linked with Insulin Resistance*” at the *International Pharmacology Conference-54th Annual Conference IPS: ICP-IPSCON 2024*, held at AIIMS, New Delhi, during November 28 to 30, 2024. Prof. Taliyan also served as a session chair. The talk was delivered offline.
40. **Prof. Hemant R Jadhav**, Department of Pharmacy, gave an invited talk on “*A Pharmaceutical Chemist's Standpoint on In Silico Studies*” on October 21, 2024, at a Faculty Development Program on “*Multidisciplinary Approaches in Pharmaceutical Education and Research*” organized by the School of Pharmacy, The Neotia University, Sarisha (WB). This talk was delivered online.
41. **Prof. Ankit Jain**, Department of Pharmacy, gave an invited talk on “*Emerging Landscape of Liposomes in Cancer Therapeutics*” on September 19, 2024, as part of an Expert Lecture Series at the School of Pharmacy, Sharda University, Agra. This talk was delivered online.
42. **Prof. Amol R Holkundkar**, Department of Physics, gave an invited talk titled “*Laser-Plasma Based Accelerators and Fusion Devices*” at Birla Balika Vidyapeeth, Pilani, on February 28, 2024, as part of National Science Day Celebrations.
43. **Prof. Aritra Banerjee**, Department of Physics, gave an invited lecture at the IIT Kanpur Physics Department on “*Symmetry Resolved Entanglement Entropy*”, October 2024.
44. **Prof. Navin Singh**, Department of Physics, gave an invited talk titled “*Computational Biophysics*” on October 28, 2024, at IIT(ISM) Dhanbad.
45. **Prof. Anshuman Dalvi**, Department of Physics, gave an invited talk titled “*Batteries and Supercapacitors for Electric Vehicles: Indian Context*” on October 24, 2024, in the Mechanical Engineering Department at BITS Pilani (Pilani Campus). He also gave an invited talk titled “*Towards Developing Batteries and Supercapacitors for EVs and Microgrids*” on November 7, 2024, at VIT Vellore, and an invited talk titled “*Liquid-free Supercapacitors Using Solid-State Electrolytes: Strategies for Tailoring the Electrode-Electrolyte Interface*” on November 17, 2024, at a conference held at BITS Pilani (Goa Campus).
46. **Prof. Manjuladevi V** and **Prof. Anshuman Dalvi**, Department of Physics, gave an invited talk titled “*Tuning Liquid Crystal Properties with ZnO Nanomaterials: Exploring the Impact of Aspect Ratio and Functionalization*” on December 20, 2024, held at Navyug Science College, Surat, India.
47. **Prof. Raj Kumar Gupta** and **Prof. Anshuman Dalvi**, Department of Physics, gave an invited talk titled “*Beyond the Bulk: Exploring Liquid Crystal Molecules at Interfaces*” on December 20, 2024, held at Navyug Science College, Surat, India.

Distinguished Lectures

1. **Dr. Subodh Sinha**, Principal Scientist, Indian Agricultural Research Institute, Pusa, New Delhi, delivered a research talk titled *"Isotope Ratio Mass Spectrometry: Its Application in Precise Phenotyping for ^{15}N Influx"* on August 29, 2024. The talk was organized by the Department of Biological Sciences in association with the Central Instrumentation Facility (CIF).
2. **Prof. S. B. Hegde** delivered a talk titled *"Advancing Sustainability in the Indian Cement Industry: Innovations and Impact"* on November 6, 2024. The talk was organized by the Department of Civil Engineering.
3. **Dr. Santanu Pathak** delivered a talk on "Roads and Bridges Construction in PMGSY: Industry Practices and Execution" in the Department of Civil Engineering on November 6, 2024.
4. **Prof. Ashutosh Bhardwaj** delivered a talk on "Satellite Navigation Execution" in the Department of Civil Engineering on November 6, 2024.
5. **Prof. A. S. K. Sinha**, Ex-Professor of Chemical Engineering, IIT BHU, delivered a talk on "Green Shift for Sustainable Future" in the Department of Chemical Engineering on October 28, 2024.
6. **Prof. Satinder Kaur Brar** and **Prof. Ahmed Eldyasti**, Lassonde School of Engineering, York University, Canada, delivered a talk as a pre-event for the "SPARC Workshop cum International Symposium on Environmental Engineering and Sustainability" in the Department of Chemical Engineering on November 13, 2024.
7. **Anirban Roy**, Associate Professor, BITS Pilani Goa Campus, delivered a talk on "Understanding Challenges of Deep Tech Start Ups through 3 Case Studies of Membrane Technology" in the Department of Chemical Engineering on November 28, 2024.
8. **Dr. Vikram Mahamiya**, Condensed Matter and Statistical Physics Section, Abdus Salam International Centre for Theoretical Physics, Strada Costiera 11, 34151, Trieste, Italy, delivered a talk on "Simulating Host-Hydrogen Interactions: Towards Next-Generation Energy Materials" in the Department of Chemical Engineering on December 5, 2024.
9. **Dr. Puneet Sharma**, IEEE Fellow, ACM Distinguished Scientist, Director, Networking and Distributed Systems Lab, Hewlett Packard Labs, delivered a talk on "Realizing Artificial Intelligence: Edge-to-Cloud-to-Exascale" in the Department of Computer Science and Information Technology on September 23, 2024.
10. **Dr. Murari Mandal**, Assistant Professor at the School of Computer Engineering, KIIT Bhubaneswar, delivered a research talk on "Machine Unlearning" in the Department of Computer Science and Information Technology on November 23, 2024.
11. **Dr. Amitabh Kundu**, delivered an invited talk on "Nobel Prize Lecture Series" organized by the Department of Economics and Finance on November 30, 2024, at 9:15 PM in Room No. 6106, New Academic Building.
12. **Prof. B. S. Panda**, Department of Mathematics, IIT Delhi, delivered a talk on "Range Assignment Problem in Wireless Sensor Networks: A Graph Theoretic Approach" in the Department of Mathematics on November 20, 2024.
13. **Prof. Sneha Chaubey**, Indraprastha Institute of Information Technology Delhi, delivered a talk on "Distribution of Sequences in Number Theory" in the Department of Mathematics on November 22, 2024.
14. **Mr. Mohit Sharma**, Head of Sales Strategy and Planning, Ather Energy, delivered a talk on "The EV Edge: Strategies Shaping the Future of Mobility in India" in the Department of Management on November 9, 2024.
15. **Mr. Anand Barot**, Chief of Staff, Chairman's Office, Arvind Ltd., delivered a talk on "Leveraging Intuition and Analytics Across Functions" in the Department of Management on September 29, 2024.
16. **Mr. Aman Baunthiyal**, a PhD student at the Institute of Solid State Physics, University of Bremen, delivered a talk on "Growth and Structural Analysis of Gallium Oxide Films on Ru(0001)/Al₂O₃(0001) Grown by MBE and RF Sputtering for ReRAMs Application" in November 2024 in the Department of Physics.
17. **Prof. Dharmendra Pratap Singh**, UDSMM, ULCO, France, delivered a seminar on "Liquid Crystals: Host of Future Technologies" in December 2024 in the Department of Physics.

Student round up

OASIS 2024 – Regal Roulette

The campus of BITS Pilani was transformed into a vibrant cultural hub during the 52nd edition of OASIS, held from October 23-27, 2024. Themed "Regal Roulette," this year's fest combined royal elegance with the thrill of chance, creating an atmosphere where creativity flourished against the backdrop of Rajasthan's arid landscape.

The five-day extravaganza was inaugurated by acclaimed filmmaker Aniruddha Roy Chowdhury, known for directing critically acclaimed films like "Pink," "Anuranan," "Antaheen," and "Lost." His presence set the perfect tone for OASIS celebrating artistic excellence and creative expression.

With approximately 1,100 participants from colleges across India, OASIS 2024 featured an impressive lineup of events catering to diverse interests. The fest introduced the first-ever Rotunda Rave, an electrifying House/Techno night featuring talented artists like Nirvaan, Vanmoon, Houdini, and a special performance by Viitor Music. Other professional shows included Bollywood Night featuring Vishal Mishra, Hip Hop Night with Seedhe Maut, Indie Night and the grand finale – the N2O Stand-up Comedy Show starring Harsh Gujral and Vivek Samtani, which had audiences in splits. Beyond the professional shows, the fest offered a rich tapestry of competitions and participatory events including Street Dance Competition, Tarang, FashP, Rocktaves, and Silent Disco. The campus buzzed with energy as students participated in unique experiences like the Rage Room, ATV Racing, Treasure Hunt, and various competitions organized by different clubs.

The 96-hour non-stop celebration saw activities ranging from cultural performances to gaming tournaments, adventure zones, and social initiatives. What makes OASIS truly special is its entirely student-driven management, with the Students' Council for Cultural Activities (StuCCA) overseeing operations. As one of India's oldest and most prestigious college cultural fests, OASIS continues to be a platform where talent thrives, friendships form, and memories are created.

BOSM 2024 – A Celebration of Sport and Spirit



The 37th edition of the BITS Open Sports Meet (BOSM) lit up the BITS Pilani campus from September 18-22, 2024, celebrating athletic excellence and entertainment. As one of India's largest student-run sports festivals, BOSM 2024 drew over 700 athletes from across the country, offering a dynamic mix of sporting competitions, professional shows, and informal activities.

The inauguration ceremony was graced by legendary boxer and Arjuna Awardee Mr. Jitender Kumar, whose illustrious career includes Commonwealth Gold Medals (2003 & 2005), Afro-Asian Games Gold (2003), and a Commonwealth Games Silver Medal (1998). His inspiring presence set the perfect tone for the competitive spirit that followed.

Sporting events spanned across various disciplines, including football, basketball, swimming, squash, powerlifting, frisbee, and taekwondo. This year saw major infrastructure upgrades — a new skating rink at Gym-G, floodlights at MedC Cricket Grounds for night matches, renovated badminton courts at SAC, and a repolished squash court, enhancing both the player and spectator experience. Beyond sports, BOSM 2024 offered a rich cultural experience. Highlights included the Bollywood Night featuring OAFF and Savera, the N2O Stand-Up Comedy Show with Vipul Goyal and Urooj Ashfaq, and a pulsating

Pro DJ Night powered by Red Bull. The atmosphere was enhanced by unique experiences like Neon badminton and table tennis, an Adventure Zone featuring balloon shooting and archery, and various activities at VK Lawns including gel blasters and cricket bowling machines.

BOSM 2024 also upheld its tradition of social responsibility through initiatives like Junoon (a sports event for specially abled children), the BOSM Marathon raising awareness on social issues, and YODH (a sports day for underprivileged children). Meticulously organized by the Committee of Students for Sports Activities (CoSSAc), BOSM 2024 once again proved why it remains one of India's premier intercollegiate sports festivals, seamlessly blending competitive spirit with entertainment.

- BOSM 2024



BITS Embryo

BITS Embryo is an institute body at BITS Pilani, Pilani Campus dedicated to enhancing students' learning experiences and providing exposure to various domains. Operating under the motto "Borderless Classrooms & Bottomless Resources," it fosters collaboration between students, faculty, and alumni. BITS Embryo organizes talks by distinguished professionals, offers exposure to cutting-edge research, and facilitates networking with academicians and industry leaders. Since 2006, it has conducted over 200 lectures on diverse topics, enriching the academic environment at BITS Pilani.

Semester Talks Series

BITS Embryo hosted a range of engaging events in the first semester of 2024-2025, bringing expert speakers and thought-provoking discussions to campus. Some highlights from the series include:

Personal Finance with Ms. Monika Halan - In September 2024, Ms. Monika Halan, a renowned expert in personal finance, hosted an informative session on strategies for achieving financial success. She shared practical tips on budgeting, saving, investing, and effective money management.

Dr. Shreyas Sen: "Your Body: A Data Wire" - On September 27, 2024, Dr. Shreyas Sen gave an insightful talk exploring the potential of the human body as a conduit for data transmission, delving into the intersection of biology and technology.

Ms. Seema Anand: "Biomimicry and Sustainable Design" - Ms. Seema Anand, an expert in biomimicry, discussed nature-inspired designs in sustainable architecture. The session, held on September 30, 2024, covered the latest trends in biomimicry and showcased real-world examples of innovative, environmentally friendly built environments.

Mr. Ravi Kapoor: "The Journey of Becoming a Civil Servant" - On November 10, 2024, Mr. Ravi Kapoor shared his personal journey and insights into the challenging yet rewarding path of becoming a civil servant, offering advice on UPSC preparation and career transitions.

Dr. Pramod Verma: "Scaling Digital India for a Billion" - Dr. Pramod Verma, a key architect of India's digital infrastructure, delivered a talk on the challenges and solutions in scaling initiatives like Aadhar and India

Stack to serve over a billion people. His session highlighted emerging technologies and their potential impact on India's digital future.

BITS Embryo also played a key role in Oasis and BOSM 2024, introducing the popular "Rotunda Rave," managing artist hospitality, securing performances for multiple shows, and handling production logistics. At BOSM, Embryo hosted celebrated boxer Jitender Kumar, inspiring attendees with his achievements. Their contributions greatly enhanced the experience at both fests.

Mehul Goel (2023A7PS0556) and **Sajal Chuttani (2023A4PS0420)** clinched third place in the inaugural Lam Research Challenge, a nationwide systems engineering competition. Despite the challenge requiring teams of four, Mehul and Sajal took on the task as a duo, showcasing remarkable determination and resilience. Over the course of the two-day competition, they battled fiercely and emerged in the top three, competing against 25 highly skilled teams. Their success highlights their blend of theoretical knowledge and practical application, as they skillfully addressed real-world problems. Through teamwork, innovation, and technical excellence, they demonstrated exceptional capabilities.

- Mehul Goel (f20230556) and Sajal Chuttani (f20230420) won Lam Research Challenge



Shreyansh Sharma (2022A1PS1568P), a Chemical Engineering undergraduate student at BITS Pilani, Pilani Campus, made the institute proud by representing India at WorldSkills 2024 held in September in Lyon, France. Competing in the Chemical Laboratory Technology skill, Shreyansh achieved an impressive 6th place on the international stage. This was India's debut in this particular skill, and his performance set a remarkable precedent.

Shreyansh had the distinct honor of being the flag-bearer for Team India during the opening ceremony of the 47th WorldSkills Competition. Often referred to as the "Olympics of Skills," WorldSkills 2024 featured over 1400 competitors from more than 70 countries. The competition, which was the third-largest event in France after the Olympics and Paralympics, was inaugurated by French President Emmanuel Macron, marking the beginning of an extraordinary celebration of global talent. Shreyansh's achievement highlights his technical expertise and dedication, and he has made a significant contribution to India's presence on the global skills competition platform.

- Shreyansh Sharma representing India at WorldSkills 2024




Ojasva Goyal (2021A2PS2378P)

has achieved remarkable success in both research and innovation. He published a research paper titled "Integrating Deep Learning for Visual Question Answering in Agricultural Disease Diagnostics: Case Study of Wheat Rust" in *Scientific Reports* by Nature on

November 15, 2024. As the lead author, he developed a deep learning model for detecting wheat rust disease, achieving 97.69% accuracy. The model uses federated learning with ResNet and is designed to work in real-time, without the need for experts, making it highly useful for precision agriculture.

Ojasva's project "Automated Plastic Sorting" was selected for the prototyping stage of ThingQbator Cohort 7 in September 2024, after standing out among 1,700 teams. The project uses AI, computer vision, and NIR spectroscopy to improve plastic waste sorting for recycling. It later won the ThingQbator Hackathon 7.0 in December 2024, earning INR 5,000 for its innovative approach. Additionally, Ojasva secured 166th rank out of 75,000 participants in the Amazon ML Challenge 2024, demonstrating his talent in machine learning.

Navya Jain (2023A1PS0192P) secured 2nd Runner Up in the Student Poster Competition at the Sthitivartana India Student Regional Conference 2024, held at NIT Rourkela from August 9-11, 2024. Her poster, titled "*Novel Environmental Friendly Preparation of Folic Acid-Derived Carbon Quantum Dots*", was recognized for its innovative approach in environmental sustainability.

Rahul Bhattacharjee (2024PHXP0057P) received recognition for his research paper "*Temperature dependent Korteweg stress coefficient from the Enskog-Vlasov equation*", co-authored with Henning Struchtrup and Anirudh Singh Rana. The paper was selected as an Editor's Pick in the *Physics of Fluids* journal in December 2024, with

an icon placed next to the article title to highlight its significance in the field.

Yash Kumar Kandoi (2021A7PS2417P), **Aditya Deshpande (2021A7PS2681P)**, and **Suvid Singhal (2023B3A70972P)** were declared National Winners (1st Place) in the BOB Hackathon 2024, organized by Bank of Baroda in Mumbai on August 31, 2024. They developed *ComplianceAI*, a dashboard powered by GenAI, designed to assist banks in quickly and accurately complying with the latest RBI regulations, simplifying audits and compliance processes. The team was awarded a prize of ₹5 lakhs and was felicitated by the directors and CTO of Bank of Baroda for their innovative solution.



Baiju P. Anthony (2021PHXF0467P) won the First Prize in the B N Seal Memorial Essay Competition, held during the Indian Philosophical Congress 98 & 99 session in Chidambaram, Tamil Nadu, from December 18-21, 2024. This prestigious national award recognized his outstanding contribution to philosophical research among scholars.

Jayant Aggarwal and **Shubham Nahata**, research scholars, received the Meritorious Award at SCUDEM IX 2024 (SIMIODE Challenge Using Differential Equations), held on December 10, 2024. The event, sponsored by SIMIODE (Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations), challenged high school and undergraduate students to solve real-world problems using differential equations.

Introducing new faculty

S.No.	Name of Faculty	Designation	Department	Date of Joining
1	Gulshan Kumar	Assistant Professor, Gr-I	Mechanical Engineering	01-Aug-2024
2	Madhurjya Dev Choudhury	Assistant Professor, Gr-I	Mechanical Engineering	01-Aug-2024
3	Natasha Hazarika	Assistant Professor, Gr-I	Humanities and Social Sciences	01-Aug-2024
4	Shuchita Goyal	Assistant Professor, Gr-I	Mathematics	22-Oct-2024
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