

JANUARY 2025 – MARCH 2025

ISSUE NO 2

The official newsletter of the Department of Biosciences

Manipal University Jaipur

BIOSCIENCES PATRIKA



NOTE FROM THE ASSOCIATE DEAN



The Biosciences department is committed to explore and investigate the marvels of life sciences, advancing innovation, and contributing to scientific progress that influences the future of health, the environment, and biotechnology.

Department provide a vibrant academic setting that promotes critical thinking, interdisciplinary collaboration, and practical research in areas such as biotechnology, microbiology, genetics, molecular biology, and environmental sciences. Our faculty members are dedicated to guiding the upcoming generation of scientists, ensuring that students receive top-notch education through state-of-the-art research, laboratory training, and partnerships with industry.

The Department of Biosciences is more than just an academic institution—it serves as a center of discovery, where curiosity converges with knowledge and evolves into solutions for real-world issues. We motivate our students to chase their goals with enthusiasm, integrity, and a dedication to scientific excellence.

Together, let us endeavor to make significant contributions to the continuously changing landscape of biosciences.



Dr Ashima Bagaria
Associate Dean, School of Physical and Biological Sciences
ashima.bagaria@jaipur.manipal.edu

A NOTE FROM THE HEAD OF THE DEPARTMENT,



Dear colleagues, friends and alumni,

'Biosciences Patrika,' our second issue of the department newsletter, has been released by the Department of Biosciences at Manipal University Jaipur. This newsletter is more than just a publication; it is a means of communication among us and the larger community and a record of our shared experiences in the Biosciences Department.

In this issue, you will discover about new opportunities, narratives of success, advancement, and innovation emerging from our department showcasing the commitment and excellence of our faculty and students. This offers you significant updates on research developments, faculty achievements, and important departmental events in the first quarter of 2025.

I am sure this platform will remain dedicated to showcase and update the community about thrilling advancements, efforts and honors of our department family that influence our academic landscape.

We eagerly anticipate sharing all our progress and celebrating our achievements with you.

Thank you for being a vital part of our journey.

Warm regards,

A handwritten signature in black ink, appearing to read 'Sandeep Kumar Srivastava', written in a cursive style.

Dr. Sandeep Srivastava

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Phone: +91 141 3999100 (Extn:512)

EDITORIAL BOARD

Dr. Priya took the lead in assembling and designing the newsletter for their team. She carefully gathered all the relevant content, selected the most important updates, and organized the information in a clear, appealing layout. She also made sure to include visuals and bullet points to highlight key messages, making the newsletter more engaging.

Throughout this process, she received valuable support from Dr. Sandeep and Dr. Nitesh. They helped her brainstorm ideas for the content, review drafts, and suggest improvements. Their feedback was crucial in refining the final version. Their combined efforts helped produce a newsletter that was not only informative but also well-organized and visually appealing.

This collaboration between Dr. Priya, Dr. Sandeep, and Dr. Nitesh highlights how teamwork enhances productivity. Each brought unique skills that complemented one another.



Dr. Priya Shukla

Assistant Professor

Department of Biosciences



Dr. Sandeep kumar Srivastava

Associate Professor (Senior
Scale) & HoD

Department of Biosciences



Dr. Nitesh kumar Poddar

Associate Professor

Department of Biosciences



NEWSLETTER

DEPARTMENT OF BIOSCIENCES

NEW ADDITION!!

M.Sc. FOOD SCIENCE AND TECHNOLOGY

This program provides students with a deep understanding of food science and technology. It covers essential topics like how food is processed, packaged, and checked for quality. Students learn about methods to preserve food, improve its safety, and make it taste better. They also explore new tools and techniques used in modern food production, such as high-pressure processing or advanced packaging materials. The program encourages students to stay updated on the latest trends in the field. This helps them grasp complex ideas like nanotechnology or smart packaging that enhance food quality and safety.

Students develop strong links with the food and dairy industries. They interact with industry experts and visit companies to see real-life applications of their learning. These connections help students find internships or jobs after graduation. The program also encourages collaboration with research and development institutions. This exposes students to ongoing research projects that push the boundaries of food technology. They learn how research leads to the creation of new food products, healthier options, or eco-friendly packaging solutions.

Overall, graduates of this program will have a broad knowledge base in food science. They will understand both fundamental principles and innovative practices. This helps them adapt quickly to changing industry needs. They will be well-equipped to contribute to food safety, product development, and process improvement fields. The program prepares students to work in local industries or at international research centers, helping meet the growing demand for skilled food scientists.

NEWSLETTER

WORKSHOPS, CONFERENCES & SEMINARS

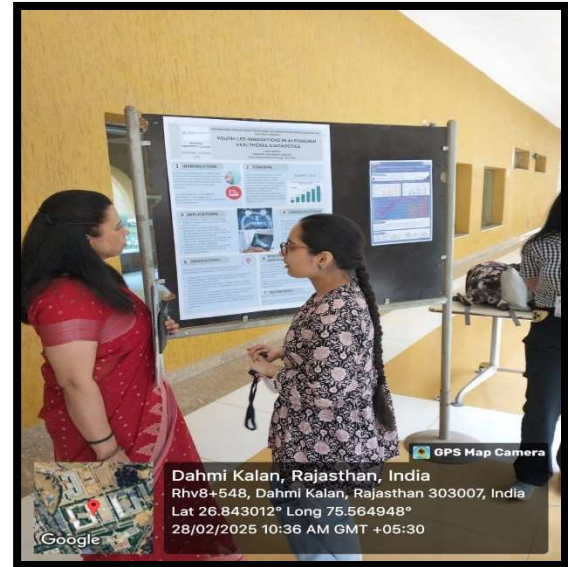
The Department of Biosciences highlights the most important and memorable events in our department. From successful conferences and innovative research projects to distinguished guest lectures and community engagement initiatives, discover the dynamic life of our department.

NATIONAL SCIENCE DAY

FEBRUARY 28, 2025

The Faculty of Science at Manipal University Jaipur celebrated National Science Day on February 28, 2025, under the theme “Empowering Indian Youth for Global Leadership in Science and Technology for Viksit Bharat”. The event was graced by our esteemed chief guest **Professor Purnendu Ghosh**, Executive Director of Birla Institute of Scientific Research, Jaipur. The *guest of honor* at the event was **Prof. H. N. Verma**, Pro Chancellor, Jaipur National University (Ex Pro Vice Chancellor Lucknow University), and **Professor Pravin Chandra Trivedi** former vice-chancellor Jai Narain Vyas University, Jodhpur (Rajasthan).

Intriguing activities including quizzes, science model exhibits, Rangoli creation, and filmmaking were all part of the celebration. This day was devoted to probing the fields of innovation and advancement, promoting homegrown innovations, and creating a more promising future for Bharat. The event also featured filmmaking contests that encouraged film makers to tell stories through or shore messages with short videos. Overall, the event focused on exploring the frontiers of innovation and progress. The celebration aimed to motivate young minds to think differently, dream bigger, and contribute to the country’s growth.

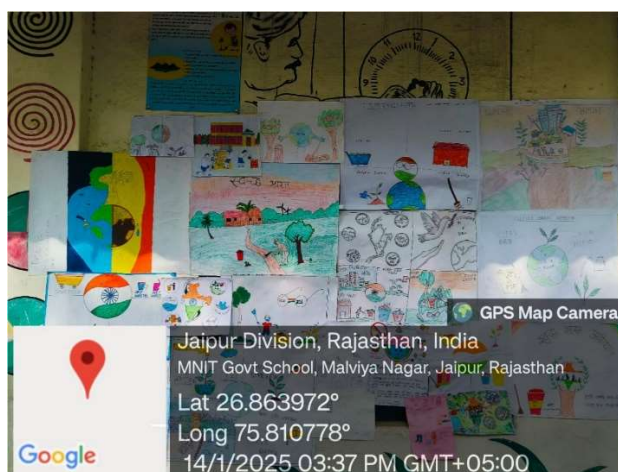


NEWSLETTER

OUTREACH PROGRAMS

The "Swachh, Swasth aur Atmanirbhar Bharat" based on sustainable development goals (SDG goals no. 1, 2, 3, 4, 6, 9, 11, 12) based **Poster Making Competition** invited school students' participants to interpret the themes of cleanliness, health, and self-reliance in India.

Dr. Mousumi went to the school after discussion with Mrs. Asha Saini, Principal, Government Upper Primary School, **MNIT, Malviya Nagar, Jaipur** and addressed the students. A total of 20 posters were presented by school students. Entries were judged based on creativity, thematic relevance, and clarity of the message. Prizes were awarded to the top entries.



NEWSLETTER

INTERACTIVE ORGANIZATIONS

ENVIRO CLUB organized an interactive session with Prof. Dr. Jack Sim, the founder of the World Toilet Organization and World Toilet Day initiative on Jan'31 2025. Over the last 24 years, Dr. Sim creates a global Toilet movement that reduced the population without proper Sanitation from 40% to 20% today. His work has benefited more than 1.2 billion poor people. Attendees got a chance to interact with our guests, and on-spot counselling was done in nearby areas of the university which benefited a lot of people to understand sanitation and cleanliness.

In 2008, Time magazine recognized Dr. Sim as one of the Heroes of the Environment. Additionally, he established the BOP HUB along with several social enterprise and startups. Currently, he is in the process of building a 65,000 square foot World Trade Center for the Poor in Singapore, aimed at orchestrating an initiative to convert the 4 billion impoverished individuals into a highly efficient marketplace to eradicate global poverty.



NEWSLETTER

INVITED LECTURES

As the department progresses each day, the addition of a few great lectures adds more light to our paths. One such guest lecture was organized into our department on the topic ‘Emerging trends on medical biotechnology and stem cells’ by our esteemed guest Dr. Sachin Kadam, Chief operating officer, SATHI, IIT Delhi.

The Sophisticated Analytical and Technical Help Institute (SATHI) at IIT Delhi receives support from the Department of Science and Technology (DST), Government of India. The SATHI Foundation at IIT Delhi is dedicated to engaging with underrepresented organizations such as MSMEs, start-ups, State Universities, and Colleges, promoting a robust culture of research collaboration across institutions and disciplines to leverage advancements, innovations, and expertise in various fields.



MANIPAL UNIVERSITY
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DST-FIST Supported Department of Biosciences
School of Basic Sciences, Faculty of Science, Technology, and Architecture
is Organizing

**Guest Lecture Series on
Emerging Trends in Medical Biotechnology and Stem Cells**

17th, 25th, and 26th Feb'25 11:30 pm – 12:30 pm

Guest Lecturer



Dr. Sachin Kadam
Chief Operating Officer- SATHI
IIT Delhi

Key Topics Covered:

- Emerging Trends in Medical Biotechnology
- Stem Cells
- Cancer Stem Cells
- Products of Medical Biotechnology
- Stem Cell Therapy and Potential

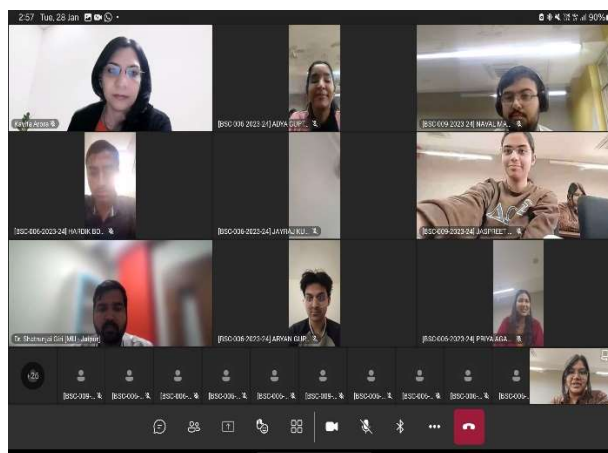
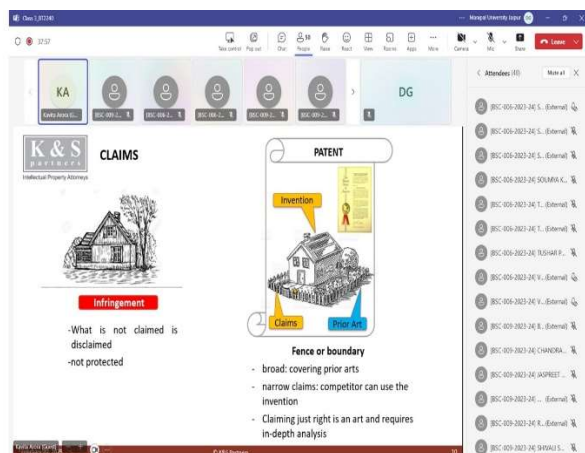
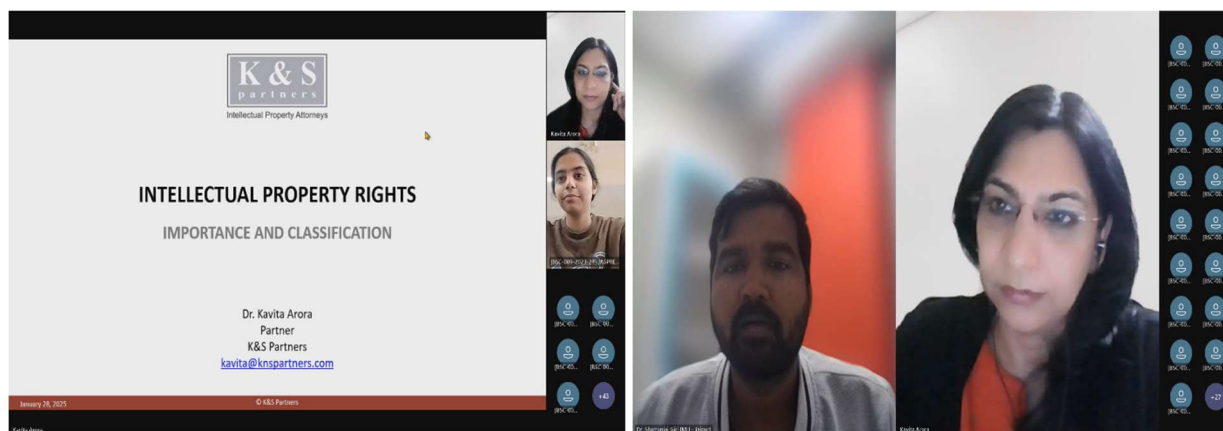
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Coordinator
Dr. Sandeep Srivastava (HoD) Ms. Perna Vats

NEWSLETTER

INVITED LECTURES

Intellectual Property Rights (IPR) refer to the legal protections granted to individuals or businesses over their creations of the mind, such as inventions, artistic works, designs, and trademarks. These rights ensure that creators can control and benefit from their intellectual assets, preventing unauthorized use or exploitation. Dr. Kavita Arora made sure to provide all the information's needed by the young minds for their research time here in Manipal University as well as in future. She beautifully explained the importance of IPR in fostering innovation, encouraging creativity, and supporting economic growth by ensuring fair competition and rewarding original ideas.



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ACTIVE PARTICIPATIONS

Our esteemed faculty **Dr. Indresh kumar Maurya** participated in 4th **National Conference of Sea buckthorn Technologies for Development of Value Chain & Environmental Conservation in Himalayas** (March 5th – 6th, 2025), organized by the Department of Biotechnology, Graphic Era (Deemed to be University), 566/6, Bell Road, Clement Town, Dehradun, India. His topic for the participation was **‘Value Addition & Processing of Himalayan Sea buckthorn’**.

Dr. Indresh Kumar Maurya, has also successfully completed the FDP on NEP-2020: Orientation & Sensitization under Malviya Mission – Teacher Training Program (MM-TTP) of University Grant Commission (UGC), MoE, GoI, organized by UGC-MMTTC, JNV University, Jodhpur, Rajasthan, from 03 to 11 March 2025 with grade A⁺.



RESEARCH ADVANCES/ ACHIEVEMENTS

Vats, Prerna, Sakshi Nirmal, and Rajeev Nema. "In smokers, the axis NCAPG/hsa-let-7b-5p/TMPO-AS1 promotes lung adenocarcinoma." *Reports of Practical Oncology and Radiotherapy* (2025).

Vats, Prerna, Sakshi Nirmal, Ashok Kumar, and Rajeev Nema. "Chromosomal passenger complex-cyclin/CDK axis correlated with poor lung cancer prognosis." *The Journal of Biomedical Research* (2025).

Nema, Rajeev, and Ashok Kumar. "BUB1, miR-495-3p, and E2F1/E2F8 axis is associated with poor prognosis of breast cancer patients and infiltration of Th2 cells in the tumor microenvironment." *Cancer Biomarkers* 42, no. 3 (2025): 18758592241310109.

Verma, Abhishek Kumar, and Sandeep Kumar Srivastava. "Unlocking potent inhibitors for Mycobacterium tuberculosis NaMN adenylyltransferase: a multi-database exploration through integrated structure and ligand-based pharmacophore modelling, dynamics and energetic analysis." *Molecular Simulation* (2025): 1-17.

Kumar, Rajesh, Irra Dhar, and Madan Mohan Sharma. "Zinc Oxide Nanoparticles: Applications in Photocatalysis of Dyes and Pearl Millet Seed Priming for Enhanced Agricultural Output." *ACS Omega* (2025).

Wahengbam, Gilchrist Singh, Sakshi Nirmal, Jai Nandwana, Swatileena Kar, Vandana Kumari, Rajeev Mishra, and Abhijeet Singh. "Polymeric Nanoparticles Revolutionizing Brain Cancer

Therapy: A Comprehensive Review of Strategies and Advances." *Critical Reviews™ in Therapeutic Drug Carrier Systems* 42 (2025).

Bodla, Shourya, Prince Jain, Anwesha Khanra, Chhavi Sharma, Anupam Jyoti, Shiv Dutt Purohit, Hemant Singh, Abhijeet Singh, and Juhi Saxena. "Biomimetic chitosan-based hydrogels for sustainable wound healing with AI/ML insights." *IEEE Open Journal of Engineering in Medicine and Biology* (2025).

Maheshwari, Karishma, Monika Sogani, Kumar Sonu, and Zainab Syed. "Enhanced Microbial Desalination Cell Performance Utilizing Polyurethane-Modified Bio-Based Polymeric Membrane." *ChemistrySelect* 10, no. 8 (2025): e202500044.

Sonu, Kumar, Monika Sogani, and Zainab Syed. "Plant microbial fuel cell performance assessment utilizing anode from *Delonix regia* fruit pod." *Biomass Conversion and Biorefinery* (2025): 1-8.

Sonu, Kumar, Monika Sogani, Zainab Syed, Karishma Maheshwari, Jayana Rajvanshi, and Nishan Sengupta. "Effectiveness of a Biofertilizer in the Treatment of Carpet Industry Dye Wastewater in an Earthen Pot–Coupled Plant Microbial Fuel Cell." *Journal of Hazardous, Toxic, and Radioactive Waste* 29, no. 2 (2025): 04024050.

NEWSLETTER

ALUMNI TALKS

We are proud to announce that our prestigious alumni are conquering the world and carrying our legacy with them everywhere they go. Let us read out loud their wisdom words about our department and the college, which they are an integral part of.





Alumni Testimonial

My journey at Manipal University Jaipur has been immensely enriching. Surrounded by passionate teachers and supported by an environment rich in practical study and modern resources, I have found the courage to grow intellectually and personally. This is a place where challenges are met with encouragement and the learning process goes beyond textbooks other than excellent infrastructure and comprehensive curriculum, from my first day, I felt welcomed and valued. Today I carry the name of Manipal with pride and gratitude, ready to embrace my future.



Pallavi Anand
B.Sc. Biotechnology (2022-2025)
Department of Biosciences

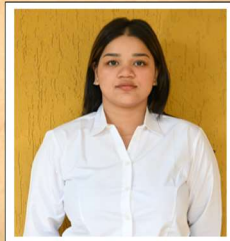


Alumni Testimonial

Swikriti Metiya

B.SC. (HONS.) BIOTECHNOLOGY (2022- 2025)
Department of Biosciences

As an alumnus of Manipal University Jaipur, I can attest to the exceptional quality of education provided by the university. The practical approach to learning, state-of-the-art facilities, and supportive faculty and staff helped me develop the skills and knowledge I needed to succeed in my career. I am proud to be a part of the Manipal University Jaipur community and grateful for the opportunities it has provided me.





Alumni Testimonial

Suvrajit Saha

B.SC. (HONS.) BIOTECHNOLOGY (2022-2025)
Department of Biosciences

As an alumnus of Manipal University Jaipur, I can attest to the exceptional quality of education provided by the university. The practical approach to learning, state-of-the-art facilities, and supportive faculty and staff helped me develop the skills and knowledge I needed to succeed in my career. I am proud to be a part of the Manipal University Jaipur community and grateful for the opportunities it has provided me.






Alumni Testimonial

SURASREETA PAUL


B.SC. (HONS.) BIOTECHNOLOGY (2022-2025)
Department of Biosciences

As an alumnus of Manipal University Jaipur, I can attest to the exceptional quality of education provided by the university. The practical approach to learning, state-of-the-art facilities, and supportive faculty and staff helped me develop the skills and knowledge I needed to succeed in my career. I am proud to be a part of the Manipal University Jaipur community and grateful for the opportunities it has provided me.





MANIPAL UNIVERSITY
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Alumni Testimonial

Aishee Sadhukhan

B.SC. (HONS.) BIOTECHNOLOGY (2022-2025)
Department of Biosciences

As an alumnus of Manipal University Jaipur, I can attest to the exceptional quality of education provided by the university. The practical approach to learning, state-of-the-art facilities, and supportive faculty and staff helped me develop the skills and knowledge I needed to succeed in my career. I am proud to be a part of the Manipal University Jaipur community and grateful for the opportunities it has provided me.





MANIPAL UNIVERSITY
JAIPUR




Alumni Testimonial

Radhika Rathore


Msc Biotechnology (2023-2025)
Department of Biosciences

"My journey at Manipal University Jaipur has been truly enriching and memorable. The calm and beautiful campus created a perfect atmosphere for learning, exploration, and growth. The university offers not only top-notch facilities but also a highly capable, dedicated, and supportive faculty who have played a key role in shaping my academic and personal growth. The practical, hands-on learning opportunities and the all-rounded education I received here have thoroughly prepared me for my future career and any challenges that may come my way. I am truly proud to be a part of the Manipal family, and I will always cherish my time here."





MANIPAL UNIVERSITY
JAIPUR




Alumini Testimonial

Simran Maharshi

MSc Biotechnology 2023-2025

My time at Manipal University was truly transformative. The rigorous academics and supportive faculty provided an exceptional learning environment that not only deepened my knowledge but also equipped me with invaluable skills for my career. I highly recommend it.

Manipal University offered an outstanding educational experience. The quality of teaching was exceptional, with professors who were genuinely invested in our success. I particularly valued the hands-on learning opportunities and the diverse, vibrant campus life which truly prepared me for the professional world. Grateful for my foundation.



NEWSLETTER

OPPORTUNITIES

We are excited to announce several open positions within the department for those eager to advance their academic and research careers. Currently, we are offering opportunities for Research Assistants, Internships, and PhD Programs across various ongoing projects and specialized fields. These positions provide a unique chance to work alongside esteemed faculty members and contribute to cutting-edge research while gaining invaluable hands-on experience.

For inquiries,

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Email: academic@jaipur.manipal.edu, ams@jaipur.manipal.edu

For admissions:

Phone: 0141-3999100 ext.142, 257, 297

Email: admissions@jaipur.manipal.edu

NEWSLETTER

CLOSING REMARKS

-by Editors

As we conclude this edition of our departmental newsletter, we wish to convey our heartfelt appreciation to all our readers for your steadfast interest and support. Your ongoing involvement not only fortifies our academic community but also nurtures a collective sense of connection and advancement, ensuring that everyone remains updated on the latest research, accomplishments, and innovations.

We warmly invite contributions for future editions be it highlighting research breakthroughs, commemorating departmental milestones, or sharing thought-provoking articles that ignite meaningful discussions. Your suggestions and feedback are crucial in assisting us to enhance each issue, making it more vibrant and enriching.

Once again, we thank you for being a vital part of our community, and we eagerly anticipate your enthusiastic participation in the forthcoming editions!

For any queries, please contact:

Dr. Priya Shukla

priya.shukla@jaipur.manipal.edu