NEWSLETTER



BIOSCIENCES

July — September 2025





NEWSLETTER

EDITORIAL NOTE!!

It gives us immense pleasure to present this edition of our newsletter, which stands as a collective achievement of our department. What you see here is not just a compilation of updates, but the outcome of creativity, dedication, and collaboration at every level.

Under the admonition of **Dr. Priya Shukla**, the editorial team took the lead in conceptualizing the framework, curating relevant content, and weaving together the most impactful highlights. Their thoughtful approach to design—emphasizing clarity, visual appeal, and reader engagement—has shaped the newsletter into an inviting and informative resource.

Equally important has been the wholehearted involvement of our faculty members across the department. Their insightful suggestions, active participation in brainstorming sessions, and willingness to contribute ideas enriched the content and ensured that this edition reflects the diversity of expertise within our community. From sharing updates and achievements to refining the overall narrative, every faculty member played a vital role in shaping this outcome.

This newsletter is therefore more than a publication—it is a testament to the strength of teamwork. When diverse perspectives, creativity, and a shared vision converge, the result is an exceptional piece of work that informs, inspires, and connects us all. We hope this edition resonates with every reader and reinforces the pride we share in being part of such a vibrant academic family.

Thank you

Editorial Board



WELCOMING NEW FACULTY MEMBERS!!!

We are thrilled to welcome our esteemed faculty members to the Department of Biosciences. Their diverse expertise in bioscience, bioengineering, bioinformatics, and microbial techniques brings fresh insights and strengthens our interdisciplinary approach to education and research. With their addition, the department continues to broaden its academic horizons and foster collaborative innovation. We eagerly anticipate their valuable contributions in shaping the future of bioscience and mentoring the next generation of scientists.

Dr. Arun Kumar K



Dr. Arun Kumar K received his M.Sc. in Biotechnology from H.N.B. Garhwal Central University and completed his Ph.D. in Environmental Biotechnology with a specialization in Molecular Microbial Ecology at the Indian Agricultural Research Institute (IARI), New Delhi. He has brought over 20 years of academic, research, and administrative experience across the fields of Biotechnology, Agriculture, Environmental Sciences, and higher education leadership.

He has held several significant positions in reputed institutions, serving as Dean, Vice Principal (Admin), Head of Department, and Assistant Director – International Relations, contributing to institutional development, academic quality enhancement, and global engagement. His professional journey spans universities such as Parul University, SRM Institute of Science and Technology, Lovely Professional

University, and VIT Bhopal University. He is currently an Associate Professor in the Department of Biosciences at Manipal University, Jaipur.

Dr. Kumar has been deeply involved in teaching undergraduate and postgraduate programs, supervising master's and doctoral scholars, and guiding more than 70 dissertations. His research focuses on soil microbial ecology, environmental sustainability, bioremediation, agroecosystem management, and Al-driven agricultural applications. With over 80 publications in Scopus, SCI, and NAAS-indexed journals, he has established a strong research footprint.

His achievements include the Best Teacher Award given by the Union HRD Minister of India, Eminent Scientist Award (2025), and Young Scientist Award (2017). He has contributed to ICAR and DST-funded projects and co-authored technical manuals under prestigious National Fellow program.

He can be contacted at: arun.kumar@jaipur.manipal.edu

Dr. Atar Singh Khushwah



Dr. Atar Singh Kushwah is a molecular geneticist and translational oncologist whose work bridges genetics, epigenetics, and molecular oncology to understand how genomic instability, DNA repair fidelity, and chromatin reprogramming influence women's health and cancer outcomes. He earned his Ph.D. in Molecular and Human Genetics from Banaras Hindu University, in collaboration with the University of Lucknow and King George's Medical University, where he investigated genetic and epigenetic alterations in DNA repair pathways and their impact on therapeutic response in cervical cancer. He subsequently completed postdoctoral training at Alabama State University and the Icahn School of Medicine at Mount Sinai, New York,

focusing on host-tumor interactions, metabolic regulation, and mechanisms of therapy resistance.

Currently, as an Assistant Professor (Research) at Manipal University Jaipur, he studies the Microbiome-Epigenome-DNA Repair Axis as a key determinant of gynecological disease susceptibility and treatment outcomes. His work examines how microbial dysbiosis and epigenetic remodelling converge to alter DNA repair, immune signaling, and carcinogenic pathways. He is also developing AI-enabled molecular diagnostics and CRISPR-based therapeutic strategies to advance precision and adaptive oncology in women's cancers.

Dr. Kushwah has authored more than 30 peer-reviewed publications, multiple book chapters, and edited international conference proceedings with Elsevier, Springer Nature, CRC Press, and Nova Science Publishers. His research has appeared in high-impact journals. He serves on the editorial boards of Discover Oncology, BMC Cancer, and Frontiers in Oncology, and has reviewed over 100 manuscripts. His contributions have been recognized with the Springer Nature Editorial Contribution Award (2025), the STAR Recognition Award from Mount Sinai (2023), and the ICMR Senior Research Fellowship.

Dr. Arti Choudhary



Dr. Arti Choudhary holds an M.Sc. in Botany from CSJM University Kanpur and M.Tech. in Environmental Science & Technology from Thapar University, Patiala, Punjab. She received Ph.D. from the Indian Institute of Technology Guwahati (IITG), Assam, India. Currently, she is serving as Assistant Professor (Senior-scale Research) in the department of Biosciences in Manipal University Jaipur. She has also gained extensive

postdoctoral research experience, working in various esteemed institutions, including CSIR-Central Road Research Institute, New Delhi (as SERB-NPDF fellow), Utkal University, Odisha (as RUSA-PDF fellow), and Banaras Hindu University, Uttar Pradesh (as RJP-PDF fellow).

With over ten years of academic and research experience, Dr. Choudhary specializes in environmental challenges, integrating applied science, advanced tools, and innovative technologies to develop sustainable solutions for climate and pollution mitigation. Her key research interests include green energy, health-risk & disease burden, decarbonization, atmospheric pollution impact on agricultural production and climate change in nexus of atmospheric pollution. She has authored 60 plus Scopus publications, multiple book chapters, edited books, national and internation conferences. She has granted 3 patents and served as guest editor and reviewer of several peer reviewed journal. She visited several countries like USA, Japan, China and Nepal. She also received several prestigious fellowships (GATE, NET) and projects (SERB-NPDF, RUSA) from different funding agencies.



MASTER IN FOOD SCIENCE AND TECHNOLOGY

We are delighted to welcome the inaugural batch of M.Sc. in Food Science and Technology! This program is designed to equip students with advanced knowledge of food processing, safety, and innovation, complemented by hands-on training in state-of-the-art laboratories. With a strong focus on sustainability and global food standards, students will gain industry-relevant skills and exposure to emerging technologies.

The course opens diverse career opportunities in research, quality assurance, product development, and regulatory affairs, preparing graduates to lead in the dynamic food sector. Congratulations to our first batch—your journey toward shaping a healthier, sustainable future begins today!





RESEARCH GRANT



The Department of Biosciences is pleased to announce **that Dr. Rajeev Nema** has received a research grant under the SMALL EXTRAMURAL GRANTS – 2025 program. The project, undertaken in collaboration with Dr. Ashok Kumar from the *All India Institute of Medical Sciences (AIIMS)*, Bhopal (M.P.), is titled:

"Targeting Cancer Stem Cells in Oral Cancer: Multimodal BUB1 Inhibitor-Loaded Nanoparticles for Enhanced Chemo-Sensitization."

This study aims to develop advanced nanoparticle-based delivery systems to improve chemo-sensitivity in oral cancer by specifically targeting cancer stem cells. The innovative approach combines molecular inhibition with nanotechnology to enhance therapeutic outcomes and reduce treatment resistance.

The grant reflects the department's growing strength in translational cancer research and its commitment to impactful collaborations with leading national institutions.

The Department of Biosciences warmly congratulates **Dr. Rajeev Nema** on this achievement and encourages faculty and students alike to pursue excellence in research and innovation.



STUDENT ACHIEVEMENT SPOTLIGHT!!

Under the mentorship of **Dr. Shatrunjai Giri** from the Department of Biosciences, **Vaishali, Tushar, Priya, and Sanashri** distinguished themselves by securing **First Place** at the prestigious "Vichar Se Vikas – Idea2IPR Ideathon 2025."

The event was organized by the Department of DSE in collaboration with FoSTA and MUJ E-Cell, and served as a platform to encourage innovation, entrepreneurship, and intellectual property awareness among young minds.

This week-long ideathon was structured into three rigorous rounds, designed to test creativity, problem-solving ability, and the potential for real-world application. With participation from over 170 teams across diverse disciplines, the competition was intense and showcased a wide spectrum of innovative ideas.

The team's proposal stood out for its originality, feasibility, and alignment with sustainable development goals. Their success not only earned them a **cash prize of** ₹25,000 but also secured **pre-incubation approval at MUJ E-Cell**, providing them with access to mentorship, resources, and an ecosystem conducive to further development and eventual commercialization of their idea.

This achievement is a testament to their **creativity**, **dedication**, **and entrepreneurial spirit**, and reflects the Department of Biosciences' growing culture of innovation. It underscores the department's commitment to nurturing talent, fostering interdisciplinary collaboration, and encouraging students to translate academic knowledge into impactful solutions for society.

The Department of Biosciences congratulates the winning team on their outstanding achievement and encourages all students to strive for similar excellence







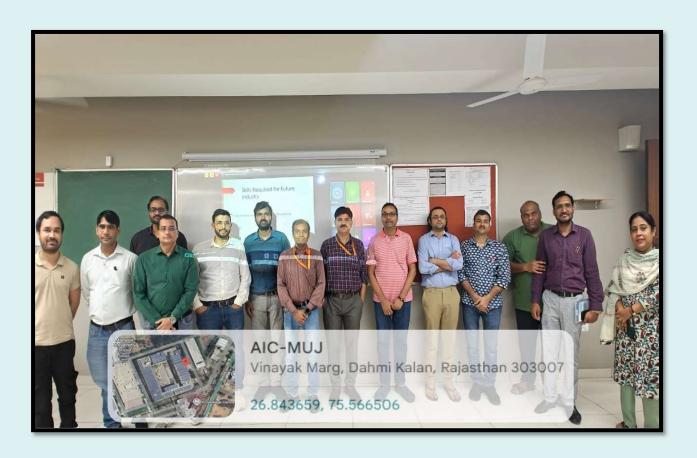
FACULTY DEVELOPMENT PROGRAMME

ACADEMIC LEADERSHIP DEVELOPMENT

The Faculty Development Program (FDP) titled "Academic Leadership Development" was collaboratively organized by MUJ-TEC, the Department of Biosciences and the Department of Mathematics & Statistics at the School of Physical and Biological Sciences (SPBS), which was held from 18-22 August 2025. This event was conducted by NITTTR, Chandigarh in association with Manipal University Jaipur as a remote centre. This course comes under the Sustainable Development Goal (SDG4: Quality Education).

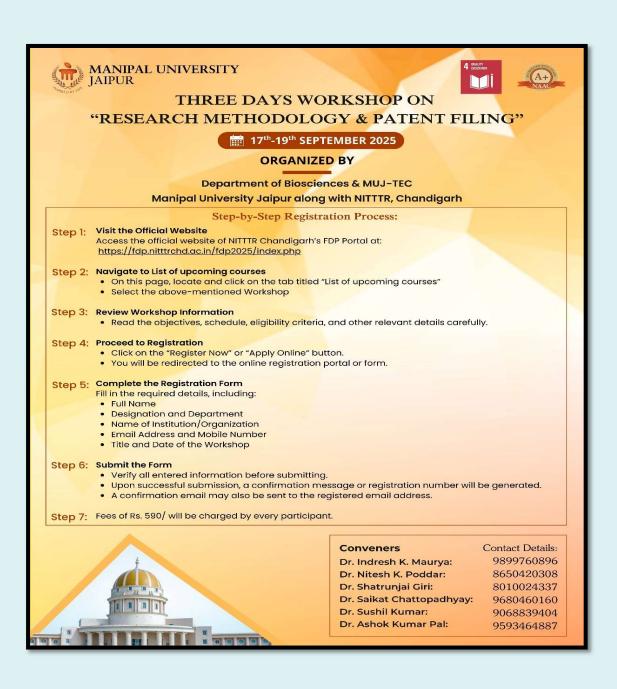






Research methodology & Patent Filing

The online workshop titled "Research methodology & Patent Filing" was collaboratively organized by MUJ-TEC, the Department of Biosciences at the School of Physical and Biological Sciences (SPBS), which was held from **17-19 September** 2025. This event was conducted by NITTTR, Chandigarh in association with Manipal University Jaipur as a remote Centre. This course comes under the Sustainable Development Goal (SDG4: Quality Education).









INDUSTRIAL TALK ON: BRIDGING GAP - INDUSTRY AND ACADEMIA COLLABORATION IS THE WAY FORWARD IN INDIA FOR SUSTAINABLE DEVELOPMENT

The Department successfully hosted an engaging session with Dr. Nagma Abbasi, Founder and CEO of NextGen Life Sciences Pvt. Ltd. Dr. Abbasi, an accomplished leader with academic credentials from IMT Ghaziabad, A.M.U. Aligarh, and the Indian Agricultural Research Institute, Delhi, shared her journey spanning Business Administration, Molecular Genetics, and Post-Doctoral research on viral molecular characterization. This event effectively bridged the gap between academia and industry, empowering participants with insightful knowledge about innovations, technologies, and strategic approaches that can accelerate their careers and research impact.





Workshop on Quantitative Real-Time PCR (qRT-PCR) and Flow Cytometry

Quantitative Real-Time PCR (qRT-PCR) and Flow Cytometry are two of the most powerful and indispensable techniques used in modern scientific laboratories. Recognizing the critical need for researchers to master these sophisticated technologies, Biosciences department organized a three-day intensive workshop (September 15-17, 2025) designed to bridge the gap between theoretical knowledge and practical application. This program is tailored for postgraduate students, research scholars, and early-career scientists who wish to integrate these techniques into their research.

















INTERNATIONAL INTERNSHIP PROGRAM REPORT

The Department of Biosciences successfully facilitated international internship programs in 2025, strengthening global academic collaboration and advancing research in diverse areas of life sciences.

Internship 1: Ms. Juliana Schernich

Home Institution: Technische Universität Braunschweig, Germany

• **Duration:** 17 August 2025 – 26 September 2025

Supervisor: Dr. Indresh Kumar Maurya

Project Title: Screening of Antimicrobial Agents and Organic Solvents Against
 Bacterial and Fungal Strains

Ms. Juliana Schernich's project focused on evaluating the effectiveness of different antimicrobial agents and organic solvents against bacterial and fungal strains. Her work contributed valuable insights into microbial resistance mechanisms and solvent tolerance. The internship provided her with hands-on exposure to advanced laboratory techniques and fostered collaborative research between Technische Universität Braunschweig and the Department of Biosciences.

Internship 2: Ms. Valentina Clio Zingerle



• Home Institution: Karolinska Institute, Sweden

• **Duration:** 28 July 2025 – 22 September 2025 (8 weeks)

• Supervisor: Dr. Sandeep K. Srivastava

• Project Title: Identification of Neuroactive Molecules from Probiotic Bacteria

Ms. Valentina Clio Zingerle's project centered on identifying neuroactive molecules produced by probiotic bacteria. Her research aimed to explore the potential role of probiotics in modulating neurological functions, thereby contributing to the growing field of microbiome-neurobiology interactions. The internship offered her practical training in advanced microbial and biochemical techniques and enhanced collaborative research between Karolinska Institute and the Department of Biosciences.

Both internships provided enriching experiences for the participating students and strengthened international academic partnerships. The Department of Biosciences remains committed to fostering global collaborations, offering students exposure to cutting-edge research, and contributing to scientific advancements across disciplines.



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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,

please contact: Sunil Kumar

Email: sunil.kumar@jaipur.manipal.edu

For academic details:

Phone: 0141-3999100 ext. 263

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

For admissions:

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

Email: admissions@jaipur.manipal.edu

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CLOSING REMARKS!!

-by Editors

As we wrap up this edition of our departmental newsletter, we extend our heartfelt

gratitude to all our readers for your continued interest and support. Your

engagement strengthens our academic fabric and fosters a shared spirit of growth

and collaboration.

This edition proudly highlights the research grant awarded to Dr. Rajeev Nema in

collaboration with AIIMS Bhopal, along with the launch of the Faculty Development

Program and the Master's program in Food Science and Technology significant strides

in our department's growth and impact.

Looking ahead, we remain committed to bringing you meaningful updates that

showcase our collective achievements, innovative research, and initiatives that

shape the future of our academic community. Each edition is a step forward in

celebrating the progress we make together.

Thank you for being an integral part of our journey—we look forward to your

enthusiastic involvement and continued support in the editions to come!

Dr. Priya Shukla

Editor,

Biosciences Patrika