Guru Nanak Institute of Pharmaceutical Science and Technology

GNIPST BULLETIN

LIFE-SCIENCE

VOLUME 4 ISSUE 3

Quote of the Month

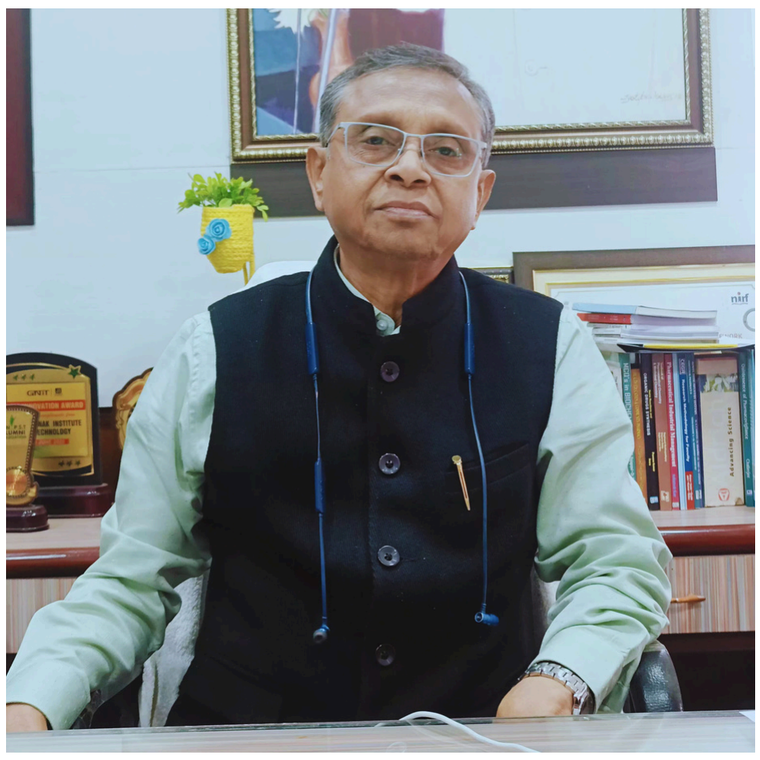
"Research is what I'm doing when I don't know what I'm doing." – Wernher von Braun

IN REFLECTION AND VISION

The Director's Note

It is with great pride that we present Volume 4, Issue 3 of the GNIPST Bulletin, a vibrant reflection of our collective academic spirit and scientific inquiry. At Guru Nanak Institute of Pharmaceutical Science and Technology- Life Science, we remain committed to fostering a culture of excellence through a blend of rigorous academics, practical exposure, and innovative thinking. The life sciences are rapidly evolving, and our students and faculty continue to contribute meaningfully to this dynamic field.

This bulletin highlights achievements, new initiatives, and the creative energy that drives GNIPST forward. We extend our warmest regards to all readers and well-wishers. May this edition inspire continued learning, collaboration, and progress as we collectively strive toward growth, discovery, and success.



Dr. Abhijit Sengupta

The Principal's Note

Dr. Lopamudra Datta

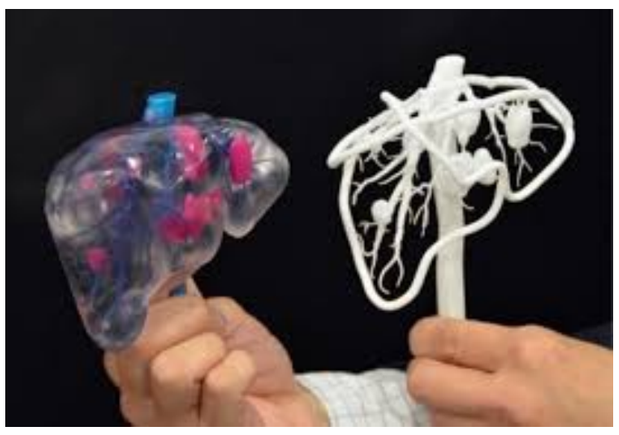
We are delighted to present Volume 4, Issue 3 of the GNIPST Bulletin – Life Science, showcasing the continued journey of our commitment to academic excellence, research, and innovation. As one of the leading institutions in West Bengal, GNIPST remains dedicated to providing advanced laboratory facilities, practical learning experiences, and industry-relevant internships, while nurturing our students with a strong foundation in scientific knowledge, ethical values, and critical thinking.

We extend our warm regards to all our readers, contributors, and well-wishers. Your continued support and enthusiasm encourage us to strive for excellence and to keep advancing in our mission of education, discovery, and service. We look forward to sharing many more stories of achievement, growth, and inspiration in the issues ahead.

INSIDE THE BULLETIN

SCIENCE UPDATE

Bioprinted Liver Tissue Offers Temporary Transplant Solution

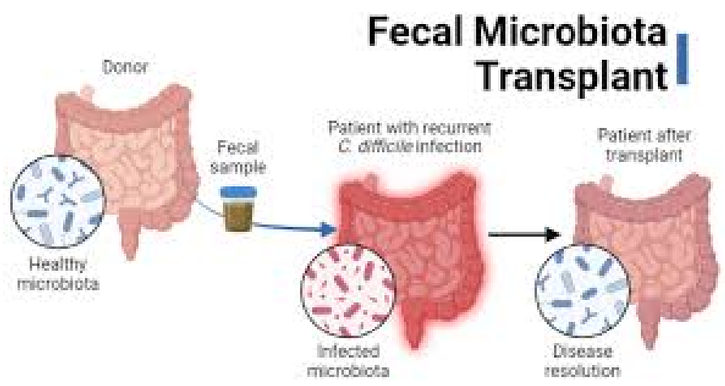


Researchers have developed a 3D bioprinted liver patch that can temporarily support patients with acute liver failure. Using advanced bio-inks composed of human cells and structural proteins, the tissue mimics liver function and may allow the patient's own organ to regenerate. This innovation could reduce dependence on donor organs and eliminate the need for full transplantation in certain cases.

Click and **Read more**

Gut Microbiome Transplants Show Anti-Aging Potential

Recent studies demonstrate that fecal microbiota transplantation (FMT) can restore aging intestinal stem cell function in animal models. By modifying gut bacteria composition, researchers observed improved tissue regeneration and gut health, suggesting microbiome-based therapies could become a novel strategy for age-related diseases.



Click and **Read More**

Spatial Biology Technologies Transform Disease Mapping

New spatial biology platforms allow researchers to analyze gene expression within intact tissues, preserving spatial context. This enables deeper understanding of tumor microenvironments, infection sites, and cellular interactions, significantly improving precision medicine approaches.

Click and **Read More**

3D Bioprinting Advances Toward Functional Organ Creation

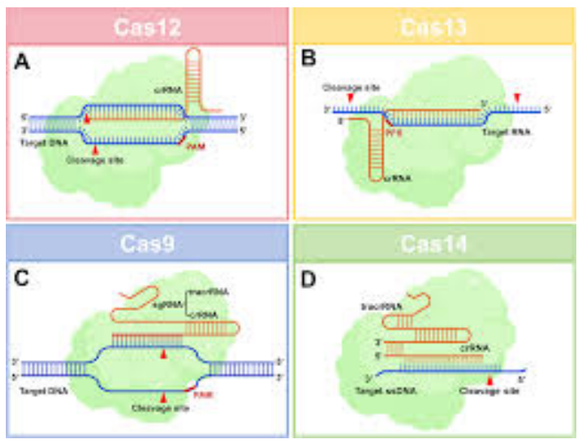
Ongoing breakthroughs in 3D bioprinting are enabling the fabrication of complex tissue structures using living cells and biomaterials. While fully functional organs are still under development, these technologies are rapidly advancing regenerative medicine, disease modeling, and transplantation research.

Click and **Read More**

"Scientific articles are not just sources of knowledge—they are training grounds for a researcher's critical mind."

SCIENCE UPDATE

CRISPR-Based Blood Test Enables Early Sepsis Detection



Scientists have developed a rapid diagnostic tool using CRISPR-Cas systems that detects microbial DNA directly from blood within hours. This significantly shortens diagnosis time compared to traditional culture methods, allowing early intervention and improved survival in sepsis patients.

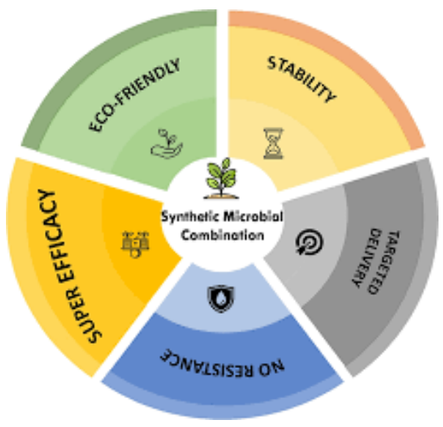
Click and **Read more**

Discovery of 26 New Bacterial Species in Space-Grade Cleanrooms

Researchers discovered 26 previously unknown bacterial species in NASA cleanrooms using whole genome sequencing. These microbes exhibit extreme survival traits such as resistance to radiation, desiccation, and disinfectants. The findings are important for planetary protection, preventing contamination of space missions, and understanding microbial adaptation in extreme environments.

Click and **Read More**

Synthetic Microbial Communities Engineered for Climate-Resilient Agriculture



Researchers are designing synthetic microbial consortia that enhance plant growth, nutrient uptake, and stress tolerance under adverse environmental conditions. By manipulating microbial interactions and gene expression, these engineered microbiomes can help crops withstand drought, salinity, and pathogens, supporting sustainable agriculture.

Click and **Read More**

AI Reveals Mechanism of Next-Generation Antibiotics

Scientists used artificial intelligence and molecular modeling to understand how a new narrow-spectrum antibiotic selectively targets harmful gut bacteria while sparing beneficial microbes. This research provides insights into reducing collateral damage to the microbiome and minimizing antibiotic resistance development. It could lead to smarter, targeted antimicrobial therapies.

Click and **Read More**

"A true researcher reads between the lines of data, not just the conclusions."

CAMPUS PULSE

Students of GNIPST Succesfully Represented MAKAUT in National Chess Chamoionship

Visit to the NationalLibrary by Students of GNIPST

Consumer Awareness Event (Seminar, Quiz Competition, Essay Competition, Painting Competition in association with Consumer Awareness Forum

ACTIVITY CORNER

International Women's Day : 8th March

International Women's Day, celebrated every year on 8th March, is a global occasion dedicated to recognizing the social, economic, cultural, and political achievements of women while also highlighting the ongoing struggle for gender equality. The day traces its origins to early 20th-century labor movements, where women demanded better working conditions, fair wages, and voting rights. Over time, it has evolved into a worldwide movement supported by organizations like the United Nations, which promotes themes each year focusing on women's empowerment, rights, and inclusion. International Women's Day serves as both a celebration and a call to action—encouraging societies to address issues such as gender discrimination, unequal opportunities, and violence against women. It plays a crucial role in inspiring change, promoting awareness, and reinforcing the importance of achieving a more inclusive and equitable world for all.

Scrambled Words

NEMEPRWOTME →
YLITAUQE →
MISFNIEM →
HSPERADLIE →
NOISULCNI →

CLICK HERE

To Submit Your Answers!

ANSWER KEY (VOLUME 4 ISSUE 2)

- CIRNOCAGENSE → Carcinogenesis
- OMTSAETTIS → Metastasis
- IMONHUTERAPMY → Immunotherapy
- PAOPTOSIS → Apoptosis
- ENOGNCOE → Oncogene

SHOUT OUT TO THE WINNER OF ACTIVITY CORNER OF VOLUME 4 ISSUE 2

Debangana Majumder, BBA(HM)

Guru Nanak Institute of Pharmaceutical Science and Technology

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"The best is yet to come. Here’s to a year of new beginnings and limitless possibilities!"

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