

GNIPST BULLETIN

Life Science

VOLUME 5
ISSUE 1



IN REFLECTION AND VISION

The Director's Note

It is with immense pride and enthusiasm that we present Volume 5, Issue 1 of the GNIPST Bulletin, marking the beginning of a new volume and another chapter in our journey of academic excellence, scientific exploration, and innovation. At Guru Nanak Institute of Pharmaceutical Science and Technology – Life Science, we continue to nurture an environment that encourages curiosity, critical thinking, practical learning, and meaningful contributions to the life sciences.

This new volume brings together a vibrant collection of achievements, academic initiatives, research endeavours, student activities, and creative pursuits that reflect the continued growth and dynamism of our department. As the field of life sciences advances at an unprecedented pace, we remain committed to empowering our students and faculty to learn, innovate, collaborate, and make a positive impact.

We warmly welcome all our readers, students, faculty members, alumni, and well-wishers to this new volume.



Dr. Abhijit Sengupta

The Principal's Note

We are delighted to present Volume 5, Issue 1 of the GNIPST Bulletin – Life Science, marking the beginning of a new volume and another chapter in our ongoing journey of academic excellence, research, innovation, and student development. At GNIPST, we remain committed to creating an enriching learning environment through advanced laboratory facilities, experiential learning, industry-relevant exposure, and meaningful opportunities for research and innovation. Our continued efforts focus on nurturing scientifically curious, ethically grounded, and future-ready professionals equipped to contribute to the evolving landscape of life sciences.

As we embark on this new volume, we celebrate the achievements, initiatives, and milestones that reflect the vibrant academic and creative spirit of our institution. We extend our heartfelt appreciation to our students, faculty members, contributors, readers, and well-wishers whose enthusiasm and support continue to inspire us. Volume 5 begins with renewed aspirations, fresh ideas, and a shared commitment to learning, discovery, and excellence. We look forward to bringing you many more stories of achievement, innovation, collaboration, and inspiration in the issues ahead.



Dr. Lopamudra Datta

INSIDE THE BULLETIN

1

The Science Update

2

The Campus Pulse

3

Activity Corner

4

Answer Key

5

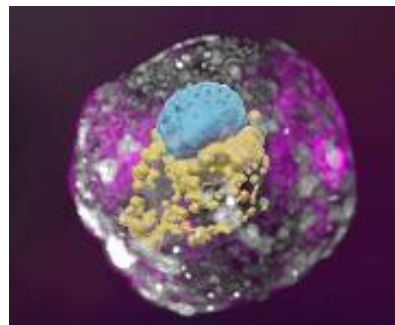
Editorial Board



SCIENCE UPDATE

Scientists Create Synthetic Human Embryo Models Without Eggs or Sperm

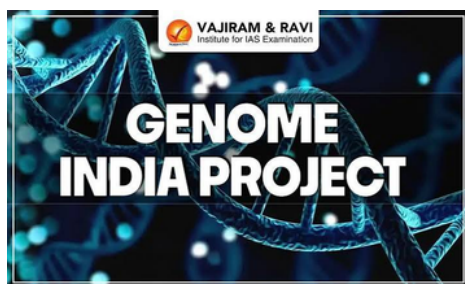
Researchers have successfully generated synthetic human embryo models entirely from stem cells without using eggs or sperm. These embryo-like structures mimic several stages of early embryonic development, enabling scientists to investigate implantation, congenital abnormalities, infertility, and early pregnancy loss. Although these models cannot develop into complete human embryos, they provide powerful tools for developmental biology while raising important ethical and regulatory questions regarding synthetic embryology.



Read More : <https://www.nature.com/articles/d41586-023-02870-3>

GenomeIndia Reveals Millions of Genetic Variants in the Indian Population

The GenomeIndia project has generated an extensive genomic resource representing the genetic diversity of India's population. Researchers analyzed the genomes of 9,768 healthy individuals from 83 populations and identified around 130 million genetic variants, with nearly one-third not previously reported in international databases. The dataset provides valuable information about genetic diversity, disease susceptibility, drug metabolism and population-specific health risks. Such information could support the development of more effective personalized medicine and help researchers understand how genetic differences influence disease and treatment responses in Indian populations.



Read More : <https://www.nature.com/articles/d41586-023-02870-3>

SCIENCE UPDATE

CRISPR-Edited Grapevines Show Improved Resistance to Fungal Disease

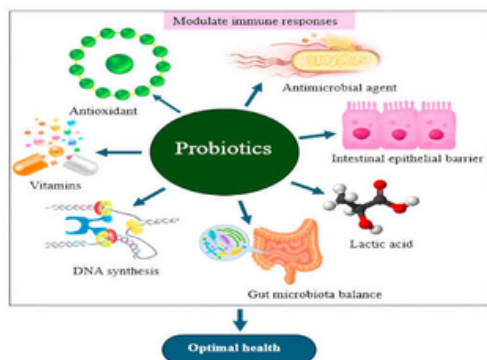
Scientists in South Africa have developed Africa's first gene-edited grapevine using CRISPR-Cas9 technology. Researchers modified the VvDMR6.1 gene, which is associated with susceptibility to downy mildew, a major fungal disease affecting grape production. The edited plants showed improved resistance to the pathogen while also demonstrating better water conservation. The research illustrates how precision genome editing could help develop crops that are more resistant to diseases and environmental stresses without necessarily introducing genes from unrelated organisms. Such approaches may become increasingly important for sustainable agriculture under changing climatic conditions.



Read More : <https://www.nature.com/articles/d41586-023-02870-3>

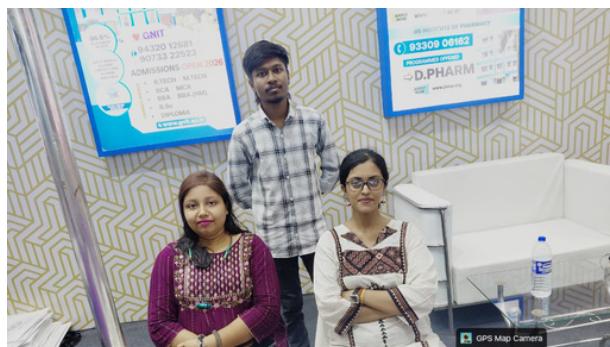
Microbial Cell Factories Produce Vitamin E More Sustainably

Researchers have engineered microbial systems to improve the biological production of vitamin E. Microorganisms can act as miniature biological factories, using metabolic pathways to convert relatively simple starting materials into valuable compounds. Scientists have now identified and exploited unusual enzymes from *Rhodobacter* species to produce tocopherols, important forms of vitamin E, at gram-scale levels. This type of microbial biotechnology could reduce dependence on conventional chemical manufacturing and potentially create more sustainable methods for producing nutritional compounds and other high-value chemicals.



https://www.nature.com/subjects/biotechnology?utm_source=chatgpt.com

CAMPUS PULSE



Team GNIPST in APAI Counseling, West Bengal



His Holiness Sri M's Visit to GNIPST

Catch a Glimpse of the auspicious event -

https://drive.google.com/file/d/14RUCQN-jTQ8aoo5IXCOMdRUNtj_vbKbz/view?usp=drivesdk

ACTIVITY CORNER

VAN MAHOTSAV WEEK 01.07.2025 TO 10.07.2025

Van Mahotsav Week is an annual tree-planting festival celebrated across India, usually during the first week of July, to promote awareness about the importance of forests, trees, and environmental conservation. The word "Van Mahotsav" means "Forest Festival", and the initiative was started in 1950 under the leadership of K. M. Munshi, the then Union Minister for Agriculture and Food. The week encourages individuals, educational institutions, government organizations, and communities to participate in tree plantation and forest conservation activities. Trees play a vital role in maintaining ecological balance by absorbing carbon dioxide, releasing oxygen, preventing soil erosion, supporting biodiversity, regulating temperature, and contributing to the water cycle. Van Mahotsav also highlights the need to combat deforestation, climate change, habitat loss, and environmental degradation. Beyond simply planting trees, the celebration emphasizes their long-term care and protection, encouraging sustainable and responsible environmental practices. Through plantation drives, awareness campaigns, competitions, seminars, and community activities, Van Mahotsav Week inspires people to recognize that protecting and increasing green cover is a shared responsibility essential for a healthier and more sustainable future.

SCRAMBLED WORD

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BODIIVERSTIY →

ECRYOSMSETS →

ANSWER KEY

VOLUME 4 ISSUE 6

NEMRONIENVT → ENVIRONMENT
STABISNALIUTYI → SUSTAINABILITY
ECRYOSMETS → ECOSYSTEM
ODRTASEEFITNRO → DEFORESTATION
OIEFDARAGDN → AFFORESTATION

SHOUT OUT TO THE WINNER OF **VOLUME 4 ISSUE 6**



Anwasha Biswas, B.Sc Genetics

Guru Nanak Institute of Pharmaceutical Science and Technology

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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