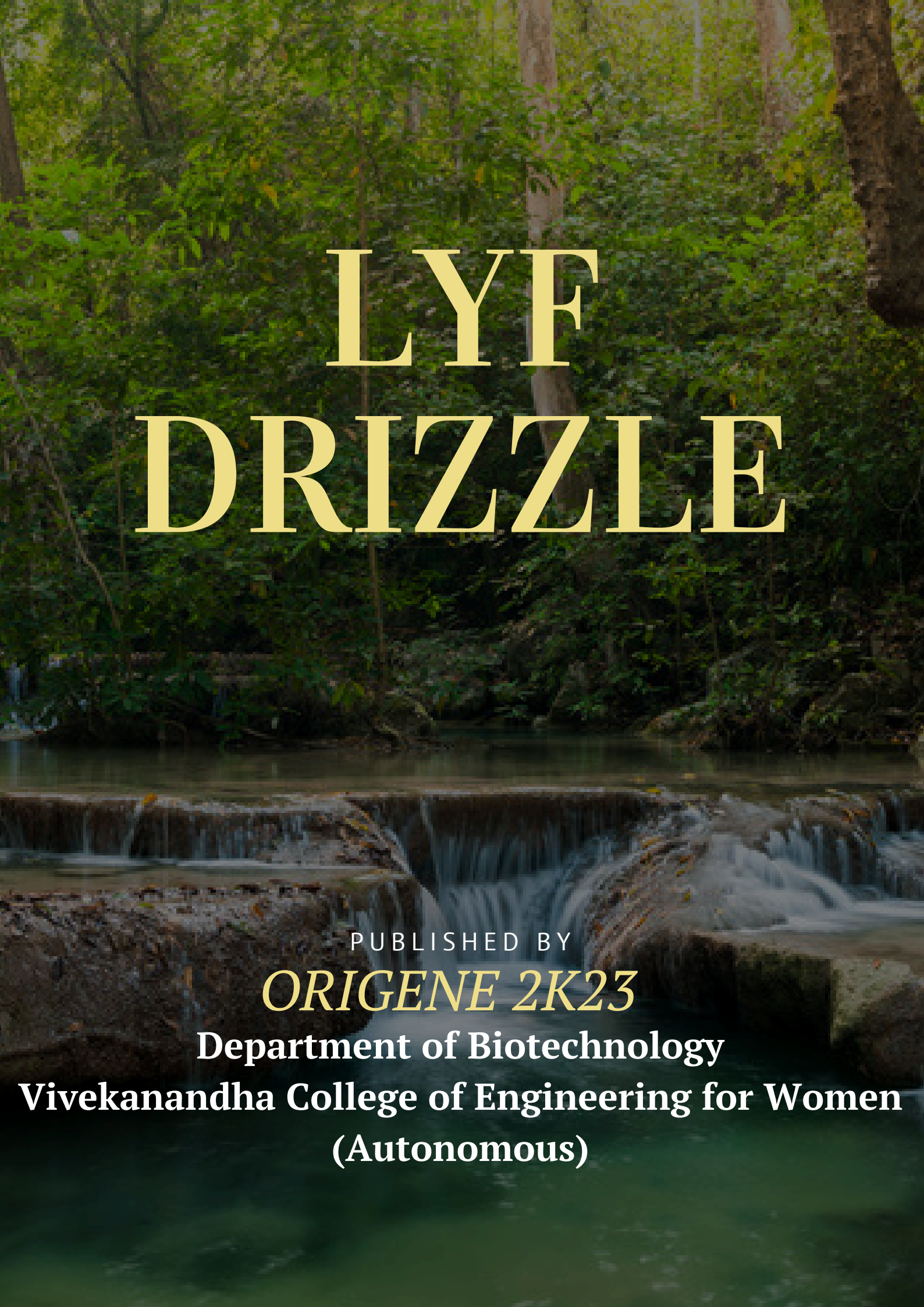

LYF DRIZZLE

PUBLISHED BY

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Department of Biotechnology

Vivekanandha College of Engineering for Women

(Autonomous)

“Vidhya Rathna”

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Chairman & Secretary

Vivekanandha Educational Institutions & Hospital

Tiruchengode & Sankari

FOREWORD

With great pleasure we present "Lyf Drizzle," our magazine. The Head of the Department, teaching and non-teaching faculty, and college management have all given their approval for this Magazine preparation. There has long been a demand for understandable sketches to display our students innovative contest entries. Through my experience editing this magazine, I have seen that the students in our department have a great deal of potential and skill, and they require a platform such as this one to help them develop it. At this point, I would like to remind everyone that without the efforts of our team, it would not be possible to support the students participating in such amazing activities. Our department is expanding, and I can see it in the maturity of our students and their commitment to publishing this journal in good condition. We would continue to present the following issue in an efficient manner.

EPITOME

STUDENT PUBLICATIONS

TITTLE TATTLE

BRAIN WAVE

FORTEE SOLACE

AMOKA S
III YEAR
2021-2025

MAST HEAD

KARISHMA VARSHA M
III YEAR
2021-2025

SHIVASHANKARI C
III YEAR
2021-2025

MAST
HEAD

SUBHIKSHA S
III YEAR
2021-2025

STUDENT PUBLICATIONS

Biodegradable hydrogels from spider silk proteins: Synthesis, Characterization and Applications – A Review

Rubinika P
III BT
2021-2025

International Journal of Innovative Research in Technology

A Review on: Gene Expression Analysis Techniques and its Application

Kavya S
I M.Tech. BT
2023-2025

International Journal of Research Publication and Reviews

A Review on the Applications of Artificial Chromosomes

Kaviyadharshini N
I M.Tech. BT
2023-2025

International Journal of Research Publication and Reviews

Applications of Gas Chromatography in Pharmaceutical Industries

Baskamary M
IV BT
2020-2024

pooja G
IV BT
2020-2024

World Journal of Pharmaceutical Research


BOOK
CHAPTER

Mycosynthesis of Nanoparticles and Their Application in Medicine

BASKA MARY M
IV BT
2020-2024

NIVETHA S
IV BT
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NIVEdHITHA B
IV BT
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POOJA G
IV BT
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POOJA S
IV BT
2020-2024

Biogenic Nanomaterials for Environmental Sustainability: Principles, Practices, and Opportunities

Springer International Publishing

Mycofabrication of Silver Nanoparticles: Synthesis, Characterization and Its Biological Applications

ARSHEYA BEGAM S
IV BT
2020-2024

DEEPIKA K
IV BT
2020-2024

NANDHINI S M
IV BT
2020-2024

Biogenic Nanomaterials for Environmental Sustainability: Principles, Practices, and Opportunities

Springer International Published

TITTLE TATTLE

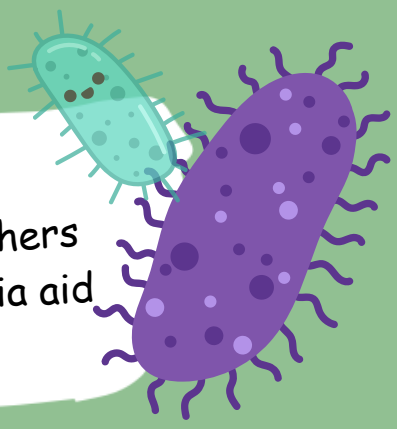
Myth: Sharks are mindless killing machines.
Truth: Sharks are highly intelligent animals with complex behaviors. They play crucial roles in marine ecosystems and are generally not aggressive towards humans.

Myth: Humans have more bones than other animals.
Truth: While humans have a relatively large number of bones, some animals, such as snakes, have a much larger number.

Myth: Artificial intelligence will soon replace biologists.
Truth: While AI can be a powerful tool for biologists, it is unlikely to replace human expertise entirely. AI can help with tasks such as analyzing large datasets and making predictions, but it cannot replicate the creativity and judgment of a human biologist.

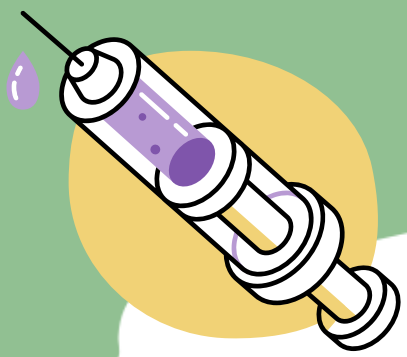
Myth: Synthetic Biology Creates Artificial Life

Truth: Synthetic biology doesn't create life from scratch. It involves designing and building biological systems, often by modifying existing ones.



Myth: All bacteria are harmful.

Truth: While some bacteria can cause diseases, many others are beneficial for human health. For example, gut bacteria aid in digestion and immune function.



Myth: Vaccines Cause Autism

Truth: This is a harmful myth that has been repeatedly debunked by numerous scientific studies. There is no link between vaccines and autism.

Myth: Humans Have the Most Genes

Truth: The number of genes in an organism doesn't necessarily correlate with its complexity. Some organisms with relatively small genomes, such as roundworms, have surprisingly complex behaviors.

Myth: Biotechnology is a Recent Development

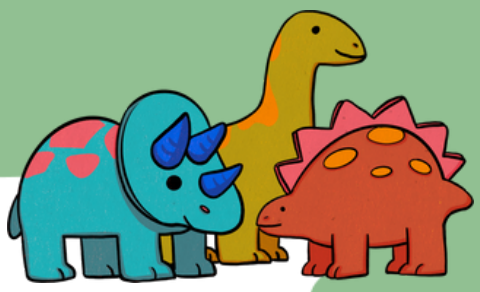
Truth: Biotechnology has been used for centuries, although in more primitive forms. For example, the fermentation of food and beverages has been practiced for thousands of years.

Myth: The Heart is the Only Organ That Pumps Blood

Truth: While the heart is the primary pump, other organs, such as the muscles, also help to circulate blood.

Myth: Plants Don't Feel Pain

Truth: While plants don't have the same nervous system as animals, they can respond to stimuli, such as touch, light, and temperature. This suggests that they may experience something akin to pain or discomfort.

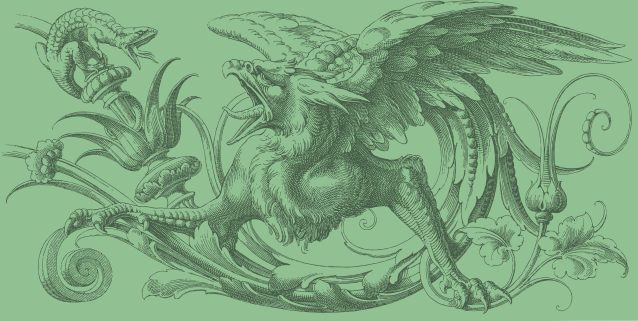


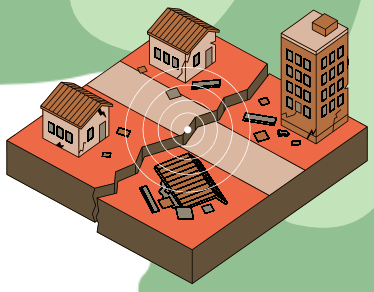
Myth: Dinosaurs were all gigantic.

Truth: While some dinosaurs were massive, many were relatively small, even smaller than a chicken.

Myth: Humans are the only animals capable of complex thought.

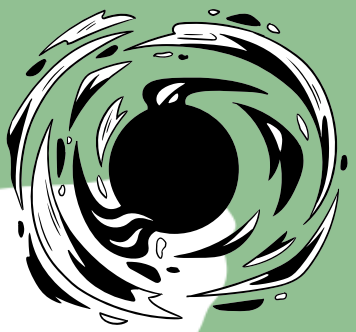
Truth: While humans possess advanced cognitive abilities, other animals, such as dolphins, chimpanzees, and elephants, have also demonstrated complex problem-solving, tool use, and social interactions.





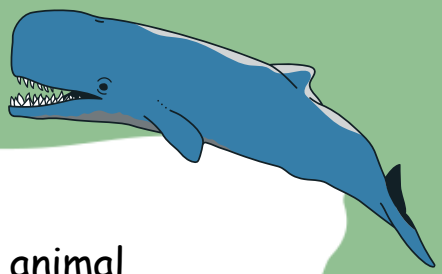
Myth: Earthquakes are caused by underground explosions.
Truth: Earthquakes are primarily caused by the movement of tectonic plates.

Myth: All plants produce flowers.
Truth: While flowering plants are the most common type of plant, there are also non-flowering plants, such as ferns and mosses.

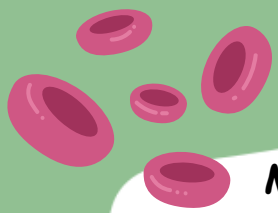


Myth: Black holes are portals to other universes.
Truth: While black holes are incredibly dense objects with a strong gravitational pull, there's no concrete evidence that they act as portals to other universes.

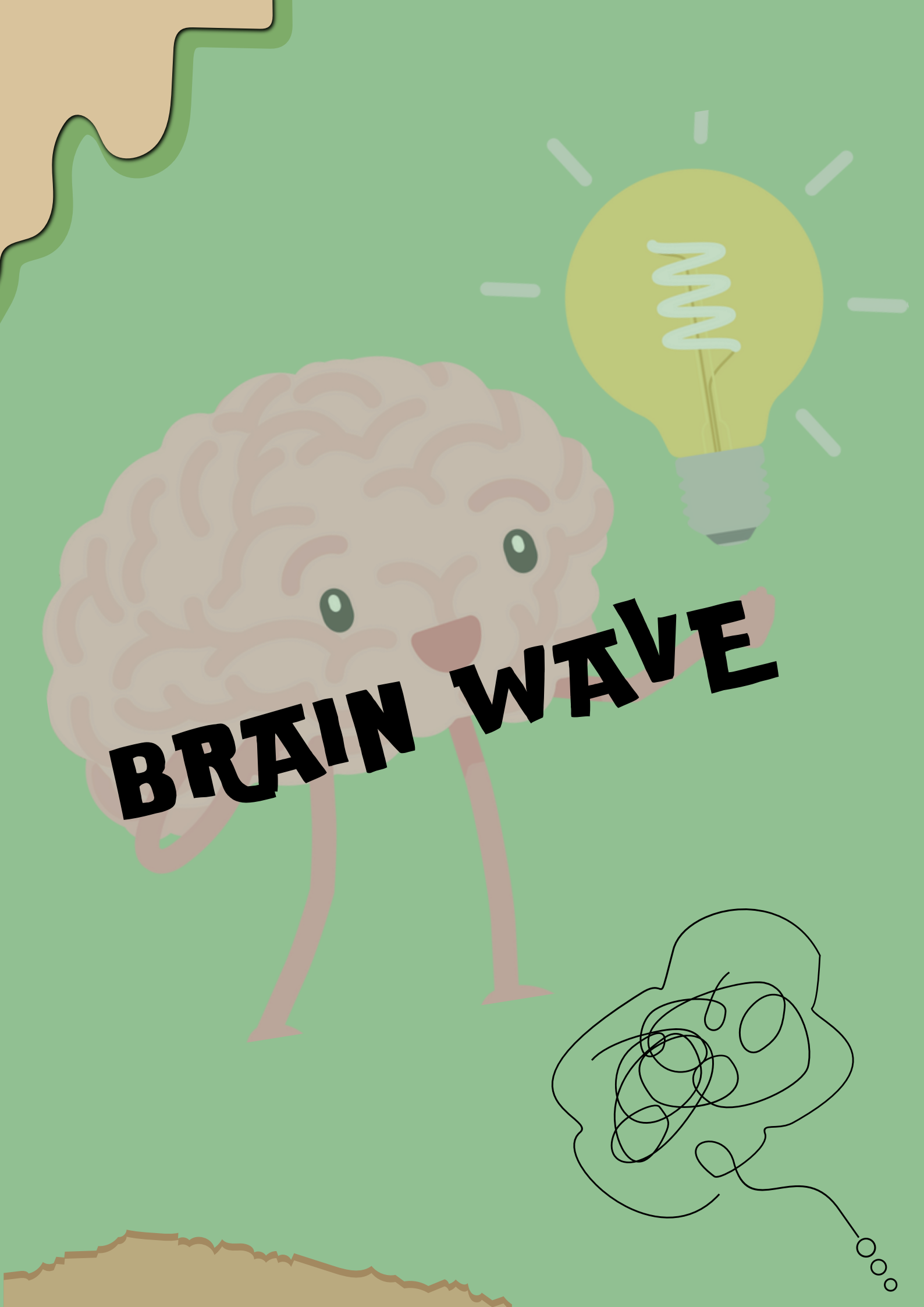
Myth: Genetic engineering is only used for creating Genetically Modified Organisms (GMOs).
Truth: Genetic engineering is a broad field with many applications, including gene therapy, DNA fingerprinting, and the production of pharmaceuticals.



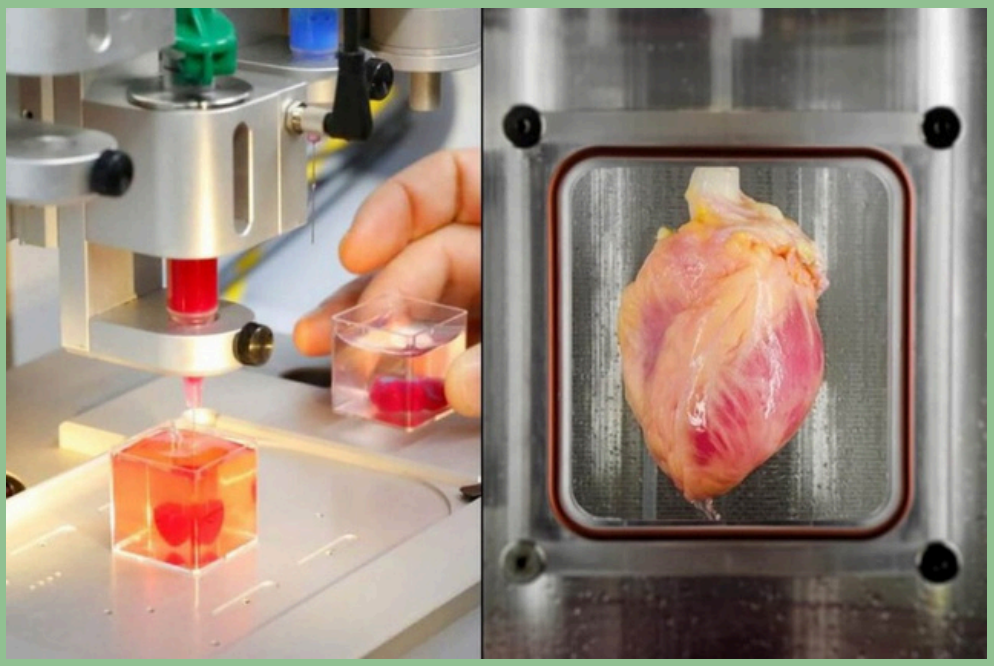
Myth: Humans have the largest brain of any animal
Truth: While humans have a relatively large brain size compared to body mass, the sperm whale has the largest brain of any animal.



Myth : Stem cells can be used to treat any disease.
Truth: While stem cells have the potential to treat a wide range of diseases, they are not a cure all. There are still many challenges to overcome before stem cell therapies can be widely used.


BRAIN WAVE

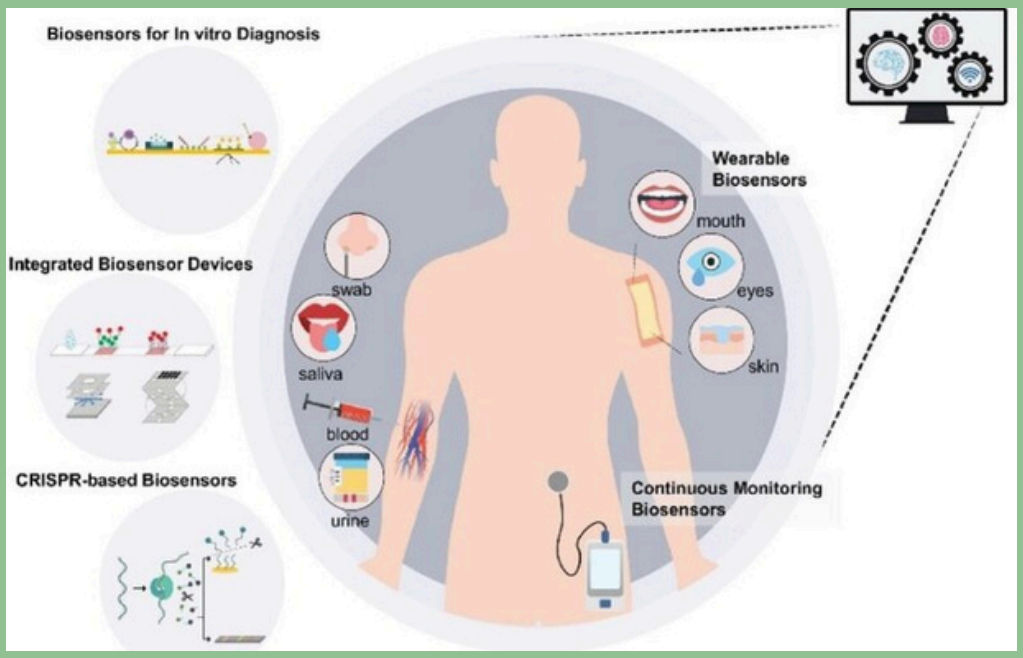
Stem Cell Applications : “human heart-in-a-jar”



Scientists have been researching the conditions for and controlling the differentiation of stem cells since the early 1980s. The ability to manipulate the development of specific cell types has proven to be of great importance in various industries, including drug development, regenerative medicine, and the production of valuable biomaterials. Novo Heart, a Canadian company, stands out as an exemplary case. They have successfully created a remedy for scientists engaged in drug testing for heart-related ailments. The MyHeart platform they have devised employs iPSCs to produce models of human cardiac tissue or organs, including the remarkable human ventricular cardiac organoid chamber, commonly referred to as the “human heart-in-a-jar.”

These models closely resemble the actual human heart environment, providing a more accurate representation compared to animal models commonly used in preclinical development. The purpose of MyHeart is to enhance the prediction of the effects of new drugs before they enter clinical trials.

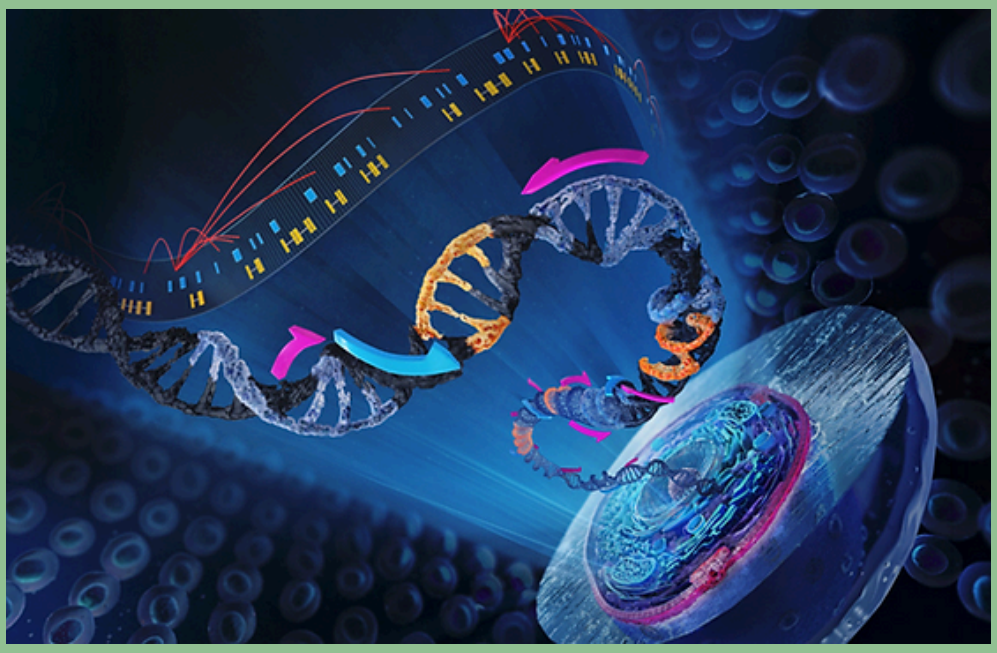
Aptamer biosensors



Aptamer biosensors are a type of biosensor that uses aptamers, which are small, single-stranded DNA or RNA molecules that can bind specifically to a target molecule, such as a protein, peptide, or small molecule.

Since the 1960s, including biosensor-based detectors such as glucose monitors, pregnancy tests, and heavy-metal sensors have been developed and utilized. However, newer sensor technologies have shifted towards nucleic acid aptamer-based methods due to their potential for increased sensitivity, stability, and cost-effectiveness. Aptamer biosensors are typically created through SELEX, or systematic evolution of ligands using exponential enrichment. Aptamer Sciences, a South Korea-based company, has developed the AptoDetect-Lung, an in vitro diagnostic test that detects seven lung cancer biomarkers to assess a patient's risk of developing lung cancer. This examination has demonstrated enhanced diagnostic precision compared to CT scan testing and has recently obtained diagnostic authorization from the Korean Ministry of Food and Drug Safety.

Stem cell technologies



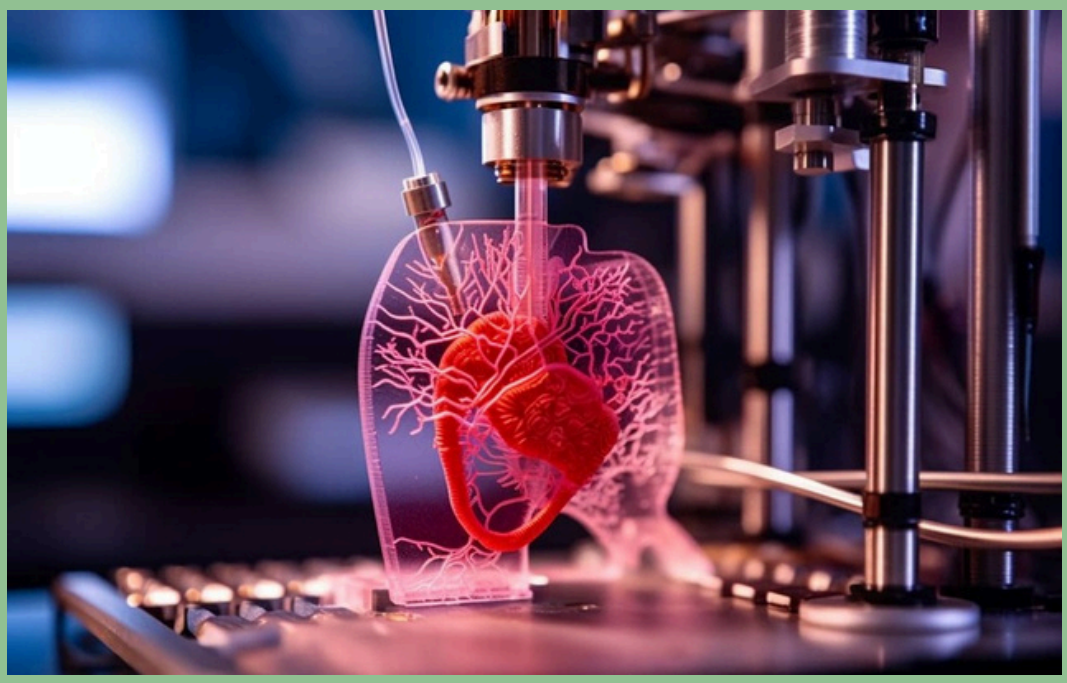
Stem cell technologies play a crucial role in drug discovery and clinical research by offering comprehensive insights into cellular environments. When combined with next-generation sequencing, these technologies provide a more accurate representation of cell populations, which is particularly valuable in comprehending the diverse nature of tumor environments. Since these technologies are primarily utilized in research settings, numerous contract research companies provide specialized DNA panels for single-cell sequencing and analysis platforms.

Disease-specific characterization can be accomplished through the utilization of targeted DNA panels, such as the acute lymphoblastic leukemia panel. Typically, single-cell analyses necessitate the use of multiple machines with distinct protocols. However, Berkeley Lights has made significant progress by creating a singular machine capable of individually processing and analyzing cells simultaneously.

Bioplastics

The attention towards environmental and ecological issues is growing at a rapid pace. Individuals are becoming more conscious about the substances they incorporate into their daily routines. Plastic, in particular, has witnessed a remarkable shift in public awareness. Shockingly, approximately 12.7 million tons of plastic end up in the ocean annually. This substance takes hundreds of years to break down and poses a substantial danger to marine organisms. Thankfully, innovative approaches are emerging to decrease our reliance on plastic. The biotech industry has developed a method known as bioplastics, which offers a promising solution. We are witnessing a growing trend towards the use of organic materials that naturally break down over time or can even be safely consumed as alternatives to plastic. It is projected that the use of bioplastics will increase by 20% annually until 2021. These materials are far less harmful to the environment while still offering many of the advantages of conventional plastics.

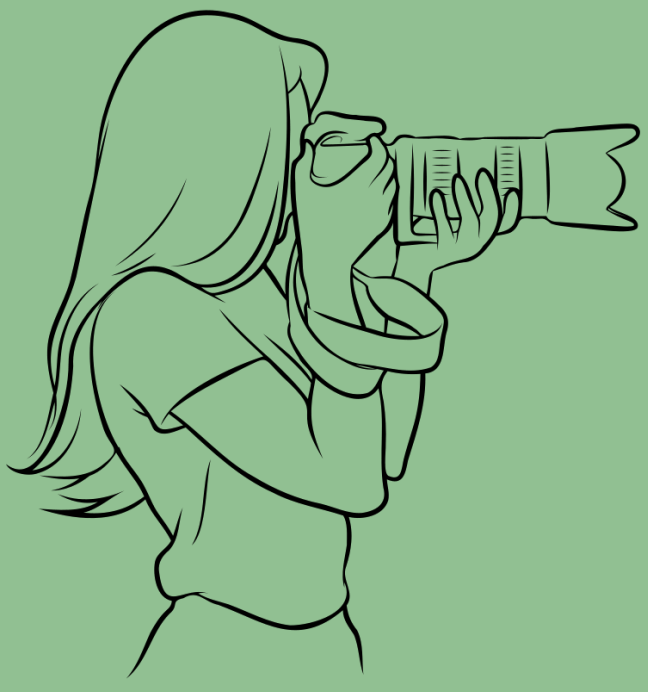
3-D Bioprinting



The biotech innovation sector has seen another exciting development with the emergence of 3-D bioprinting. In the 2010s, 3-D printing was a significant breakthrough, but the next phase is equally groundbreaking. 3D bioprinting is the process of creating three-dimensional tissues and organs using biocompatible materials, cells, and biomolecules. It involves the use of 3D printing technology to layer living cells and biomaterials to create functional tissue-like structures.

This innovative technology utilizes living cells to fabricate diverse human body components, such as heart valves, skin, and cartilage, for medical purposes. Bioprinting holds immense potential in producing medications, pills, and even complete organs like hearts or livers using a patient's own cells. The capability to print human organs will also find valuable applications in medical research and training, providing accurate samples for study and analysis.

FORTEE SOLACE



AMOKA S
III BT

MOUNICA M
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POOJA G
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RANJANI
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DHINISHYA M
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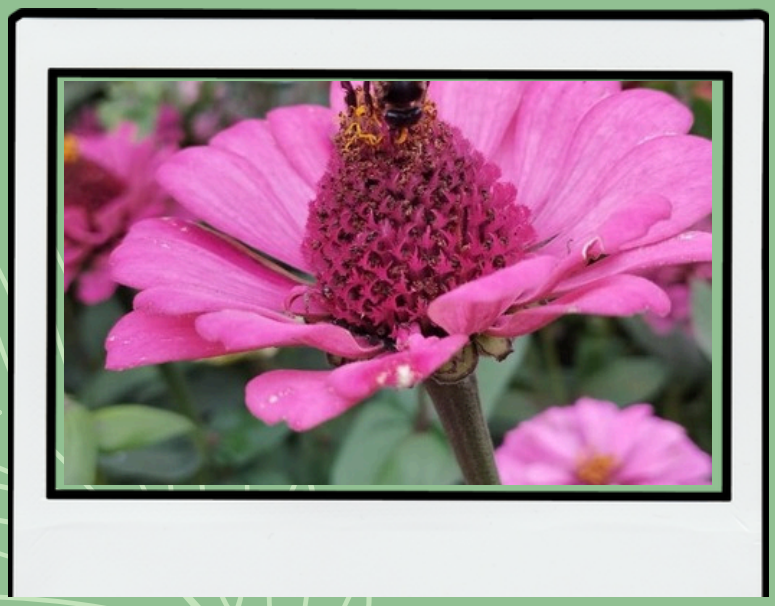

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YOSITHA SREE V G
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BASKA MARY M
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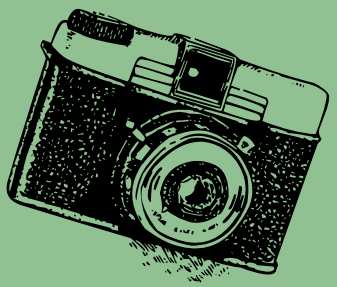

PRIYANKA P
III BT

SHIVASHANKARI C
III BT

SANJUSHREE V
III BT

DEVADHARSHINI P
IV BT

KARISHMA VARSHA M
III BT

AYESHA SITHIKA S
III BT

HEEMAPRIYA T
II BT

AMOKA S
III BT

SUBHIKSHA S
III BT

AMERDHAVARSINE KM
III BT

VASUNDARA DEVI M
III BT

VIJAYAMBIKA B
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BASKA MARY M
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SANJUSHREE V
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RUBA C
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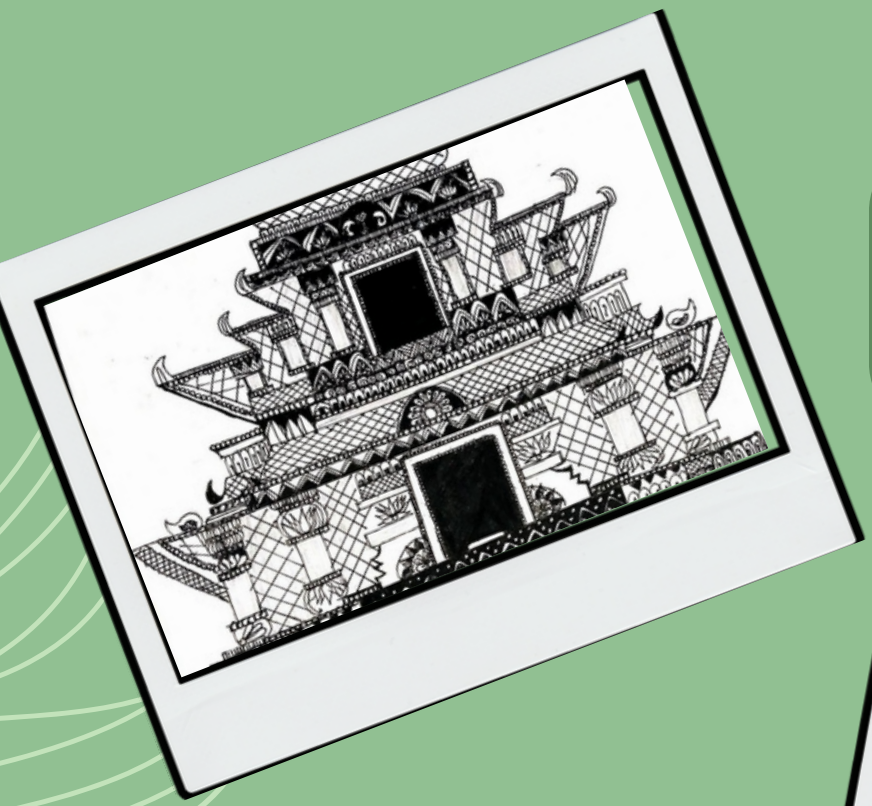

ARCHANA S
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JEGAJOTHI P
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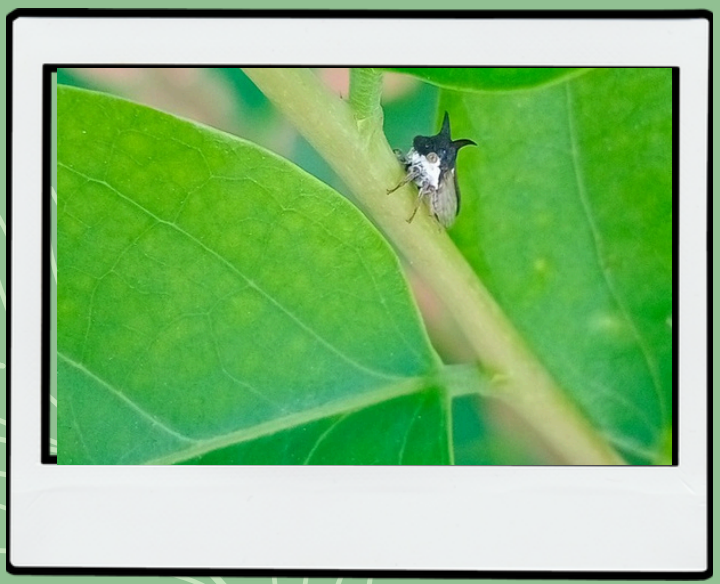


SIVA SAKTHI R
IV BT

RAKSHEETHA S
II BT

GUNAVATHI A
II BT

ANUSHRI A
II BT

மலர் என்னும் அவள்!

செம்மையான கதிரவனின் ஒளியாலும்
தனிமை என்னும் சுடரின் வலியாலும்
வாடியிருந்தாள் அவள்..
அவளது தனிமையை போக்க .
அவளை ஆறத் தழுவிக்கொண்டபின்
அவளது பாங்கி குளிர் தென்றலான
அவளது தோழிக்கு அவளின் தனிமையை கூறிய
ஒற்றனீயாரோ?
மென்மையான தென்றல் கொடுத்த ஆறுதல்
மலர் ஒன்றோடு ஒன்று உரசியது..!
இரண்டு மலர்களுக்கு இடையில்
இணைப்பு ஏற்பட்டு பலகோடி
பூக்களையும் கனிகளையும் கொடுத்து
வண்ணமயமாகவும், உயிர்ப்புடனும் உலகையே
வண்ணமயமாக்கி வைத்திருப்பது மலருக்கும்
தென்றலுக்கும்
உள் இடையில் உள்ள இணைப்பு தான்.!
பூக்கள் இதில் பூக்களே இல்லை
உலகையே இயல்பாக இயங்கவும்,
வண்ணமாக இருக்கவும் கோர்த்த கைகள்.

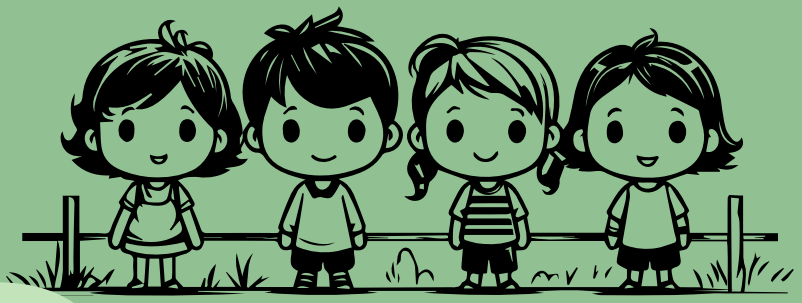
SUBHISHKA S
III BT

அறிமுகம் இல்லாமல் வந்தோம்
அடிகடி பேசி கொண்டோம் உறவுகளுக்கு மேலே,
உயிர் ஆனோம்.

காலங்கள் கடந்து சென்றாலும்
கடைசி வரை தொடர வேண்டும்.

நம் நட்பு

GOPIKA G
III BT



கல்வி என்பது அறிவின் தீபம்,
பகலை போல பிரகாசிக்கும் வாழ்க்கையின்
விளக்கம்!

கல்வி என்பது அனைவருக்கும் சமம் தான்,
அதை தேடி சென்று கற்றுக்கொள்வது பெரும் பலம்
தான்.

அகலமான கடலாய் அதன் செல்வம்
ஒரு புனல் போல் நாம் துளியாய் கற்றிடுவோம் !

கல்வியை தேடி செல், அறிவை வளர்த்துக்கொள்!

BRINDHA R
III BT

"Like a resilient thorn, lift yourself beyond the reach of those who seek to diminish you. Let their criticism fuel your growth, until they can't help but praise you."

MADHUBALA G
III BT