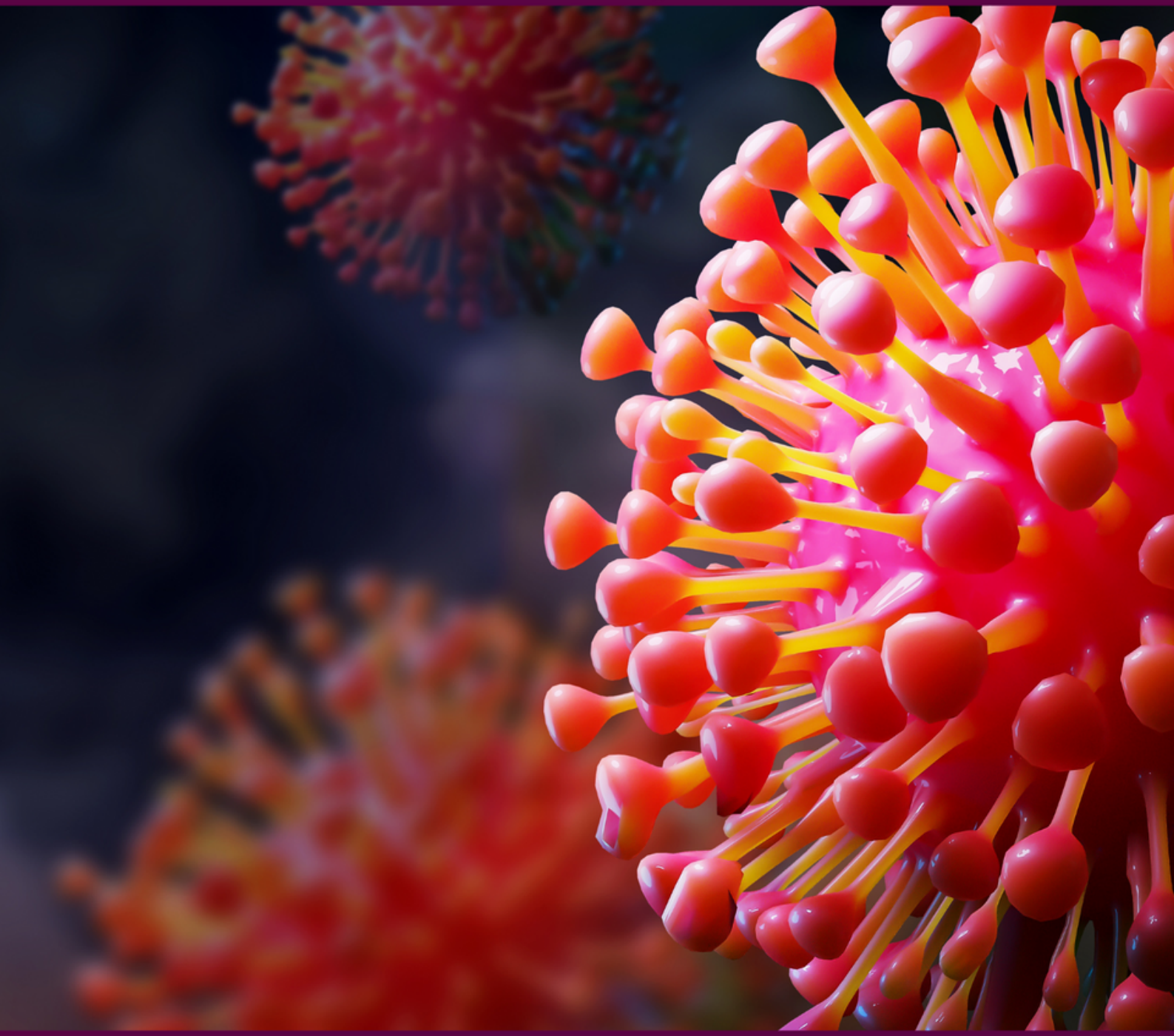
The BIOscope

A Quarterly Newsletter *December, 2022 Issue 2*

Department of Biosciences
Integral University, Lucknow



Recent Scientific Developments

Articles covering recent breakthroughs in science

Students' zone

Scientific Writings, Students' Accomplishments and Interview Reports

Departmental Events

Report on World Mental Health Awareness Day & World Science Day

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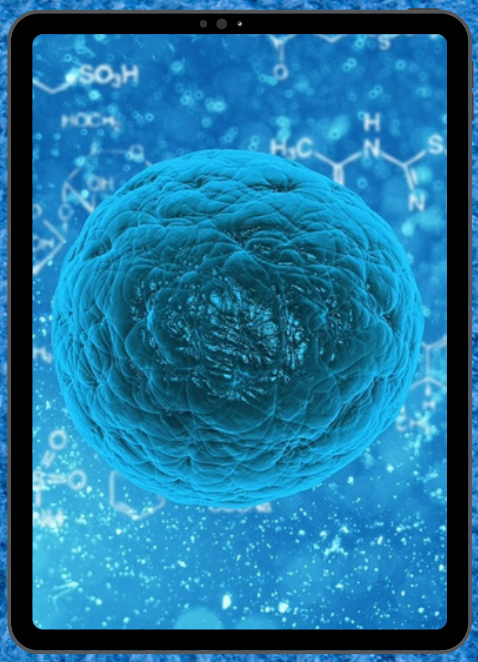
Breast Cancer: NHS England provides a life-saving medication that causes tumours to "disappear"



The National Institute for Health and Care Excellence (NICE), has given its nod for the use of a drug called pembrolizumab and claimed that the drug can make cancer “disappear".

Pembrolizumab will be used to treat triple-negative breast cancer, an aggressive form of the disease which disproportionately affects those under-40s. Trials indicate that the drug reduces the chance of cancer progressing by almost two fifths when used with chemotherapy, significantly extending a patient’s life. Pembrolizumab can also cause cancer to “disappear” before surgery, meaning women need less invasive operations.

The drug can be administered through a drip in the bloodstream to stimulate the immune system to fight cancer cells. The drugs target proteins on the surface of the immune cells which acts as a brake on their debilitating effects. This new breast cancer drug will be administered to only patients at the highest risk and whom doctors decide are best-suited basis factors that determine whether or not a patient is fit for the treatment.

https://www.england.nhs.uk/2022/11/nhs-strikes-deal-for-potentially-life-saving-breast-cancer-drug/

China to send monkeys into space to study reproduction in zero-gravity

Chinese scientists are now planning to send monkeys to space to study reproduction in zero gravity.

The experiment would be conducted on China’s new Tiangong space station, inside the Wentian lab module.

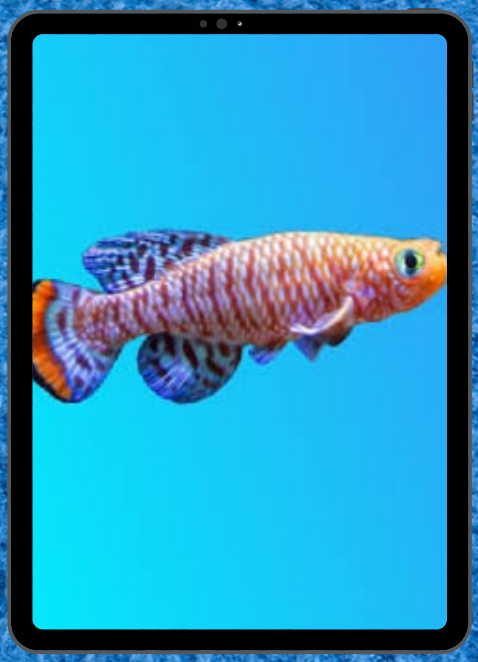
The module, which currently has only enough room for algae, fish or snails, has been designed in a way to expand and configure for larger organisms.

The China Manned Space Agency (CMSA) also mentioned that if the monkeys are sent into the space station, they will need to feed them and deal with the waste.

China Manned Space Agency (CMSA) has set a goal of more than 1,000 experiments to be conducted in fields ranging from technical spheres to medical science.

https://m.timesofindia.com/world/china/china-to-send-monkeys-to-space-to-study-reproduction-in-zero-gravity-report/amp_articleshow/93899920.cms

Study reveals brain evolution association with competition



The research led by biology professor Matthew Walsh and Kaitlyn Howell at The University of Texas, examined the connection between brain size and fitness when killifish are found in their native habitats and when they are transplanted from sites with predators to high-competition sites that lack predators.

During a 30-day experiment near Arima, Trinidad, the researchers determined that when a fish is transplanted from a low- to a high-competition environment, there is a strong relationship between larger brain size and faster growth. That growth demonstrates the increased ability to forage for food, giving killifish a greater chance at survival.

Furthermore, killifish from high-competition sites that remained in their native habitat for the duration of the experiment did not exhibit any change in brain size. The transplanted fish that persisted until the end of the experiment exhibited a much larger brain size than those fish that were not observed again.

https://www.aninews.in/news/science/study-reveals-brain-evolution-association-with-competition20221020230013/

Researchers suggest metals may help to fight fungal infections

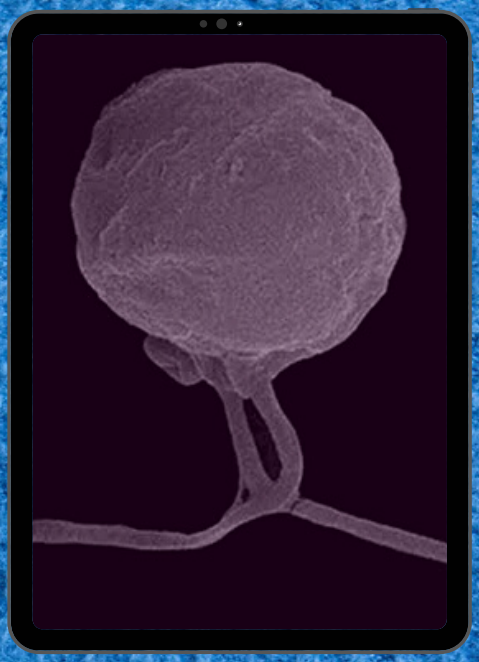
In their new study, the researchers at the University of Bern, Switzerland turned their attention to the metal compounds which showed activity against fungal infections. Here, 21 highly-active metal compounds were tested against various resistant fungal strains. These contained the metals cobalt, nickel, rhodium, palladium, silver, europium, iridium, platinum, molybdenum and gold.

Many of the metal compounds demonstrated good activity against all fungal strains and were upto 30,000 times more active against fungi than against human cells. The most active compounds were then tested in a model organism, the larvae of the wax moth.

The researchers observed that just one of the eleven tested metal compounds showed signs of toxicity, while the others were well tolerated by the larvae. In the next step, some metal compounds were tested in an infection model, and one compound was effective in reducing the fungal infection in larvae.

https://www.google.com/amp/s/m.timesofindia.com/videos/news/researchers-suggest-metals-may-help-to-fight-fungal-infections/amp_videoshow/94460393.cms

Researchers discover "Provora", a new Supergroup of Eukaryotes



A group of researchers working in British Columbia and Russia have discovered a new supergroup on the tree of life — microscopic predators that both swallow whole and nibble their prey to death.

The discovery, published in the journal Nature Wednesday, reveals 10 strains of what the researchers are calling provora, or “voracious predators” — complex single-cell organisms collected during a decade-long hunt across the planet's seas, beaches and lakes. Together, they begin to fill a blind spot in cellular evolution and bring scientists one step closer to piecing together the tree of life.

Roughly five micrometres long, provora measure less than a third of the width of the smallest human hair. That makes them invisible to the human eye.

The discovery of the new supergroup marks a major advance in the understanding of the diversity of life, but it also underscores how much we don’t know about ecosystems playing out at a microscopic scale.

https://www.google.com/amp/s/www.newsfilter.com/amp/science/microbial-lions-belong-to-newly-discovered-branch-in-tree-of-life-called-provora-212839

A new study explains the mechanism which enables Tardigrades to survive extreme dehydration

Tardigrades can tolerate almost complete dehydration by entering a reversible state called anhydrobiosis and resume their animation upon rehydration.

To shed light on how tardigrades can endure extreme dehydration, researchers at the University of Tokyo explored proteins that form a gel during cellular dehydration.

Research into CAHS proteins revealed that they can sense when the cell encapsulating them becomes dehydrated, and that’s when they kick into action.

CAHS proteins form gel-like filaments as they dry out. These form networks that support the shape of the cell as it loses its water.

The process is reversible, so as the tardigrade cells become rehydrated, the filaments recede at a rate that doesn’t cause undue stress on the cell.

https://www.google.com/amp/s/www.labroots.com/trending/plants-and-animals/21656/tardigrades-survive-dehydration/amp

Discovery of plastic eating Bacteria in the Atlantic Ocean

According to a new research conducted by a team of researchers from Newcastle University, United Kingdom, they discovered a new species of plastic loving bacteria that cling to plastics in the deep sea which could allow them to "hitch-hike" across the ocean.

The team showed for the first time that these deep-sea, plastic loving bacteria make up only 1 per cent of the total bacterial community and found that these bacteria only stick to plastic and not non-plastic materials. These bacteria may be able to ‘hitch-hike’ across the deep sea by attaching to plastic, enhancing microbial connectivity across seemingly isolated environments.

To uncover these mysteries of the deep-sea ‘plastisphere’, the team used a deep-sea ‘lander’ in the North-East Atlantic to deliberately sink two types of plastic, polyurethane and polystyrene, in the deep (1800m) and then recover the material to reveal a group of plastic loving bacteria. This method helps in tackling the issue of plastics and plastisphere.

https://eos.org/articles/microscopic-hitchhikers-found-on-deep-sea-plastic

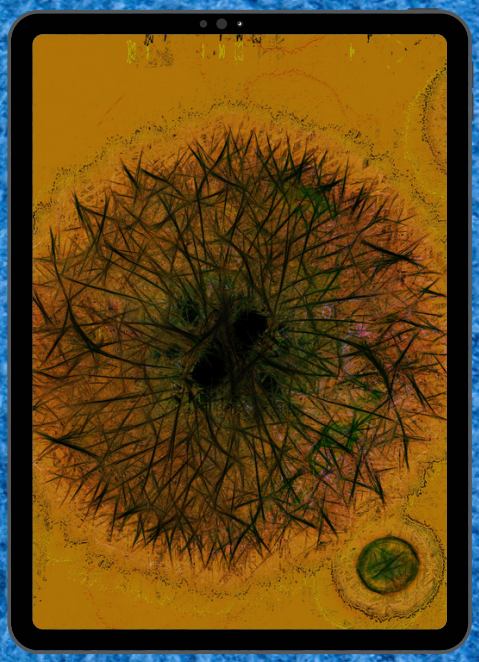
Producing green energy from living plant ‘bio-solar cells’

Scientists at Technion, Israel observed that the aqueous solution found in the tissues of succulent plants can be used directly as a natural bio-photo electrochemical cell. In all living cells, electrons are shuttled around as part of a natural process. But in presence of electrodes, the cells can generate electricity that can be used for external uses. The researchers used the phenomenon of photosynthesis to generate current. During this process, light drives a flow of electrons from water that ultimately results in the generation of oxygen and sugar. Living photosynthetic cells are constantly producing a flow of electrons that can be pulled away as a photocurrent and used to power an external circuit, similar to a solar cell. Certain plants — like the succulents found in arid environments — have thick cuticles to keep water and nutrients within their leaves.

The study authors wanted to test, for the first time, whether photosynthesis in succulents could create power for living solar cells using their internal water and nutrients as the electrolyte solution of an electrochemical cell. They created a living solar cell using the ice plant (*Corpuscularia lehmannii*), a succulent plant species native to parts of the Eastern Cape Province of South Africa. They inserted an iron anode and platinum cathode into one of the plant’s leaves and found that its voltage was 0.28 V. When connected to a circuit, it produced up to 20 µA of photocurrent, when exposed to light and could continue producing current for over a day. Though these numbers are less than that of a traditional alkaline battery, they are representative of just a single leaf.

https://newsbytes.com/producing-green-energy-from-living-plant-bio-solar-cells/

Scientists revive 48500 year old 'Zombie Virus' buried in Siberian permafrost



European researchers examined ancient samples collected from permafrost in the Siberia region of Russia. They revived and characterized 13 new pathogens, what they termed "zombie viruses" and found that they remained infectious despite spending many millennia trapped in the frozen ground.

Scientists have long warned that the thawing of permafrost due to atmospheric warming will worsen climate change by freeing previously trapped greenhouse gases like methane. But its effect on dormant pathogens is less well understood.

The team of researchers from Russia, Germany and France said that the biological risk of reanimating the viruses they studied was "totally negligible" due to the strains they targeted, mainly those capable of infecting amoeba microbes. The potential revival of a virus that could infect animals or humans is much more problematic, they said, warning that their work can be extrapolated to show the danger is real.

https://www.google.com/amp/s/zeenews.india.com/world/zombie-virus-revived-unlock-the-untold-chapter-in-history-here-scientists-claim-they-remained-infectious-despite-2342092.html/amp

World's driest desert Atacama is blooming after heavy rains

The Atacama desert stretches for around a thousand miles (1,600) along the western coast of South America. Other than the poles, it is the driest place on Earth, with some weather stations have never recorded any rainfall in their existence. But despite these barren conditions, the Atacama has a rich biodiversity.

Many species have developed specific adaptations that allow them to thrive even in such an extreme environment.

In particular, one phenomenon has puzzled researchers for a long time. Every 5-10 years, from around September to mid-November, large areas of the Atacama desert start to bloom, with flowers erupting in a great diversity of shapes, colors, and patterns.

These mass blooms, one of which is currently ongoing in the northern Atacama, attract a lot of temporary attention — but the biological mechanisms behind this great blooming are poorly understood.

https://www.google.com/amp/s/www.hindustantimes.com/science/worlds-driest-desert-atacama-is-blooming-following-heavy-rains-101666501809232-amp.html

A lost world in northern Greenland conjured from DNA in ancient soil

In a bleak valley not far from Greenland's massive ice sheet, scientists have reconstructed a rich ancient ecosystem, down to its roving mastodons and smooth-barked birch trees. The clues come from the oldest DNA ever recovered: 2-million-year-old snippets of genetic material from more than 100 kinds of animals and plants extracted from buried sediments. The feat may provide a window into how life will evolve in our warming world and perhaps even allow scientists to resurrect long-lost genes to help modern species cope with climate change.

The findings demonstrate the power of environmental DNA (eDNA)—genetic material extracted not from individual organisms, but from the environment—to reconstruct entire ecosystems: In this case, a coastal forest including poplars, thujas, and other conifers that no longer grow in Greenland, plus reindeer, lemmings, black geese, horseshoe crabs and mastodons.

https://www.science.org/content/article/lost-world-northern-greenland-conjured-dna-ancient-soil

New antibiotic developed from a pathogenic Bacterium in Potatoes

Solanimycin, a new antibiotic derived from pathogenic bacteria acts against a wide range of fungi known to infect and wreak havoc on crops, according to the researchers.

In lab studies, the compound also acted against a fungus called *Candida albicans* which occurs naturally in the body but can cause dangerous infections. The results suggest that solanimycin and related compounds could be useful in both agricultural and clinical settings.

Soil microbes, especially from the Actinobacteria phylum produce the most therapeutic antibiotics used today.

The discovery suggests plant-based microorganisms are worth a closer look, especially as crops develop resistance to existing treatments.

https://amu.uw/Press-Releases/2022/October-New-Antibiotic-Comes-From-a-Pathogenic-Bacterium-if...-says-Researchers%20Discovered%20solanimycin%C%20a human%20and%20plant%20pathogenic%20fungi%C%20a human%20and%20plant%20pathogenic%20fungi

Nobel Prize in Chemistry 2022

The Royal Swedish Academy of Sciences has awarded the Nobel Prize in Chemistry 2022 to Carolyn R. Bertozzi, Morten Meldal and K. Barry Sharpless for the development of click chemistry and bio-orthogonal chemistry.

Barry Sharpless – Being awarded his second Nobel Prize in Chemistry. The term "click chemistry" was coined by Sharpless in 1998, and was first fully described by Sharpless, Hartmuth Kolb, and M.G. Finn at The Scripps Research Institute in 2001.

This involves a set of highly selective, exothermic reactions which occur under mild conditions.

Morten Meldal and Barry Sharpless – independently of each other – presented what is now the crown jewel of click chemistry: the copper catalyzed azide-alkyne cycloaddition. CuAAC is a widely utilized, reliable, and straightforward way of making covalent connections between building blocks containing various functional groups. It has been used in organic synthesis, medicinal chemistry, surface and polymer chemistry, and bioconjugation applications.

Carolyn Bertozzi took click chemistry to a new level. To map important but elusive biomolecules on the surface of cells – glycans – she developed click reactions that work inside living organisms. Her bioorthogonal chemistry, is a set of chemical reactions that allow researchers to study molecules and their interactions in living things without interfering with natural biological processes.

Credits: https://www.nobelprize.org/all-nobel-prizes-2022/

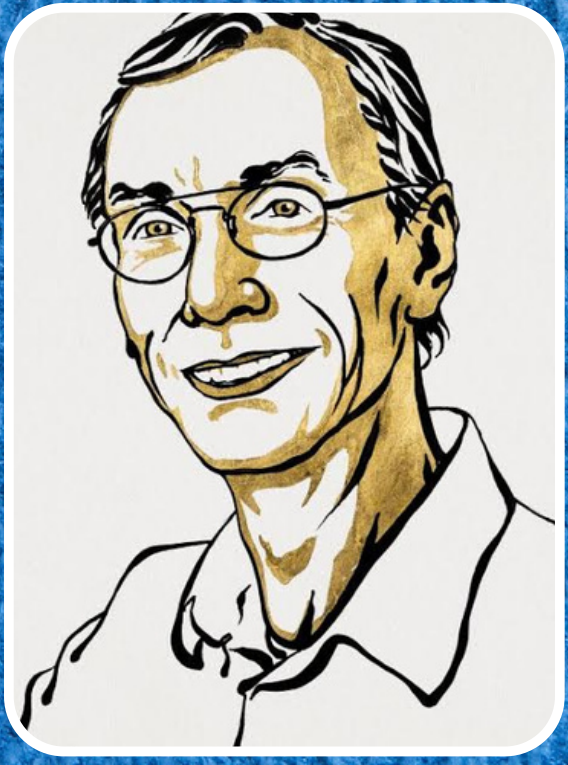
Nobel Prize in Physiology/Medicine 2022

Svante Pääbo won the 2022 Nobel Prize in physiology or medicine for discoveries concerning the genomes of extinct hominins and human evolution.

Pääbo sequenced the genome of the Neanderthal, an extinct relative of present-day humans. He also made the sensational discovery of a previously unknown hominin, Denisova.

Pääbo also found that gene transfer had occurred from these now extinct hominins to Homo sapiens following the migration out of Africa around 70,000 years ago. This ancient flow of genes to present-day humans has physiological relevance today, for example affecting how our immune system reacts to infections. Svante Pääbo's seminal research gave rise to an entirely new scientific discipline; paleogenomics

Through his pioneering research, Svante Pääbo accomplished something seemingly impossible: sequencing the genome of the Neanderthal, an extinct relative of present-day humans. He also made the sensational discovery of a previously unknown hominin, Denisova. Importantly, Pääbo also found that gene transfer had occurred from these now extinct hominins to Homo sapiens following the migration out of Africa around 70,000 years ago. This ancient flow of genes to present-day humans has physiological relevance today, for example affecting how our immune system reacts to infections.



Credits: https://www.nobelprize.org/all-nobel-prizes-2022/

SCIENTIFIC WRITINGS

Discovery of Enigmatic Genetic Elements: Methane eating Borgs

Researchers at the University of California, Berkeley's Professor Jill Banfield and colleagues studied how microbial activities shape large scale environmental processes and how, in turn, environmental fluctuations alter the earth's microbiomes.

As part of their work, they regularly sampled microbes in different habitats to see what interesting genes microbes are using for survival, and how these genes might affect global cycles of key elements, such as carbon, nitrogen and sulphur.

They looked at the genomes within cells as well as the portable packets of DNA known as extra-chromosomal elements (ECE) that transfer genes between bacteria, archaea, and viruses.

These elements allow microbes to quickly gain beneficial genes from their neighbours, including those that are only distantly related.

While studying *Methanoperedens* samples from seasonal cortland pool soil in California, the researchers found evidence of an entirely new type of ECE.

Unlike the circular strands of DNA that make up most plastids, the most well-known type of extra-chromosomal element, the new ECE's are linear and very long - up to one third the length of the entire genome.

Article by: Sayyed Sehar Ali
(B.Sc. Biotechnology Ist year)

Stem Cell Therapy & Therapeutic Cloning

Stem cell therapy which is commonly known as regenerative medicine promotes the response of dysfunctional, diseased, or injured tissues using stem cells or their derivatives.
Stem cells are grown invitro. These cells are manipulated to differentiate into specific cell types like blood cells, heart cells or nerve cells. These differentiated cells can then be transplanted into a person. Like, if a person has heart disease, these cells could be injected into cardiac muscles. The transplanted cardiac muscle cells could then contribute to repairing the injured cardiac muscle. Recent researches indicate that adult bone marrow cells can be guided to become heart-like cells that can repair cardiac tissue.

Bone marrow transplants are the most common application of stem cell therapy. In this, the stem cells replace cells that are damaged by chemotherapy or disease or blood related diseases such as leukemia, lymphoma, neuroblastoma and multiple myeloma. These transplants are adult stem cells or umbilical cord blood.

Therapeutic Cloning or Somatic Cell Nuclear Transfer is a technique to generate versatile stem cells independent of fertilized eggs. In this, the nucleus of an unfertilized egg is removed which contains genetic material. The donor cell nucleus is also removed and injected into the egg, in a process called nuclear transfer. The egg is subjected to division and ultimately forms a blastocyst. This entire process creates a line of stem cells that are genetically alike to the donor cells.
Some researchers tend to believe that stem cells obtained from therapeutic cloning may offer less rejection rates in the case of transplants.
Scientists haven't been able to successfully perform therapeutic cloning with humans despite success in many other species.

Article by: Mohd Danish Khan
(B.Sc. Life Science IIIrd year)

Intranasal Vaccines

Nasal vaccines can be administered to a person via the nose and do not require the use of needles which is a painless, non-invasive way of vaccination. Several intranasal vaccines were developed recently to combat COVID-19 by different countries including India.

An intranasal vaccine works by stimulating a broad immune response - neutralizing IgG, mucosal IgA and T cell responses. These immune responses in the nasal mucosa are essential for blocking both infection and transmission of COVID-19.

A few key attributes of intranasal vaccines are :

* Non-invasive and needle-free.
* Does not require trained health workers for the administration of these vaccines.
* Elimination of needle associated risks like infections and injuries.
* Ideally suited for children.

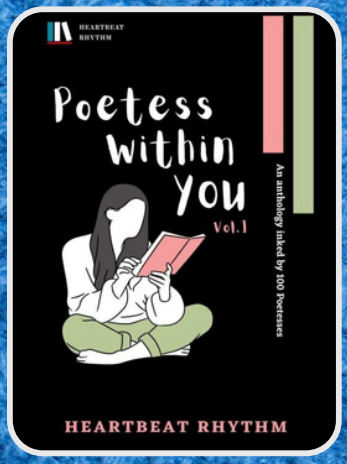
According to researchers the main aim of these vaccines is to reduce infection. They believe the more people the virus infects, the greater will be the probability of producing new COVID variants. Thus, the best way to protect them and break the transmission cycle is to stop the virus from circulating. Recently, India approved its indigenous intranasal COVID vaccine.

Despite all of the above mentioned advantages, experts and prominent researchers are divided on the success of these vaccines. According to them, there is very little evidence to back the efficacy of these vaccines so far. Except for influenza vaccines other intranasal vaccines have not proven to be much successful.

Article by: Ishika Gupta
(B.Sc. Biochemistry IInd year)

Students' Accomplishments (Department of Biosciences)

Congratulations to Wareesha Farooqui, student of B.Sc. ZBC IIIrd year for Co-authoring in the anthology "Poetess Within You" published under ISBN : 979-8888154335



https://dl.flipkart.com/s/By7GFOuuuN

Congratulations to Mohd Danish Khan, student of B.Sc. Life Science IIIrd year for Co-authoring in the anthology "Ciacatrix". ASIN: BOBGC9526G

https://amzn.eu/d/d1W5hyD

Congratulations to Mariya, student of M.Sc. Microbiology IInd year for securing the IIIrd position in the Poster Making Competition organized by Department of Chemistry, Integral University, Lucknow on November 10, 2022.


INTEGRAL UNIVERSITY
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Certificate Number: IUL/PP/CHEM/WSD/2221

CERTIFICATE

OF APPRECIATION

This certificate is proudly awarded to

Mariya

Program: MSc Microbiology (2nd Year)
Enrollment Number: 2100100179

For securing 3rd Position in "Poster Making Competition on World Science Day for Peace & Development" on 10th November 2022, organized by Department of Chemistry, Integral University, Lucknow.

Dr. Tahmeena Khan
Faculty Coordinator

Prof. Abdul Rahman Khan
Head, Department of Chemistry

CSIR-CDRI Lucknow ongoing research on Tuberculosis

Dr. Manju Y. Krishnan -: Principal Scientist

We are trying to discover and develop drugs for various lifestyle and infection disorders like Tuberculosis (TB). In our research, we are trying to understand how organisms interact with the host, and what the factors affecting them.

Tuberculosis is a curable disease but now it has become hard because of drug resistant bacteria, some forms of Tuberculosis are resistant to certain antibiotics, and you cannot treat it with available drugs and cure the infection. Tuberculosis bacteria is a very cunning bacteria; it can remain hidden in your body for years without causing any symptoms and slowly gets activated in some extreme conditions to weaken your health. We might have infected with the bacteria of Tuberculosis inside us, this will not cause any problem until we are adults but if we go in elderly age or old age this bacteria will invade our immunity, like people who are taking drugs for rheumatoid arthritis have high chances of Tuberculosis. To cure Tuberculosis, people take immuno suppressants, then the bacteria gets deactivated for sometime but it can get reactivated due to suppressed immunity.

So basically in our lab, we are working on resistant bacteria, we are trying to understand why this bacteria can survive the drugs and how it can hide from the immune system, so that's why we are working on this particular population. This population of bacteria when they are actively dividing are killed by drugs we are not worried about that we are working on that dormant and latent bacteria which was still present but are not acting up ; treatment of Tuberculosis takes about 6 months. Tuberculosis needs prolonged treatment so that the bacteria don't come back. This bacteria can be killed if the drugs are taken for a long period time, Tuberculosis drugs have side-effects – taking medicines for a long time can affect your body. Our target in this laboratory is to kill this bacteria completely; so that it could directly kill resistant bacteria.

Reported by: Megha S. Nair
(B.Sc. Life Science IIIrd year)

CSIR-CDRI Lucknow ongoing research on mechanisms underlying Triple Negative Breast Cancer (TNBC) Metastasis

Dr. Dipak Datta -: Principal Scientist

So, a few years back, we embarked upon an unconventional journey to unveil the crucial role of intracellular chemokine receptor CXCR4, in driving tumorigenesis, chemoresistance and metastasis. Delighted to share that we have made some progress. We have been able to determine the intracellular role of CXCR4 in anchoring chemotherapeutic resistance in cancers. The research has been warmly received by the scientific community since it has been published. People have now begun to recognize and accept this non-classical dogma. We hope that the interest rekindled by this work will further stimulate the scientific fraternity to dig further into the realm of intracellular chemokine receptors, in pursuit of answers to the lingering puzzles in tumour biology. To further amplify and fortify the impact of our research work, we have also published a review article elucidating the same novel concept in greater detail through a rigorous literature survey and the incorporation of original, and reasonable concepts. Chemokine receptors have traditionally been viewed as GPCRs activated by their external ligands. The binding of the ligand triggers a cascade of signaling events that result in diverse terminal effects, including tumorigenesis, proliferation, etc. Our venture opposes this traditional dogma and transcends past it. It brings out that chemokine receptors also have ligand-independent functions as intracellular proteins.

These intracellular receptor protein reserves are functionally active and are associated with tumor aggressiveness, metastasis, and disease-free survival. Traditional therapies aimed at targeting the surface receptor fail as the antagonists never cross the plasma membrane to target the intracellular reserve and therefore it keeps orchestrating its tumorigenic functions lurking in the intracellular compartments without being caught.We are determined to excavate the mechanisms underlying Triple Negative Breast cancer (TNBC) metastasis. We are working on understanding the role of lipid metabolism, epigenetic modulators, and chemokine receptors in altering the pathophysiology of cancers. Besides, in our quest to realize the aim of our eminent drug research institute, we are also screening potential anti-cancer drug candidates (SMAC mimetics & PARP Inhibitors) to come up with a solid hit that may have some translational benefit.

Reported by: Anshul Verma
(B.Sc. Life Science IIIrd year)

Commemoration of World Science Day for Peace and Development on 9th November 2022 under the aegis of United Nations Academic Impact (UNAI) Initiative

Department of Biosciences, Integral University, Lucknow, under the aegis of United Nations Academic Impact (UNAI) Initiative has organized various events on the Theme: Basic Sciences for Sustainable Development to commemorate World Science Day for Peace and Development on 9th November 2022 in Hall-3, Central Auditorium Building at 2.00 pm. The purpose of the event was to highlight the important role of science in society and its aim was to ensure that citizens are kept informed of developments in science.

The event commenced with a welcome note and introduction of the program by Dr. Snober S. Mir, Head, Department of Biosciences. She stated the aim and importance of this year's theme by UNAI initiative and the significance of basic sciences for sustainable development. An online lecture was delivered by our guest speaker
Dr.T.V. Venkateshwaran, Scientist- F, Division Head-Science and Technology Communication, Vigyan Prasar, New Delhi. His lecture emphasized on the Challenges before Indian science and possible solutions for a sustainable future. He discussed the challenges related to the geriatric diseases, climate changes and energy needs. The lecture was followed by an informative question-answer session.

Thereafter, the felicitation of the winners and runners up of various events was done by the event coordinators. Total four events were conducted for the celebration of World Science Day for Peace and Development.

The name of the events and the winners and runners up of the event are as follows:

1) Scientific Poster Making Competition (Technical Event)
Winner- Aliya Fatima (B.Tech Biotechnology 2nd year)
Runner up- Atiya Tarique and Kratika Dwivedi (M.Sc. Biotechnology 1st year)

2) Chem-BioArt Tattoo Making Competition (Artistic event)
Winner- Zehra Asif (B.Sc. Biotechnology 1st year)
Runner up- Tehreen Junaid (B.Sc. Biotechnology 1st year)

3) SciArt Rangoli Competition (Artistic event)
Winner- Group-3- Aliya Siddiqui, Anam Fatima Abdi, Aliza Fatima Rizvi (M.Sc. Microbiology 2nd year)
Runner up- Group 7- Sakshi Rastogi, Jaya Singh, Aqsa Zainab (B.Tech Biotechnology)

4) Open Mic (Artistic event)
Winner-Affan Rais for stand-up comedy (B.Sc. Biotechnology 3rd year)
Runner up-Rushna Ahmad for poetry (B.Sc. ZBC 3rd year)

The organizing secretaries of the program were Dr. Uzma Afaq, Assistant Professor and Dr. Amita Dubey, Assistant Professor from the department of Biosciences. Dr. Uzma Afaq extended a vote of thanks and the anchor of the program was Ms Mushfa Khatoon, Research Scholar, Department of Biosciences. More than 200 students participated in various events of the program. All events were very well coordinated by the faculty members and Student Council Biosciences.


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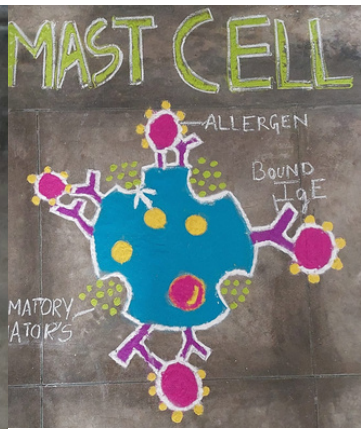
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World Mental Health Awareness Day organized by Department of Biosciences on 20th September 2022

An awareness and sensitization program on positive mental health and well being to commemorate world suicide prevention day was conducted by Department of Biosciences, Integral University, Lucknow in association with NurtureLife, a non-profit organization (NGO) on 20th September 2022 in Central Auditorium, Integral University. The theme for this program was 'Creating hope through action'. The aim was to discuss and provide solutions to mental health issues by stimulating simple interventions within the community. Mental wellness is a global priority and is included in the Sustainable Development Goals (SDG-3).

Ms. Farah Sarosh, Founder of NurtureLife and Dr. Azhar Mahmood Farooqui, Associate Professor, Department of Psychiatry, IIMSR Integral University were the key resource persons in the programme.

The program commenced with a welcome note and an overview of the genesis of this initiative by Dr. Snober S. Mir, Head ,Department of Biosciences. She emphasized upon the importance of starting a conversation around mental health and promoting actions through interactions and stopping the stigma associated with mental health issues.

The key speaker Ms. Sarosh apprised the faculty and students of the importance of mental well being. Her opening statement which started with an apt couplet "Mustaqil bolta hi rahta hun, kitna khamosh hun main andar se " was to raise awareness about conversations vis-a-vis positive mental health. She laid emphasis on initiation of talks and making efforts to bring this topic from closed doors to open platforms. She claimed her job is to bridge the gap between patients and doctors. Her mantra for positivity was to cultivate happiness through changes in lifestyle and attitude by taming our thoughts, having a gratitude journal and being thankful is also very helpful in building mental resilience.

The next eminent speaker was Dr. Azhar Mahmood Farooqui who highlighted the importance of mental health by talking about celebrities who have depression and ways of coping with mental health issues. He stated that "Health is a state of complete physical, mental, social and spiritual well-being". He gave a detailed lecture on mental disorders such as general anxiety disorder, panic attacks, social anxiety disorders, OCD and stress-related disorders. He requested everyone facing any kind of issue regarding their mental health seek counseling and therapy when they needs it rather than being in denial mode.

Ms. Sarosh and Dr. Farooqui gave solutions and answered the questions asked by the students in a survey conducted by the Department of Biosciences.

A wonderful message on mental health awareness was given through a Nukkad natak performed by the students.

An Art for Wellness competition based on the theme "Art for Mental Well-being" was organized by the event Coordinators, Dr. Swati Sharma and Dr. Shahida Hamid in the hallway of Department of Biosciences. Brilliant and artistic messages were projected through this competition. Judges of the event were

Dr. Zeba Nisar, Dean, Faculty of Architecture
Dr. Alvina Farooqui, Head, Department of Bioengineering
Dr. Snober S Mir, Head, Department of Biosciences

The list of Winners are mentioned below.

1st prize, Ms. Sanjana Maurya (B.Sc. ZBC IIIrd year)

2nd prize, Zehra Asif Hussain (B.Sc. BT Ist year)

3rd prize, was a tie between, Sanaya (B.Tech. Bioengineering IIIrd year) and Anshul Verma (B.Sc. LS IIIrd year)

Special Mention, Marya Parveen (B.Sc. ZBC IInd year)

Ms. Sarosh was felicitated with a university memento. The program was concluded with vote of thanks delivered by the event coordinator, Dr. Jahanarah Khatoon, Assistant Professor and anchor for the program was Ms. Swati Saxena, Research Scholar, Department of Biosciences. The initiative was a tremendous success and witnessed an overwhelming response, as total participants were 200+ including students and faculty.

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