STUDENT JOURNALISM

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NEWS

SPLITTING ELECTRONS

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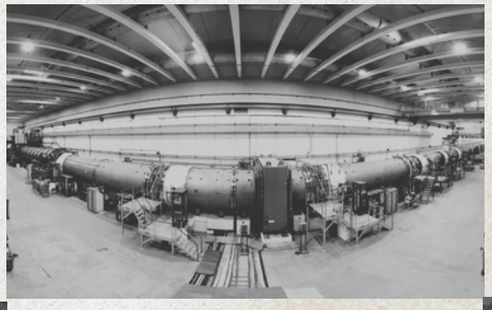
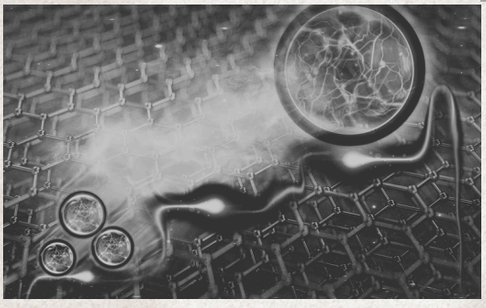


BOOK REVIEW: DESERTION

"There is, as you can see, an I in this story, but it is not a story about me"....



RAREST PARTICLE DECAY

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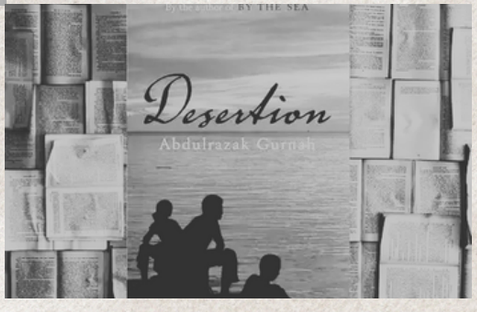

Content & Publications

VOLUME #1

VOLUME #2

Editor's Note & Staff

EDITOR'S NOTE

Greetings!

Welcome to the second issue of the second volume of 10Xpress! We're thrilled to unveil our brand-new design, carefully crafted to enhance your reading experience. Our team has put in a lot of thought to ensure that the layout is not only more visually appealing but also easier on the eyes. Over the past month, our dedicated staff has worked tirelessly to bring you the most engaging and diverse articles, especially since most of the them were busy with examinations. With this fresh new look and exciting content, we're confident this issue will keep you captivated!

We invite you to engage with the articles by providing feedback at the form linked here. After all, this newspaper is a platform by the students, for the students. Here's to another year of creativity, collaboration, and compelling journalism!

Warmly,
Pranav Morisetty & Bharat Ambati
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Science

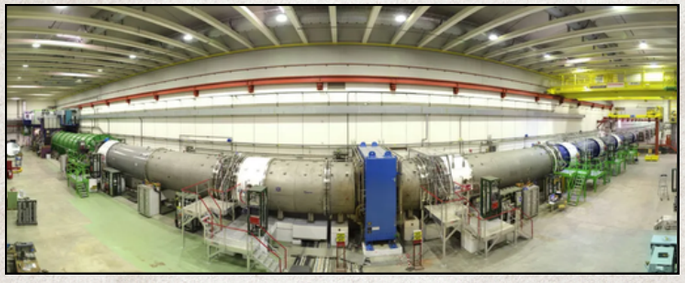
Rarest Particle Decay

By Siddharth Mitra (11)

Recently, scientists discovered a new and rare type of particle decay that produces particles known as kaons. Further investigation into this decay has led researchers to question the validity of the standard model and its established theories regarding subatomic particles. This decay has been termed the "golden channel decay" because its rate can be accurately predicted by the standard model. To test this precise prediction, the NA62 experiment was conducted.

The NA62 experiment seeks the decay of positively charged kaons by striking highly energised positively charged protons at a target at the European Particle Physics lab CERN. This recently discovered particle decay exhibited the production of kaons 13 times every 100 billion proton collisions. Scientists then compared this to the expected production of kaons through the decay of the standard model. Subsequently, they found that according to the standard model, the estimated particle decay was much higher than observed. Such that the scientific community has started casting doubt upon the stalwart theory of subatomic particles and the standard model. However, it is essential to keep in mind that conductors of the NA62 experiment acknowledge that the inaccuracy observed could be justified given the accuracy of currently existing equipment and that it could still be consistent with the standard model.

Even though the NA62 could not produce statistically significant findings to disprove the standard model, it has cast enough reasonable curiosity in the scientific community to further look into the viability of the standard model in particle physics. As a result of the NA62 experiment, another experiment called KOTO has been undertaken to discover another rare kaon decay to collect further proof to disprove or validate the standard model.



World's biggest black hole jets

By Neil Daga (11)

Astronomers have recently made a groundbreaking discovery—the detection of the largest black hole jets ever observed. But what exactly are black hole jets, and why should a discovery of something so distant matter to us?

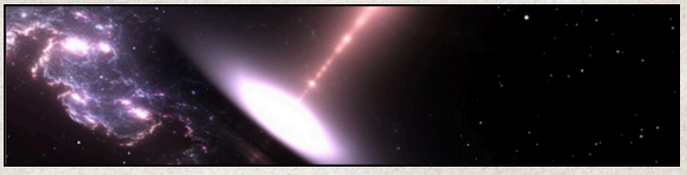
Black hole jets stretch across immense distances in space, shooting out from the poles of supermassive black holes. While black holes are typically seen as the universe's garbage disposals, pulling in everything around them, some material gets expelled before it’s consumed. But what’s the science behind this phenomenon?

Black holes have two key properties—mass and spin. When a black hole spins, it pulls in charged particles, known as plasma. These particles generate a magnetic field that propels energy thousands of light-years into space. The combination of hot gas and a powerful magnetic field causes the material to travel at speeds close to the speed of light.

Astronomers recently identified a black hole 7.5 billion light-years away, using Europe’s LOFAR (Low-Frequency Array) radio telescope. LOFAR operates by combining signals from thousands of antennas, which are processed by a supercomputer to create stunning, high-resolution images.

According to the LOFAR, the supermassive black hole released jets spanning 23 million light years. For reference, the Milky Way galaxy could fit into the black hole’s jets over 140 times. These jets had the energy of trillions of suns. Due to the sheer size of the jets, the structure has been named Poryphrion, the king of the giants from Greek mythology - An apt name.

The discovery of such massive jets provides invaluable insight into black holes and their influence on the environment around them. This discovery enhances our understanding of the universe around us as a whole.



Technology

EnergyX's Lithium Extraction

By Yi Zou (10)

Energy Exploration Technologies, or EnergyX, is a sustainable energy company based in San Juan, Puerto Rico, with offices in various American cities, including New York. After announcing their project to improve lithium extraction earlier this year, they have now reached a significant milestone.

Earlier in September, EnergyX announced its new method for extracting lithium 300% more effectively and opened up investment options. The company has received over $200 million in DOE grants for U.S. lithium plants and raised nearly $75 million through its website from more than 30,000 investors. Additionally, it secured rights to over 100,000 acres of lithium-rich land in Chile. The investment opportunities will close on October 3rd.

EnergyX is planning to produce $65k tons of lithium per year using its new technology and investments, which is 66% more than the current top-producing company. You may be wondering how this new method works. According to the EnergyX website, they utilize “a novel form of the membrane to separate lithium ions from the complex salt mixture in salt brines.” It is a sieve mechanism that isolates lithium ions from other ions, such as potassium and magnesium. The membrane is called “LiTAS”, and uses much less energy than current reverse osmosis mechanisms.

What does this new technology mean for the energy industry? It is well known that lithium is a vital element for batteries in various electronic gadgets and a crucial rare earth metal for AI development, thanks to its lightweight and energy storage capabilities. However, its extraction requires intense mining, which harms natural environments and generates carbon emissions. Fortunately, EnergyX has introduced a more efficient and cleaner method of lithium extraction, potentially reducing the environmental impacts of rare metal extraction while fostering technological development in society. Politically, this advancement means that the USA could gain an advantage by establishing its own lithium extraction methods and reducing reliance on exports from China.

First BCI-Enabled Headphones

By Riya Kaulwar (10)

The MW75 Neuro represents a bold leap into the future of wearable tech. It combines Master & Dynamic’s signature audio quality with Neurally’s BCI technology to provide users with insights into their cognitive health and productivity. The headphones are equipped with electroencephalography (EEG) sensors that measure brainwave activity through soft ear pads, offering real-time feedback about your mental state. Whether you're focused, tired, or stressed, these headphones will detect it and even suggest when to take a break to prevent burnout—a feature that many professionals might find invaluable.

One of the most exciting aspects of these headphones is their ability to track cognitive states, such as focus and relaxation. This means users can identify their optimal moments for productivity and recognize when they need to unwind. Neurable’s AI platform processes the gathered data, providing personalized insights through a mobile app available on both iOS and Android. This could be a game-changer for individuals looking to maximize their work efficiency or simply gain a better understanding of their mental patterns.

From a practical standpoint, the MW75 Neuro does not compromise on its primary function: sound quality. Master & Dynamic’s beryllium drivers deliver rich, immersive audio, while adaptive noise cancellation adjusts to different environments, enabling users to focus on what matters most.

While the MW75 Neuro introduces a new layer of interactivity, it does come with its challenges. The price is steep, and some may have concerns about the privacy implications of having their brain activity recorded. However, for those interested in self-improvement and cognitive awareness, these headphones are pushing the boundaries in both the audio and health tech industries.

The MW75 Neuro represents a significant advancement in integrating neuroscience into everyday devices, transforming ordinary listening into a tool for optimizing mental well-being. It’s no longer just about hearing the music; it’s about understanding your mind while you enjoy it.

Splitting Electrons: A Path to Topological Quantum Computers

By Ruhi Beri (11)

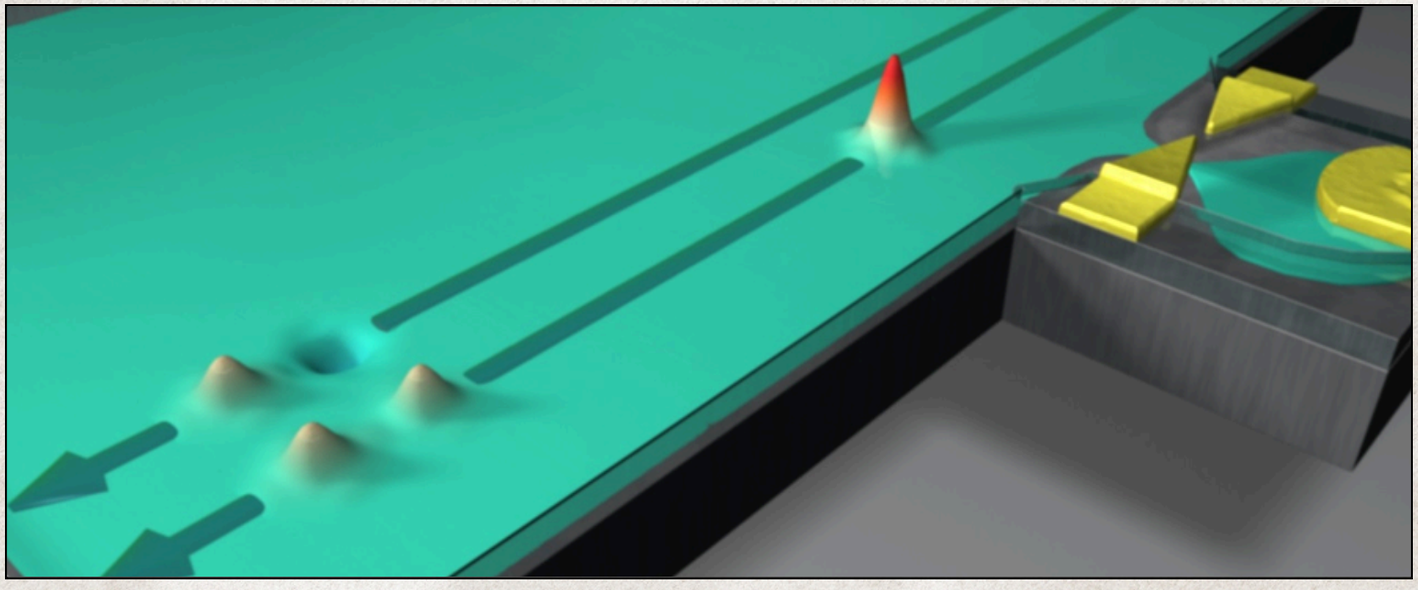
Quantum computers are a type of computer that takes advantage of quantum mechanics, the main principle of which is the wave-particle duality: the concept that some entities display wave-like or particle-like behaviour depending on the experimental circumstance.
Within quantum computing, topological quantum computers are a theoretical type of quantum computer with more stability and power than any other type of quantum computer.

Instead of bits, represented by zeros and ones and used in our standard computers, quantum computers use qubits: a unit that can possess multiple states simultaneously, like how some entities can behave as waves and particles simultaneously.
For topological quantum computers, a unique, stable type of qubit is needed; one that is less prone to external disturbances. For a long, researchers have searched for materials that could bring forth the unique topological qubit.

A recent discovery by a research team led by Professor Andrew Mitchell at University College Dublin and Dr Sudeshna Sen at the Indian Institute of Technology in Dhanbad showed that splitting electrons could be a way to obtain them. Splitting electrons may seem alien– after all, they are indivisible, fundamental particles. However, quantum mechanics suggests that sometimes, electrons can behave as if they are split.

The research study by Mitchell and Sen shows that when electrons are restricted within extremely small-scale circuits– nanocircuits– they can interfere with each other, mimicking the splitting of an electron into two.

This phenomenon is known as quantum interference. Quantum interference allows particles like electrons to exist in “superpositions”, meaning they can exist in multiple states simultaneously, defying classical physics. This phenomenon is famously exhibited using the ‘double-slit experiment’, where a single electron is fired into a sheet with 2 slits, and rather than passing through one of the slits, the electron appears to pass through both, displaying wave-like behaviour for an object we usually think of as a particle.



Business & Economics

Netflix faces visa, bias probe

By Avani Radheshyam (11)

On July 20th, Netflix's former Director of Business and Legal Affairs for India, Nandini Mehta, announced in an email that she was pursuing a lawsuit in the U.S. against the streaming giant, alleging wrongful termination, as well as racial and gender discrimination. Mehta, a seasoned executive, has brought attention to significant issues within Netflix, prompting not only legal scrutiny in the U.S. but also a broader investigation by Indian authorities into alleged visa violations and racial discrimination in Netflix's local operations. With around 10 million users in India, the company faces intense scrutiny on multiple fronts.

Mehta has not yet provided additional details on the ongoing investigation in India, while Netflix denies any awareness of such an inquiry. Her lawsuit, initially filed in 2021, claims she was wrongfully terminated due to racial and gender discrimination. Netflix, however, disputes these accusations, stating that her dismissal was due to the alleged misuse of her corporate credit card for personal expenses.

Recent reports indicate that India's Foreigners Regional Registration Office (FRRO) is participating in the investigation, suggesting that the Intelligence Bureau might also be involved. The FRRO oversees visa compliance for foreign companies operating in India, underscoring the gravity of the situation. This could create additional challenges for Netflix with its Indian audience, especially following recent backlash over a show that allegedly misrepresented certain religious groups.

Windfall Tax on Crude Oil

By Suchita Agarwalla (11)

In recent years, the windfall tax has been making headlines across major countries, including India. This is a result of the Russia-Ukraine conflict and other political crises that have skyrocketed energy prices. Many Indian oil producers like GAIL, Oil India, and ONGC gained large profits during the fiscal year 2022 due to the global surge in oil prices. Windfall taxes were implemented to rein in the profits of oil giants who chose to export fuel, thus affecting domestic supplies.

India first imposed a windfall tax on July 1, 2022, to regulate windfall gains, joining other countries in taxing unusually high profits in the energy sector. This windfall tax was introduced as a Special Additional Excise Duty (SAED) on domestically produced crude oil, with adjustments made every 15 days based on average oil prices.

However, India has unexpectedly decided to lower the windfall tax to zero. What prompted this sudden move by the Indian government? That would be a significant decrease in crude oil prices, which have fallen from more than $92 per barrel in April to less than $75. This change is not only made locally but is part of a worldwide trend in response to the lowering of energy prices. Domestic crude producers will likely see great benefits shortly: from the lowered tax burden, and thus cheaper costs and higher profit margins.

This decision is a significant step toward stabilising oil prices, which have long been a source of concern for India's economy, impacting sectors from transportation to manufacturing. By encouraging increased domestic oil production, India is aiming to reduce its reliance on costly imports, which can help ease inflationary pressures. Incentives for domestic manufacturers support the focus on fostering self-sufficiency in the oil industry. This move could lead to lower production costs and more stable pricing for refined products like petrol, diesel, and jet fuel, making it transformative for India's energy landscape.

The government's move shows a strategic investment in the country's energy future, providing relief to businesses and, potentially, consumers while also helping the Indian economy.

Politics

UN's Pact for the Future

By Syshasri Raghavan (10)

The United Nations' "Pact for the Future" is a global framework aimed at addressing pressing global issues such as climate change, poverty, inequality, and conflicts. The initiative reflects the UN's long-standing commitment to fostering international cooperation to achieve sustainable development and ensure peace and security. The pact seeks to reinforce multilateralism and strengthen international institutions, as outlined in the UN's 2030 Agenda for Sustainable Development. This pact intends to meet climate goals, reduce global poverty, address humanitarian crises, and enhance human rights protections worldwide.

A key feature of the Pact for the Future is the reform of international financial institutions, particularly in response to global economic challenges. These reforms are designed to make financial systems more equitable, ensuring that developing nations have access to the necessary resources to achieve sustainable growth. In addition, the pact emphasizes climate action and green energy transitions, aiming to accelerate efforts to combat climate change through cooperation on reducing emissions.

However, Russia has rejected the Pact for the Future, citing concerns over what it views as an imbalance in global governance structures. The Russian government argues that the pact does not adequately address the concerns of sovereign nations and that it undermines their autonomy. Moscow has raised concerns that certain proposals within the pact, particularly regarding environmental regulations and financial reforms, are disproportionately beneficial to Western countries, leaving developing nations and non-Western powers at a disadvantage. Russia's rejection of the pact is also influenced by the broader geopolitical tensions between Moscow and the West, particularly following the invasion of Ukraine and the ensuing economic sanctions. Moscow insists that any global agreements must respect national sovereignty and the principle of non-interference, which it claims the Pact for the Future does not fully honour.

The rejection by Russia complicates global efforts to implement the pact, highlighting the challenges of achieving consensus in a world increasingly divided by geopolitical rivalries.

U.S.-Iran swap: $6 billion.

By Sanvi Kurade (10)

On September 18, 2023, a notable event unfolded in international relations as the United States and Iran completed a prisoner exchange. This agreement led to the release of five U.S. citizens who had been detained in Iran, along with five Iranian nationals who were held in the United States. In addition to the swap, the deal involved the transfer of $6 billion in Iranian funds that had previously been frozen in South Korea.

These frozen funds had been a point of contention since they became inaccessible to Iran following the re-imposition of U.S. sanctions after the United States withdrew from the Joint Comprehensive Plan of Action (JCPOA) in 2018. The sanctions were intended to pressure Iran into limiting its nuclear program and reducing its influence in the Middle East. Unfortunately, they had significant humanitarian consequences, leading to economic challenges for ordinary Iranians, who faced shortages of essential goods like food and medicine. Under the terms of this recent agreement, the $6 billion was moved to accounts in Qatar. The U.S. made it clear that this money is intended solely for humanitarian purposes, particularly for purchasing food and medicine. This stipulation aims to ensure that the funds are not used for military activities or other non-humanitarian efforts. The U.S. Treasury Department has committed to closely monitoring the transactions related to these funds to guarantee compliance with these guidelines.

The deal generated mixed reactions from various quarters. Some critics raised alarms about the potential benefits Iran could derive from access to these funds, fearing it could strengthen the Iranian economy and support its controversial activities, including its nuclear pursuits and regional military involvement. On the flip side, supporters viewed the agreement as a sensible step toward securing the freedom of detained individuals and easing some tensions, at least momentarily.

Despite this progress, experts caution that the exchange does not indicate a broader change in U.S.-Iran relations, which remain fraught with tension. Key issues like Iran’s nuclear ambitions, its support for militant groups, and its involvement in regional conflicts continue to strain the relationship between the two countries.

Health & Medicine

The MMR Vaccine Scandal

By Shresta Morisetty (9)

In 1988, a paper was published in the renowned medical journal The Lancet. It was written by Dr. Andrew Wakefield, who became a significant driving force behind the anti-vaccine movement that persists today. He was the first to target the vulnerable, spreading misinformation about vaccines—and he profited from it.

His paper claimed that the combination of measles, mumps, and rubella vaccine (MMR vaccine) caused autism. The study he conducted involved a series of twelve children, and eight of them presumably developed autism within one month of taking that vaccine. Dr Wakefield reasoned that the development of autism was because the immune system was overwhelmed by the combination vaccine. He instead proposed that these vaccines were to be given separately. However, he had no evidence for his claims.

The case gradually gained media attention; controversy burgeoned in London. However, the study was dubious. Many children develop autism, and nearly all of them receive the MMR vaccine. Additionally, the MMR vaccine is administered to children at an age (12–18 months) when autism is typically diagnosed. A famous vaccinologist remarked, "He might as well have published a series of children who, within a month of eating a peanut butter and jelly sandwich, developed leukaemia."

Over the following year, Andrew Wakefield's credibility crumbled. A Sunday Times reporter revealed that Wakefield had received £55,000 from defence lawyers representing parents suing vaccine companies, creating a financial conflict of interest. The co-authors of the paper began withdrawing their support, indicating they no longer stood by the findings presented in the study. The General Medical Council launched an investigation and discovered that Wakefield had manipulated the data in his article.

Although his research has been repeatedly disproved, the controversy still left a mark on the world. Thousands of unvaccinated children were hospitalized; four died. The Andrew Wakefield case serves as a reminder of the devastating impact that fraudulent scientific research can have, even resulting in the deaths of innocent people.

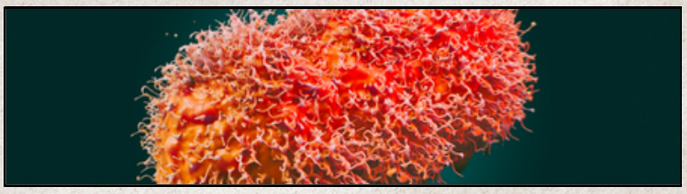
MPOX: A Global Health Issue

By Avantika Singh (9)

MPOX's international expansion raises alarms and has led the World Health Organization to declare it a public health emergency. Initially, it threatened Central and Western Africa, but it soon spread to various continents. Its rapid transmission, severe symptoms, and the exposure of flaws in global health systems have garnered the attention of the medical and scientific communities.

Transmission from one infected person to another can occur through close physical contact, including direct skin-to-skin contact, contact with inhaled respiratory droplets, and body fluids, and direct contact with contaminated surfaces. Fever, muscle aches, swollen lymph nodes, to the development of a characteristic rash that evolves into painful, fluid-filled lesions. While most cases have been mild, severe complications arise with secondary infections or respiratory difficulties, especially with people suffering from immune deficiency syndromes or young children.
One of the critical aspects of the global response is the issue of limited means of vaccination and treatment. While smallpox had an effective vaccine, MPOX took the world by surprise. Vaccines made for smallpox provide some degree of efficacy, with global distribution being inequitable. Underdeveloped nations are most vulnerable since they do not have adequate systems to defend themselves against outbreaks.
Experts emphasise the need for immediate steps to stem the tide. Cooperation in vaccine distribution, expanded testing and public health campaigns to raise awareness must become the mantra. Failure to act will likely render MPOX endemic to new parts of the globe with long-lasting health and economic consequences following its trial.

The MPOX incident serves as a stark reminder of the significance of interconnectedness and globalization in the public health landscape. In light of the urgent efforts to contain the virus, it is crucial for future outbreaks to strengthen health systems and ensure equitable access to resources worldwide.



Entertainment & Pop Culture

Coldplay became Soldplay

By Venkat Raghav Muralidhar (11)

According to the booking site, 1.3 crore people from India logged in to buy tickets, but only 1.5 lakh were available. Coldplay is scheduled to perform for three days at DY Patil Stadium, which has a capacity of just 50,000, and all tickets sold out within 30 minutes. It was an extraordinary day for the fortunate few who secured tickets and the countless others who did not. Many fans spent their entire Sunday glued to their screens, refreshing continuously in hopes of snagging a ticket. Notifications started appearing within 30 minutes, indicating that the January 18 and 19 shows had sold out. BookMyShow then added a January 21 show, which also disappeared quickly. The demand was so overwhelming that the online ticketing platform crashed, leaving many disappointed.

Thousands of Coldplay fans waited in line even before noon to catch the kickoff show, their eyes glued to their screens, watching the slow progress of the queue, which jumped by hundreds every 15 minutes. Fans complained that resale prices were too steep. While BookMyShow listed tickets in the Rs 2,000–Rs 35,000 range, resellers were flaunting extremely high prices. On one website, a ticket originally priced at Rs 12,500 was being sold for over Rs 3 lakh. BookMyShow later clarified that these tickets were bogus. It remains unclear how many fans fell victim to these inflated prices. Much like the fever surrounding Taylor Swift's live performances, Coldplay's Indian fans showed the same passion for the live experience, attending not just for the music but for the moment itself.

The stories of those who missed out on the experience were heartbreaking. Pune-based musician Imaad Saraf shared, "My whole family was trying to buy tickets at noon, but the notification said there were not enough tickets in the inventory on the portal."

2024 MTV Video Music Awards

By Tisha Sehrawat (10)

The 2024 VMAs delivered all of what one could expect from one of pop culture's most iconic nights. For this year's VMAs, the Prudential Center in New Jersey was the epic stage where history for VMAs was in the making. Originally scheduled for September 10, the event had to be rescheduled by one day to avoid conflicting with the presidential debate between Donald Trump and Kamala Harris. Even at this point, the VMAs lived up to their reputation as the most anticipated event in the music world.

Taylor Swift again reigned at VMAs by winning a record seven wins: Video of the Year and Artist of the Year. She won the coveted Video of the Year award for "Fortnight" as her fifth time winning it in that category and her third win straight in that category. Eminem opened the show with a fireworks-filled "Houdini." Then came Karol G, who worked Latin rhythms like no other, and Lisa, whose K-pop set had fans standing on their heads. Sabrina Carpenter took centre stage with an all-out performance of "Espresso," a chart-topper with words about her vocal talent plus lots of energy on stage.

Katy Perry came out to reprise an uncompromisingly nostalgic performance of her 2013 VMA classic, "Roar," a testament to still being an inspiration in music today. But one superstar who became the night's biggest winner – taking home the Best New Artist award, no less – is Chappell Roan, who serenaded her fellow performers and those watching at home with a soft-voiced, heartfelt performance that showed everyone precisely why they all need love so badly. Megan Thee Stallion and Benson Boone came through as the night's variety flavour, each putting on their best show-stopping sets.

Ultimately, the 2024 VMAs was more than just an event; it celebrated talent and creativity while showcasing the power of its biggest stars. We eagerly await the next VMAs, looking back at 2024 as evidence of music's ability to unite and inspire us all.

Productivity & Self-help

Creative Effective Goals

By Dia Rautela (9)

Many of us can relate to writing a list of goals on a crumpled piece of paper at the beginning of the year and then completely forgetting about it. We set aspirations to improve our sleep, eat healthier, achieve better grades, or even win an award. But how many of us can recall achieving these goals? That's right. Congratulations to those who managed to achieve their objectives. However, for the majority who did not, this article is meant for you.

What should a goal be? Extensive? Overcomplicated? Challenging? Vague? How about SMART?

A goal should be specific, measurable, achievable, relevant, and time-bound. Commonly referred to as ‘SMART’, that offers step-by-step instructions on creating effective goals.

Specific: Create an aspiration that is only one sentence long. For example, 'I aspire to get better grades in Math.'

Measurable: Identify how you will record and measure your goal. For example, you can take pictures, document progression, or record statistics on a spreadsheet. You can even spice it up a bit and make a vision board instead.

Achievable: Do you have the financial means to achieve this pursuit? Are you in the most effective place and time to accomplish this goal? Are there actions you could take to make your goal doable?

Relevant: How will this goal help you enhance yourself? Will the quality of your or someone else's life improve after accomplishing your objective? One instance is improving the state of your home garden, which not only enhances your gardening skills but also makes your home feel cosier.

Time-bound: Your goals require a start date and a deadline. Within this period, work your hardest to achieve your objectives. One such instance is aspiring to improve your math grades between the start of August and the end of December, which gives you four months to improve your grades.

It is imperative to ensure that your goal is SMART, or else it will never make it out of that New Year's Resolution list.

Balancing Dreams & Well-being

By Veda Sharma (10)

Let’s be honest: the world feels like a never-ending race to get things done. With phones buzzing and to-do lists growing every day, we often forget what matters most—our mental health. What if we could pursue our dreams without completely exhausting ourselves?

POV: You’re at your desk, powering through tasks and feeling on top of the world. But then that rush morphs into a wave of anxiety, leaving you to question whether all this hustle is truly worth it. The good news?

Productivity doesn't have to come at the expense of your well-being.
Start by considering what productivity means to you. It's not just about checking off a long list of tasks; it's about what truly makes a difference in your life. Prioritizing your tasks can have a significant impact. The Eisenhower Matrix can help you differentiate between what’s urgent and what’s important. You may discover that some of the things causing you stress aren’t as crucial as you believe.

And, of course, don’t forget about breaks. Sometimes, stepping away from your desk makes all the difference. Whether you take a quick walk outside, breathe in some fresh air, or simply sit and stare into space, these short breaks recharge your brain and inspire new ideas. A few minutes of meditation or jotting down your thoughts can help you feel more centred, especially when the world feels chaotic.

It's perfectly fine to say no sometimes. Setting boundaries is essential. Embrace the idea of "slow productivity" and focus on doing things well rather than simply doing more. You don’t have to be superhuman; you just need to be yourself.

Let’s flip that script. Balancing your passions with your well-being isn't just a lofty idea; it's essential. Your mental health will guide you toward your dreams while ensuring the journey feels fulfilling. Remember, you deserve to pursue your passions without losing yourself in the process.

Sports

Breaking Cricket Records

By Krishiv Thummalapalli (11)

In the India vs. Bangladesh Test match on September 27, India set a remarkable new record for the fastest team to reach 50, 100, and 200 runs in Test cricket history. The match took place at Green Park Stadium in Kanpur, where India reached 50 runs in just three overs, 100 in 10.1 overs, and 200 in only 24.2 overs, shattering the previous records. Yashasvi Jaiswal and KL Rahul's outstanding batting performance played a key role, contributing to 50% of the total runs and securing India's win. Both players showcased immense skill and power, ensuring a smooth victory.

India also set a new benchmark for the highest average run rate in a Test innings, maintaining an extraordinary rate of 7.36, surpassing South Africa's 19-year-old record of 6.80. This achievement highlighted India's ability to sustain a high-scoring pace throughout the match, making it a truly historic performance.

India's record-breaking performance put immense pressure on Bangladesh's bowlers, forcing them into a defensive strategy. Despite their efforts, they struggled to contain India's aggressive approach. Early wickets further diminished Bangladesh's chances of success, making India's victory even more comfortable. This dominant display not only highlighted India's exceptional batting but also its ability to adapt and maintain an aggressive stance throughout the game.

In addition to these team achievements, individual records were set as well, with Ravindra Jadeja becoming the second-fastest player in Test cricket history to achieve 3,000 runs and 300 wickets. This historic match will be remembered as one of the greatest batting performances in Test cricket history.

India wins the Chess Olympiad

By Aarush Kommunuri (11)

India's performance at the 2024 Chess Olympiad was nothing short of extraordinary—a compelling display of talent, perseverance, and conviction that captured the attention of the global chess community. In this 45th edition, the Indian team accomplished an unprecedented feat by winning three gold medals in the open section, women's category, and overall standings. This success was further emphasized by individual golds earned by prodigies Gukesh, Arjun Erigaisi, Divya Deshmukh, and Vantika Agrawal. This historic achievement signifies a pivotal moment in India's chess dominance, highlighting the growing strength of these young competitors on the world stage.

Gukesh emerged as the star of the competition, achieving an impressive individual rating of 3056. His composure under pressure, especially in tense matches, proved crucial, allowing him to navigate complex middlegame positions with precision. This was notably evident in his pivotal game against Fabiano Caruana, where he displayed remarkable strategic depth, transforming a seemingly balanced position into a winning one.

Arjun Erigaisi, another standout player, delivered an impressive performance with his aggressive yet calculated playing style. This was showcased in his game against the Azerbaijani team, where his sacrifices gave him the upper hand in a tense endgame, securing another critical point for India.

The Indian women's team made history by winning their first-ever gold medal in the women's bracket at the Chess Olympiad, showcasing a remarkable performance despite various challenges. After facing setbacks, including losses to Poland and a draw with Team USA, their victory was cemented when Kazakhstan was held to a draw, enabling India to overcome Azerbaijan. The team was led by Divya Deshmukh, who scored 9.5 points over 11 games and secured individual gold on board three. Vantika Agrawal also contributed significantly, remaining unbeaten and winning six out of nine games. Harika Dronavalli, despite some difficulties, made key contributions, while Tania Sachdev provided consistent support throughout the tournament.

Reviews

Book Review: Desertion

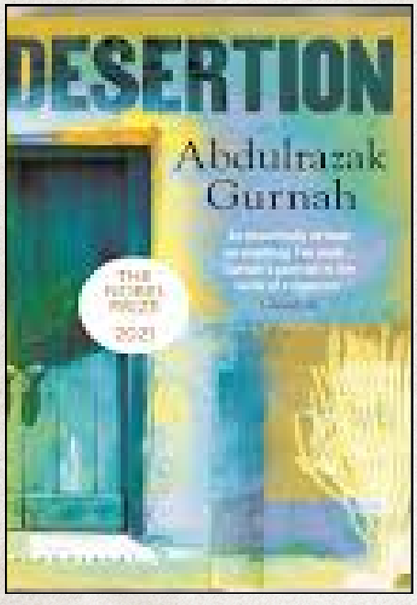
By Saachee Moholkar (12)

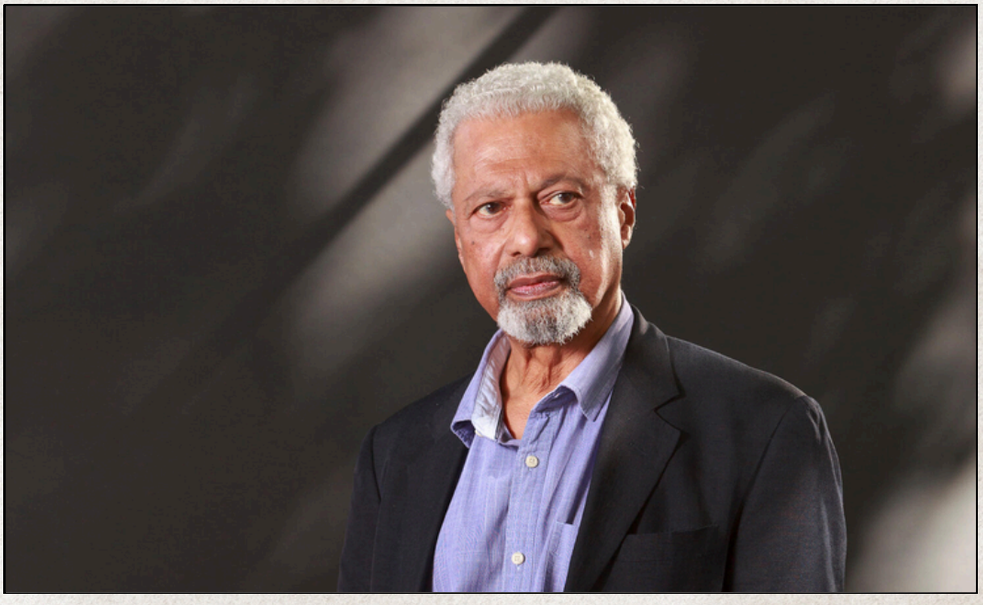
“There is, as you can see, an I in this story, but it is not a story about me”
Abdulrazak Gurnah’s ‘Desertion’ expertly portrays themes of abandonment and loss. The story, spanning from 1899 to 1950, follows the life of Hassanali, a local Swahili man, and Martin Pearce, an English writer, whose encounter brings about a lifetime of change. Gurnah delves into the complex relationships within colonial rule. The novel relies on tension and angst to not only entertain the readers but also directly represent the impact of how history shapes so much of society.

The novel's first part centres on the passionate love affair between Martin and Rehana, Hassanali’s sister. Their forbidden romance adds to the story's allure, with the intensity of their love and desires shaped by the harsh realities of their society. In the second part, the narrative shifts to brothers Amin and Rashid, focusing on their pursuit of education and eventual emigration from Zanzibar. Gurnah’s writing conveys a strong sense of inevitability, capturing themes of loss and abandonment that seem to haunt these characters.

That is what makes it stand out. The novel is not romanticized, it is harsh and grating and purely for the eyes of those who lived it. The novel’s diction fuses Swahili culture to evoke isolation showing how the characters are retrained within societal structures. Furthermore, the theme of desertion is evident in youth like Rashid who desert their countries for the convenience and comforts of developed countries, or in men like Pearce desert their lovers.

When I read this book, it felt so raw and immersive that I almost felt like I was intruding upon the characters’ lives. The narrative opened my eyes to various colonial perspectives, revealing not only their impact on individual lives but also on how the world perceives and understands relationships. It was a powerful experience, shedding light on the deep, often unspoken influences of colonial history on human connections and interactions.





10X Highlights

Opening of the Math Circle

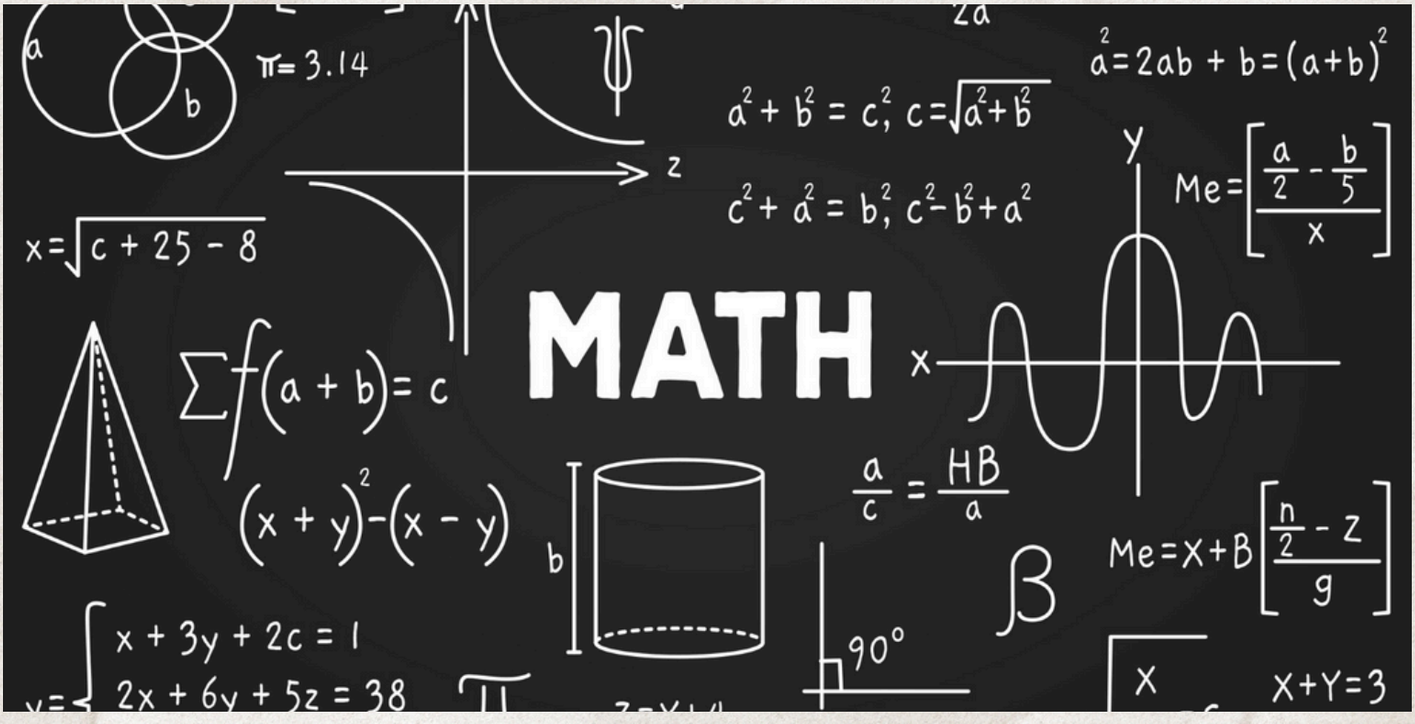
By Syshasri Raghavan (10)

The launch of the Indus Math Circle has sparked excitement among both students and teachers at our school. This initiative aims to inspire students to approach mathematics with the creativity and critical mindset of a true mathematician. Rather than focusing solely on formulas and memorization, the Math Circle promotes deep thinking and problem-solving as essential tools for uncovering answers to math questions.

Math Circle is a space where students are trained to think creatively and critically. Participants are encouraged to approach problems from multiple angles and tackle challenges that may not have a straightforward solution. This type of thinking reflects how professional mathematicians approach their work.

What makes the Math Circle unique is its inclusivity—anyone can participate, regardless of their math proficiency. This approach helps students develop essential skills like communication, logical reasoning, and persistence. Additionally, it nurtures intellectual curiosity, which has a positive impact on their overall academic journey.

The launch of the Math Circle marks the start of a journey where students are encouraged to view math as a way of thinking rather than merely a set of rules to follow. This program empowers young minds to become creative thinkers and problem-solvers, fostering curiosity and resilience as they approach challenges—just like true mathematicians.



Club Spotlight

The Launch of the First Issue of the 10X Yearbook

By Sanvi Kurade (10)

At School 10X, the annual book club is a cherished tradition that encourages reading and fosters connections among students. This year, the online edition of the yearbook is available, while physical copies of the 2024-2025 edition are expected to be released by May 2025.

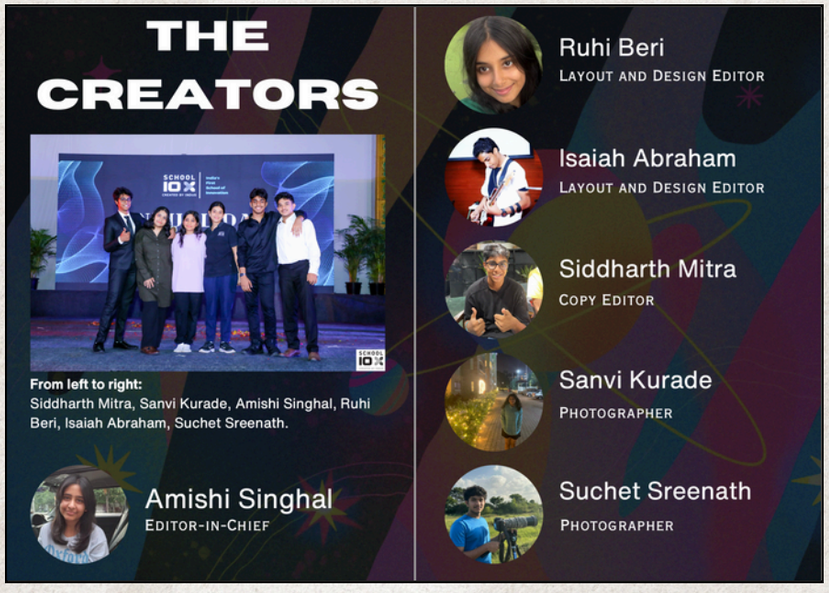
Amishi Singhal is leading the Yearbook Club, which aims to capture the highlights of the 2023-24 academic year. The yearbook will feature key events such as the Pi Day celebration, where students showcase their mathematical talents; 10X Day, which celebrates the school's achievements; and Sports Day, highlighting teamwork and sportsmanship.

In addition, the yearbook will document student debates and successful fundraisers that reflect a commitment to community service. It will also highlight Teachers' Day, during which students express their gratitude to educators. Exciting field trips that enhance classroom learning and exhibitions showcasing student projects will be included, along with various student-led initiatives.

The Yearbook Club expresses its gratitude to Mr Konark for his support with media tasks and to Ms Sowjanya, Ms Aparna, and Ms Shilpa for their exceptional organizational assistance. Special thanks also go to Dr. Savita for her heartfelt Director's Note, which adds a personal touch to the yearbook.

A shout-out is also warranted for the yearbook team members: Siddharth Mitra, Ruhi Beri, Isaiah Abraham, Suchet Sreenath, Sanvi Kurade, and Amishi Singhal. Their collaboration and creativity have made this project both enjoyable and successful.

Looking ahead, the book club members are eager to continue this tradition, inspiring future generations at School 10X while creating lasting memories. The yearbook not only reflects the achievements of the past year but also serves as a testament to the vibrant community at the school.



Research Showcase

By Siddharth Mitra (11)

With the upcoming Nobel Laureate announcements spanning from October 7th to October 14th, we must keep an eye out for developments in the field of research. It is even more crucial for the students of 10X to be up to date with advancements in empirical research given that it could be an essential gateway to not only explore your interests, but to also utilise existing literature to exhibit the research competencies that are expected of us as 21st Century leaders and change-makers. This research showcase will go over the major headways made in the field of research in the month of October and September.

Artificial neural networks trained with physics wins Nobel Prize in Physics 2024:
The Royal Swedish Academy of Sciences recently announced that the winners of the Nobel Prize in Physics 2024 were John J. Hopfield and Geoffrey E. Hinton. These physicists trained artificial neural networks with capabilities such as logical decision making, cognition, pattern recognition etc. using physics. Hopfield devised the Hopfield Network, a method that utilises atomic spin to save and reconstruct patterns, which allows the artificial neural networks to be able to identify connections between nodes of pre-existing images and a distorted image. This allows the network to identify images that resemble any imperfect pictures that were fed to the network itself. Additionally, Hinton made use of the Hopfield Network as a foundation to create a new method for pattern recognition and cognition: the Boltzmann Machine. Hinton used tools from statistical physics to recognize characteristic elements in visual data. The machine is trained with examples that are likely to arise when the machine is run. Such that when it is fed a certain image, it is able to categorise it or create new examples based on the type of pattern it was trained on. When pairing these two processes of information processing in artificial neural networks, they found that their new self-learning artificial intelligence mimics the human brain in perception and logical comprehension through cognition, observation, and pattern recognition.

Oppenheimer Research Conference:
Spanning from 9th-11th October, the Oppenheimer Research Conference has gathered many researchers to present their work. The aim of the Oppenheimer Research Conference is profiling African research excellence, empowering young researchers and environmental stewards, building a network of biodiversity professionals, and hosting impactful conversations. Centred around the topic of ecology and zoology, the Oppenheimer Research conference focuses on displaying research central to the African Continent. Presentations given at this research conference range from topics such as trophy hunting in African history to wildlife economies in animal conservations in Africa.

The CRISPR pay-off:
After countless years of research, obstacles, and slow progress, CRISPR's first empirical evidence as a therapeutic platform technology was realised in September 2024. Intellia Therapeutics received clinical clearance from the FDA to initiate the third phase of a new drug aimed at treating hATTR (misfolding of TTR protein causing amyloid build up in heart, nerves, and other organs). This treatment employs the usage of Cas9 mRNA that alters 20 nucleotides in the guide RNA to create an effective therapeutic protein to treat this disease, suggesting that CRISPR can be used as a therapeutic platform in clinical practice. The first approval for CRISPR-based therapy for human use also happened during September 2024. A momentous occasion for biomedical sciences, the United Kingdom MHRA authorised the first CRISPR/Cas9 gene edited therapy for the treatment of sickle-cell anaemia and transfusion-dependent beta-thalassemia.

With these developments in research, the months of October and September held a great deal of importance in empirical advancement this year. All of the showcased research displayed a great deal of collaboration between researchers, which in the scientific community remains as the main driver of research.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