

“The universe is full of magical things patiently waiting for our wits to grow sharper.”

- Eden Phillpotts

Visionary Physicist

INDIA'S GEM AT CERN: ARCHANA SHARMA



Physicist Archana Sharma remembers the day in 1992 when her CERN supervisor, Georges Charpak, won the Nobel Prize. She had joined CERN in a time before the World Wide Web was in the public domain, and the Nobel prize announcement came in via fax. Georges. And Georges greeted me as well.” At the time, Sharma was the only Indian citizen employed by CERN and just one of a handful of scientists of Indian origin at the European particle physics laboratory. She had taken a chance, leaving her home to develop technology for the largest high-energy physics experiment in the world. She was recently recognized for all she has accomplished since stepping out of her comfort zone. Sharma received India's highest honor for Indians living abroad, called the Pravasi Bharatiya Samman Award in 2023.

“This award is a testament to our commitment and dedication towards making positive contributions,” says Sharma. “We have worked together to promote peace and development for all citizens, regardless of ethnicity or background, which has emerged from our strong Indian roots and our commitment to the philosophy of Vasudhev Kutumbakam—[a Sanskrit phrase that means] ‘The world is one family.’” Sharma came to Geneva for the first time in 1987 for a short-term internship to work in Charpak's group on a new detector technology. Afterward, she returned to Delhi, where she started both a PhD in particle physics and a family.

Sharma was born to a middle-class family in Aligarh and raised in Jhansi, Uttar Pradesh. Both of her parents were teachers—her father taught mechanical engineering, and her mother taught economics and geography. Sharma studied physics at Banaras Hindu University as an undergraduate student and received her master's in nuclear physics from the same university in 1982. In 1989, she received her PhD in experimental particle physics from Delhi University. After finishing her first PhD in Delhi, Sharma moved to Geneva with her family in 1989 to conduct her post-doctoral research in gaseous detectors, through which she realized her lack of expertise in instrumentation and thus decided to pursue a second PhD at the University of Geneva. After finishing her second PhD, Sharma held positions at the GSI-Darmstadt in Germany and the University of Maryland, College Park. From a tight-knit family, she says it was a huge step for both her and her parents for her to move so far away from them. “For my parents, it appeared as if I had gone to another planet,” she says. “Even though I was accomplished, even with a PhD, in an unknown city I was this shy, almost scared mother who was trying to find the light of day.” Since 2001, she has worked at CERN on the Compact Muon Solenoid (CMS) experiment, designing high-efficiency detectors to facilitate the detection of the Higgs-Boson particle. Sharma's new lab was approved, and she and her team started building prototypes for a new type of muon detector to sit in the endcap for the CMS experiment. The new detectors—called RPCs—would eventually help physicists discover and study the Higgs boson. The success of her lab's work emboldened Sharma even more. In 2009, she decided to start R&D on another new type of detector technology called Gas Electron Multipliers, or GEMs. These detectors would be able to cope with the high collision rates—and high radiation—at the heart of CMS. But convincing her colleagues to bring in an innovation was more challenging, she says. “Of course, ‘Why fix it when it ain't broke?’ was the first reaction.” But she believed that for an experiment scheduled to continue running until nearly 2040, “a change was needed.” Today, more than a hundred GEMs are already inside the CMS detector, and scientists will install around 500 more over the next few years. Sharma also helped create official CERN programs so that more students from outside Europe could come work at the lab. She is the co-owner of patent on a family of detectors called THRAC – Timing and High Rate Capable devices. She is an IEEE Senior, recognition from the International Institute of Electronics and Engineers where she also served several terms on the Transnational Committee, encouraging participation in this field from Asia. Archana has served on numerous committees and plays a vital role in advisory review boards for leading International Conferences, Publications and Symposia in the field.

Science News Section

Chandrayaan 3 Lifts Off For Its Journey To The Moon

India launched an ambitious Chandrayaan-3 mission to the Moon. The space craft was launched on board India's heavier rocket, the Mark-III launch vehicle, i.e., LVM3, on its way to the Moon. The spacecraft will complete a journey of 3 84,000 kilometres in about 45 days and attempt to land softly on the moon by the end of August. The spacecraft was carefully packed into the launch arm of the rocket when it began its journey to the Moon. Despite the severe heat and the forecast for dry weather, passenger vehicles carrying passionate ardent space enthusiasts are making a beeline to this spaceport. Over 10,000 people from Tamil Nadu, AndhraPradesh, and Karnataka have arrived at Sriharikota since early morning and witness the launch from the space gallery set up in ISRO near the main entrance to the Satish Dawan Space Centre (SDSC).

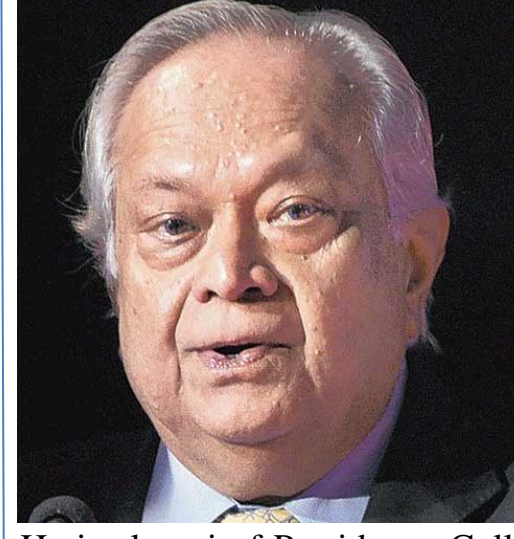
AIM, NITI Aayog, CBSE, and Intel India collaborates to revolutionize education through mainstreaming Tinkering and AI

Atal Innovation Mission, NITI Aayog, Ministry of Education, and Intel India have joined forces to revolutionize education by incorporating future skills like AI and Tinkering into the formal curriculum. This collaboration aims to align the NEP 2020's vision of accelerating tech integration for youth, bridging the skills gap, and preparing India for AI advancements. In September 2022, they launched the AIoT Integration in School Curriculum, which underwent a successful pilot program. The recent showcase featured AIoT-based lesson plans created by trained teachers, AI and AIoT projects developed by students, and a compendium containing 70 exemplary lesson plans. Dr. Chintan Vaishnav, Mission Director of Atal Innovation Mission, expressed the importance of multi-modal learning and urged teachers nationwide to adopt these lesson plans promptly. The compendium provides a comprehensive view of how AIoT integration enhances classroom learning.

Quantum Computing in India

India's Minister of State for Electronics & Information Technology and Skill Development & Entrepreneurship, Shri Rajeev Chandrasekhar, highlighted the significance of Quantum Computing for India's technological advancement. During the virtual inauguration of a symposium on the Quantum Computing Ecosystem held at C-DAC, Pune, he emphasized Prime Minister Narendra Modi's vision of establishing an India-centric quantum tech ecosystem in collaboration with global partners. The symposium aimed to showcase India's capabilities in Quantum Computing and foster collaboration among stakeholders to develop a commercial-scale Quantum Computer. Shri Rajeev Chandrasekhar stressed the disruptive potential of Quantum Computing and the need to build a comprehensive quantum ecosystem involving innovation, startups, research labs, and academic institutions. He underscored the importance of technologies like Quantum Computing in India's economic expansion and the country's transition from a technology consumer to a producer and designer. The event was attended by government officials, international experts, and representatives from research labs and industries worldwide.

BIKASH SINHA: A DISTINGUISHED VISIONARY LEADER IN HIGH ENERGY PHYSICS



Bikash Sinha, the Indian physicist, was born on October 20, 1945, in Kolkata is one of the great movers of Indian nuclear science. He got public recognition for his service and accomplishments in science and administration by receiving the Padma Shri award from the president of India in 2001 and Padam Bhushan in 2010. It is likely that his interactions with S.N. Bose during his adolescence along with personal experiences and a deep passion for understanding the natural world influenced Bikash Sinha's decision to pursue a career in physics. He became interested in the properties of a matter at finite temperature, given the great discovery of Bose about statistics of bosons.

He is alumni of Presidency College graduating with high honors in Physics and then he went on to pursue a Ph.D. in Theoretical Physics from London University. After completing his Ph.D., Sinha embarked on a successful career in physics research and academia. Throughout his early life and career, Bikash Sinha demonstrated a deep passion for physics and made notable contributions to the field. His research, leadership, and dedication have earned him widespread recognition and accolades in the scientific community. He became a Senior Research Fellow from 1970-1976 at King's College at the University of London. In 1976, Dr. R. Rammana invited Bikash to join the Nuclear Physics Division of the Bhabha Atomic Research Center. It was here that his interest developed on the Quark Gluon Plasma. He began his program at BARC studying hot spots in nuclear collisions and density dependent delta function interactions. Bikash Sinha assumed leadership positions in scientific institutions in India and served as the Director of the Variable Energy Cyclotron Centre (VECC) in 1984 and Saha Institute of Nuclear Physics. Under his leadership, these institutions made significant contributions to nuclear physics research. He established a research group on Quark Gluon Plasma and arranged the first Indian school on the Quark Gluon Plasma in India in 1986. He took a leadership role in developing the talents of “young brilliant scientists”. He initiated participation in the WA 80-95 experiments at CERN in the search for direct photons, a search which is now a component of every QGP experiment. In 1988 he organized the first of the International Conference on the Physics and Astrophysics of the Quark Gluon Plasma at the Tata Institute in Bombay. One of the major accomplishments of Bikash's career is the building of the superconducting cyclotron. His achievements have made a significant impact on the scientific community and have elevated the profile of Indian physicists globally. Dr. Sinha has conducted extensive research and made significant contributions to understand the formation and properties of quark-gluon plasma (QGP), a state of matter that existed just after the Big Bang. Prof. Sinha has actively collaborated with international research institutions and organizations to advance nuclear physics research. He has worked closely with organizations such as CERN (European Organization for Nuclear Research) and has been involved in various international collaborations in the field. His scientific leadership has been instrumental in shaping the research landscape in nuclear physics in the country. Except these he is a science communicator and has written many articles in Bangla to aware the general public about the scientific discoveries. A great man leaves more than the sum of his accomplishments. There is an intangible essence which exists in the minds and spirits of his colleagues, students and scientific community.

Introducing GPT-4: OpenAI's Cutting-Edge System for Safer and More Useful AI Responses

Unveiling the Remarkable GPT-4: OpenAI's Next-Generation Breakthrough in AI Response Generation, Ensuring Enhanced Safety and Utility. GPT-4 represents OpenAI's most advanced and sophisticated system yet, heralding a new era in artificial intelligence capabilities. Building upon the successes of its predecessors, GPT-4 incorporates groundbreaking innovations to deliver even safer and more valuable responses. With an unwavering commitment to user well-being, OpenAI has prioritized robust safety measures within the system's architecture. GPT-4's training methodology includes an intensified focus on mitigating biases, reducing harmful content generation, and promoting ethical guidelines. Beyond safety, GPT-4 pushes the boundaries of utility, offering unprecedented levels of accuracy, context-awareness, and natural language understanding. Its enhanced abilities empower users across various domains, from creative writing and research to customer support and educational assistance. OpenAI's GPT-4 represents a significant leap forward in AI technology, promising a transformative impact on how humans interact with intelligent systems.

India's Vision for a Green Hydrogen Ecosystem: Unveiling the Draft and Roadmap

The Ministry of New and Renewable Energy Sources has released a draft and roadmap outlining research and development priorities for manufacturing and storing Green Hydrogen. The objective is to promote efficient, safe, and cost-effective hydrogen storage, encouraging its widespread adoption as a clean energy source. The roadmap emphasizes the integration of hydrogen fuel cells, advanced batteries, and super-capacitors as key technologies for the future of the automotive industry. The Ministry, in collaboration with other entities, aims to develop advanced storage methods, address safety concerns, and explore underground storage solutions. Additionally, indigenous development of compressed hydrogen tanks and research on materials for solid-state hydrogen storage are highlighted. Pilot-scale demonstrations for various applications are also proposed, showcasing the versatility of green hydrogen in different sectors.

Genetically edited wood could make paper more sustainable

In a significant breakthrough, researchers have utilized CRISPR gene-editing tools to engineer poplar trees with significantly lower lignin content, a stiff material found in plants. By reducing lignin, the papermaking process can be made more eco-friendly, resulting in reduced chemical waste and greenhouse gas emissions from paper mills. The team, led by biotechnologists at North Carolina State University, employed computer modeling and gene-editing techniques to identify combinations of gene changes that would enhance cellulose production and decrease lignin content. After growing the engineered trees in a greenhouse, they observed a 49.1% reduction in lignin and a 228% increase in cellulose-to-lignin content. Implementing these modified trees in paper mills could increase paper output by 40%, decrease emissions by 20%, and generate approximately \$1 billion in profits. Further field trials and regulatory approvals are needed before widespread adoption can occur.

Name a celestial object that is formed from the remnants of a massive star's explosion and emit intense radiation that can sometimes be seen as a bright point in the night sky

Students' Remarkable Participation in the National Graduate Physics Examination

Kanya Maha Vidyalaya (KMV), Jalandhar, renowned for its commitment to providing top-quality education, continues to foster the spirit of competition among its students. In line with this objective, twelve B.Sc. students from KMV participated in the prestigious National Graduate Physics Examination (NGPE) on January 22, 2023. Organized by the Indian Association of Physics Teachers (IAPT), NGPE stands out as the sole national-level exam that assesses students in both theory and practical aspects of physics. Participating in NGPE is entirely voluntary, allowing students to gauge their performance against a national standard. To encourage students to pursue physics as a career, several scholarships (with a maximum of 5) have been instituted for those who seek admission to M.Sc. (Physics) after NGPE. Principal Dr. (Mrs.) Atima Sharma extended her heartfelt wishes to the participating students, acknowledging their dedication and commitment. The remarkable participation of KMV students in NGPE further exemplifies the institution's emphasis on academic excellence and nurturing young talent in the field of physics.



Students Participating in NGPE

Bhautik Basant mela was organized on January 25, 2023



VIPNET Science Society of the P.G. Department of Physics organized a festive and science-oriented event called "भौतिक बसंत मेला" (Physics Spring Fair). The event aimed to foster creativity, visionary thinking, and imagination among budding scientists, providing them with a platform to showcase their talent in innovative ways. Bachelor's and master's Physics students from Kanya Maha Vidyalaya participated in various competitions held during the event. The first competition, "Classroom Decoration," integrated science with the festive spirit of Basant, with B.Sc. (H) Physics sem VI and B.Sc. Sem VI securing the first position. Poster and Rangoli making competitions were also held, further promoting the theme. The event encouraged adaptable, creative, and motivated individuals who can contribute to society. In the Valedictory function, students delivered impressive performances, and Madam Principal Dr. Atima Sharma Dwivedi commended the efforts of both the faculty and students. The event served as a catalyst for discovering hidden talents, building confidence, and nurturing a passion for science.

Budding KMV Innovators among Top 30 achievers of IDEATHON-2023

Students of Physics Department participated in the INTER-INSTITUTIONAL IDEA COMPETITION (IIC'23) held at Dr. B. R. Ambedkar National Institute of Technology Jalandhar from 3rd to 5th February. Three teams from KMV presented innovative projects focusing on real-time problem-solving. The first team proposed 'Roadex-trellis,' a solution to remove stagnated water on roads. The second team introduced touch less switches and hand sanitizers for campus use. The third team presented the 'seg-re-create' app to promote waste collection habits. One team led by Haramanpreet Kaur was among the top 30 achievers.



Research Excursion to Physics Lab at Dr. B. R. Ambedkar National Institute of Technology Jalandhar

Kanya Maha Vidyalaya, a renowned Institution in Jalandhar, is dedicated to providing quality education. As part of this commitment, KMV organizes Lab Visits each semester to foster critical thinking and experiential learning. The PG Department of Physics recently organized a visit to Dr. B. R. Ambedkar National Institute of Technology in Jalandhar on 3 February, 2023. This visit exposed students to various advanced instruments and techniques, such as the Gamma Ray spectrometer and spark chamber. The visit enhanced students' knowledge, research exposure, and motivation for future research.

KMvite Entrepreneurs Trained at Startup Bootcamp: A Step towards Women Entrepreneurship

KMV students, accompanied by teachers Ms. Vibuti Kalia and Dr. Mandeep Kaur, participated in the "Tech-Startup-Connect and Grow Event" on Women Entrepreneurship on February 08, 2023. Organized by Guru Nanak Dev University's Golden Jubilee Center for Entrepreneurship and Innovation in collaboration with Punjab State Council for Science and Technology, the event aimed to sensitize early-stage entrepreneurs and featured successful entrepreneurs sharing their startup journeys. KMV students also visited the Incubation Center, and received certificates of participation. Dr P K Pati, expressed his comof Golden Jubilee Center mitment to motivate the students for entrepreneurship.

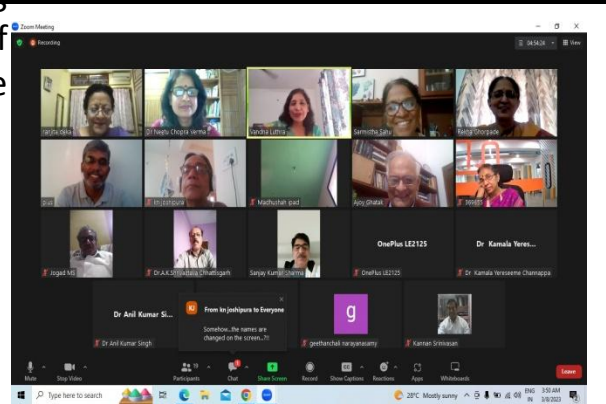


KMV Physics Department Boosts Scientific Innovations for GSSS, Bolna & Nurpur



P.G Department of Physics organized a workshop titled "Captivating Learning through Innovative Experiments" on February 09 and 13, 2023. KMV students demonstrated unique experiments to school students, aiming to spark creativity and make Physics learning enjoyable. Government Senior Secondary School, Bolnaand Nurpur, visited KMV College, to learn concepts like conservation of energy and momentum, Doppler's Effect, and types of waves. KMV students mentored their junior counterparts, inspiring them to explore new concepts and undertake creative projects.

IAPT Women's Day Celebration



The Indian Association of Physics Teachers celebrated International Women's Day by inviting women scientists from across the country. Dr. Neetu Verma, Associate Professor from the P.G. Department of Physics, was a panelist in the event, which was headed by renowned scientist Dr. Ajoy Ghatak. The panel discussed various agendas, including the importance of skill education for women, government initiatives for skill development, and the gender gap in scientific research. Dr. Verma highlighted KMV's aim to encourage young talents through entrepreneurial initiatives and foster an innovative environment.

Invited Talk at International Materials Conclave by a KMV Faculty

Dr. Gopi Sharma, Associate Professor of KMV was invited to give a talk in a three day International Materials Conclave (IMC-2023) in hybrid mode, during March 8&10th March, 2023 organized by Centre for Materials for Electronics Technology(C-MET). Dr. Sharma discussed the various properties of glasses and their applications. She discussed the work done by her group at KMV.

KMV Physics Professors bagged prestigious research from BRNS



Dr. Neetu Verma and Dr. Gopi Sharma, physics department, receive Rs. 25.5 lakh grant from BRNS. Their research focuses on radiation shielding windows using oxide glasses. Both teachers have a track record of prestigious awards, research projects, and international collaborations. KMV's physics department is well-equipped and supportive of research endeavors, contributing to the institution's pioneering science education. Principal Dr. Atima Sharma Dwivedi commended their success and recognized their international and national recognition.

KMV Physics student among Top 10% in the nation



Kanya Maha Vidyalaya, Jalandhar, excels in providing quality education. Under the guidance of dynamic Principal Dr. Atima Sharma, the institution conducts the prestigious National Graduate Physics Examination (NGPE). NGPE, organized by the Indian Association of Physics Teachers (IAPT), tests students in theory and practical aspects. KMV students participated in NGPE, competing with renowned institutions nationwide. Lovepreet Kaur, achieved score above the merit cutoff.

KMV Faculty Patents Innovative Stagnated Water Ejector System

Dr. Neetu Verma and Dr. Surbhi Sharma from the P.G. Department of Physics, have developed a patent for an automatic system to operate stagnated water ejectors. Their invention aims to address the issue of stagnant water on roads during the rainy season, which can lead to diseases and accidents. The system includes sensor-based indicators to warn drivers about water depth and different devices that operate at varying water levels. The project not only removes water but also stores it for future use, and it functions automatically, reducing the need for manual labor.



School Principal visited Innovation Hub

KMV always works in the direction of education with a futuristic approach. In this regard KMV organized a visit to KMV's innovation Hub for 40 principals from different schools. They were very impressed by the various practical demonstrations of Physics. They were also impressed by the fact that many elements of demonstrations were prepared by students. They felt motivated to bring their students to visit Innovation Hub in future.

KMV Physics Department Shines at National Science Day Event

Students from the Physics department of KMV participated in a science-oriented event on march 25, 2023 hosted by Lyallpur Khalsa College, Jalandhar, in celebration of National Science Day. Competitions such as Quiz, Rangoli Making, Poster Presentation, PowerPoint Presentation, and Debate were conducted. KMV students excelled in rangoli, quiz, and PowerPoint presentation categories. Topics ranged from Digital India to Climate Change, showcasing the students' knowledge and creativity. Navneet Kaur, a B.Sc. Non-Medical Sem 4 student, won the first prize for her presentation on Digital India.

Physics Students attended 2 days training program at NPL, New Delhi



The P.G. Department of Physics organized a two-day training program from 27 to 28 March, 2023 at the National Physical Laboratory (NPL), Delhi, for MSc Physics students. The training familiarized students with material characterization techniques and their applications. Demonstrations included Scanning Electron Microscope (SEM), X-Ray Fluorescence spectrometer (XRF), X-Ray Diffractometer, Dynamic Ray Scattering Zetasizer, and Magnetic Rheology. Students also had the opportunity to interact with Dr. Nahar Singh, Head of Bhartiya Nirdeshak Dravya (BND), for insightful discussions.

KMV Organizes Magnum Opus: Promoting Literary and Oratory Skills



PG Department of Physics, organized Magnum Opus on april 12, 2023, an event aimed at enhancing students' confidence and oratory skills. It included storytelling, self-composed poem recitation, and extempore speeches. Students from various streams participated and showcased their talents. The event provided a platform for students to develop their writing and speaking abilities alongside their studies. Principal KMV encouraged their participation in such events, emphasizing the importance of creativity in shaping one's personality.

Captivating Science Learning through Innovative Physics Experiments

The P.G. Department of Physics recently visited Government Girls Senior Secondary School, Bhogpur, with 11 students and two faculty members. They demonstrated unique experiments to make physics engaging and understandable. The event aimed to inspire budding innovators and develop scientific thinking among students. Principal Atima Sharma Dwivedi appreciated the efforts and emphasized the importance of actively involving students in scientific exploration.



National Technology day was celebrated in Physics Department

Physics department celebrated National Technology Day 2023 on May 11, 2023 in collaboration with KMV IIC. Dr. Neetu Verma, Vice President of KMV IIC, highlighted the significance of technology in promoting innovation and research. She acknowledged the achievements of scientists, engineers, and innovators. The celebration aimed to inspire the younger generation to pursue STEM careers and raise awareness about the role of technology in addressing societal challenges. Dr. Verma also emphasized frugal innovations and showcased experiments in the Innovation Hub to make physics concepts more accessible.



KMV Promotes Computational Physics for Women Empowerment

KMV, The Heritage Institution, strives for women empowerment and societal progress. The P.G. Department of Physics organized an extension lecture on April 21, 2023 by Dr. Vandana Luthra from Gargi College, New Delhi for promoting computational techniques amongst students. The lecture focused on the basics and applications of computational physics. Dr. Luthra discussed its significance, including in quantum mechanics and solving complex scientific problems. She encouraged students to pursue careers in computational physics.



Ten days online workshop on Exploring Computational Thinking

Kanya Maha Vidyalaya two students and one faculty member from the P.G. Department of Physics attended an online training workshop on Computational Physics. The 10-day workshop, (May 29, 2023 to June 10, 2023) organized by the Indian Association of Physics Teachers (IAPT), aimed to explore the concepts and applications of computational physics. Participants gained insights into Scilab and Python and learned how computational physics solves complex scientific problems.

Golden opportunity for KMV Physics Faculty to be Transformative and Empowered Physics Teachers under the guidance of Padamshri HC Verma at Kanpur



Kanya Maha Vidyalaya (KMV) sent Dr. Neetu Verma and Dr. Sangeeta Prasher, faculty members from the Physics department, to an intensive six-day residential workshop organized by Shiksha Sopan. Led by renowned physicist Padma Shri H.C. Verma, the workshop focused on enhancing teaching methodologies and incorporating innovative tools into the classroom. KMV will now act as a mentor institution to share the knowledge gained with others. The participants had hands-on experiences, including practical experiments, demonstrations, and an industrial visit.

KMV Promotes Science Innovations for School Students

P.G. Department of Physics at KMV organized a workshop titled "Captivating Learning through Innovative Experiments" to promote scientific innovation among school students. Arya Model Senior Secondary School visited KMV's Innovation lab, where students were exposed to unique experiments like Newton's Cradle and Air Canon. KMV students acted as mentors, encouraging young innovators to think logically and develop prototypes. Principal Dr. Atima Sharma Dwivedi commended the students and encouraged future events to benefit others.



KMV Celebrates World Copyright Day

Kanya Maha Vidyalaya, Jalandhar, celebrated World Copyright Day and highlighted the importance of reading, writing, publishing, and protecting copyrights. Two faculty members from the P.G. Department of Physics, Dr. Neetu Verma and Dr. Surbhi, recently published a patent for an automatic water ejector system.

Physics faculty members attended International conference on NEP 2020

The National Education Policy 2020 prioritizes vocational education and teacher capacity development to improve employability and vocational skills. Quality of vocational courses will be improved through standardized norms and accreditation. Faculty members Dr. Neetu Verma and Dr. Surbhi Sharma attended the Interdisciplinary International Conference on "Re-imagining Sciences in the Wake of NEP 2020" during 29-30 April, 2023 to understand the implementation process. Principal Prof. (Dr.) Atima Sharma Dwivedi encourages such participation to stay updated with NEP 2020.

Beyond the Stars: The Heroic Journey

Story time

Once upon a time, in the not-so-distant future, humanity faced a critical dilemma on Earth. Overpopulation, dwindling resources, and the urgent need for a new frontier pushed scientists and leaders to explore the vast expanse of space. After years of research and discovery, they set their sights on the distant star system of Alpha Centauri, specifically one of its habitable planets known as Proxima Centauri B.

The governments of Earth decided to initiate a groundbreaking project: the relocation of a thousand carefully selected individuals to Proxima Centauri B. Families, experts from various fields, and pioneers from different nations were chosen to embark on this daring expedition. Among them was the Thompson family—Daniel, a skilled engineer, his wife Sarah, a biologist, and their two children, Emma and Alex. As the day of departure drew near, the Thompsons experienced a mixture of excitement and anxiety. They were aware that the journey would be long and fraught with challenges, but their determination to build a new life on the alien planet kept their spirits high. The massive spaceship, christened the "Pioneer," was a marvel of technology. It boasted cutting-edge propulsion systems, advanced life-support mechanisms, and state-of-the-art weaponry to safeguard the passengers against potential threats. Captain Jackson, an experienced space explorer, was appointed to lead the mission.

On the day of departure, as the Thompsons boarded the Pioneer along with the other families, the spaceship hummed with anticipation. With a thunderous roar, the engines roared to life, propelling them into the vastness of space. Earth grew smaller and smaller, fading into the distance, as they embarked on their epic journey.

Several months into their interstellar voyage, the Pioneer's crew detected an anomalous energy signature on their sensors. It was clear that they were not alone in the vastness of space. Unknown to the colonists, they had unintentionally attracted the attention of an advanced extraterrestrial civilization—the Zylorians. The Zylorians, far more technologically advanced than humanity, perceived the arrival of the Pioneer as a potential threat to their dominion. Their massive warships surrounded the colonists, ready to attack. Panic swept through the ship, but Captain Jackson swiftly rallied the crew, encouraging them to stay calm and prepare for the imminent battle.

In the midst of the chaos, young Alex Thompson stepped forward. Inspired by the heroic stories he had read and a burning desire to protect his family and fellow passengers, he found the courage within himself to act. Using his knowledge of the ship's systems and his quick thinking, he devised a plan to disrupt the Zylorians' communication network and disable their weaponry temporarily.

With a resolute determination, Alex, accompanied by a team of brave volunteers, embarked on a perilous mission through the bowels of the Pioneer. They navigated treacherous corridors, facing numerous obstacles along the way. Despite the danger, their resolve never wavered.

As they reached the heart of the ship, Alex initiated his plan, causing a surge in the Pioneer's power systems that temporarily blinded the Zylorians' sensors. The attack came to an abrupt halt as their weapons faltered, providing a window of opportunity for the Pioneer's defenses to retaliate.

The colonists, armed with newfound hope, fought back fiercely, utilizing the ship's advanced weaponry to engage the enemy. Though the Zylorians regained their composure, they were taken aback by the tenacity and resilience of the humans. The battle raged on for hours, the Pioneer holding its own against overwhelming odds.

In the end, the Zylorians, recognizing the colonists' determination, withdrew their forces. The Pioneer had triumphed against all odds, thanks in no small part to the bravery and ingenuity of young Alex Thompson. The crew erupted into cheers and applause, celebrating their victory and the heroic actions of their young hero.

News of the Thompson family's heroism spread throughout the ship, and soon they became symbols of hope and unity for the entire colony. Alex's act of courage inspired others to step forward and contribute their unique skills and talents to the betterment of the mission.

Months later, the Pioneer reached its destination—the welcoming shores of Proxima Centauri B. The Thompson family, along with their fellow colonists, stepped foot on the virgin soil of their new home, grateful for the opportunity to start afresh. They carried with them the lessons learned during their perilous journey, as well as the memory of a young hero whose actions had saved them all.

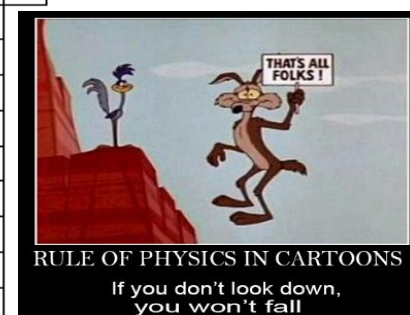
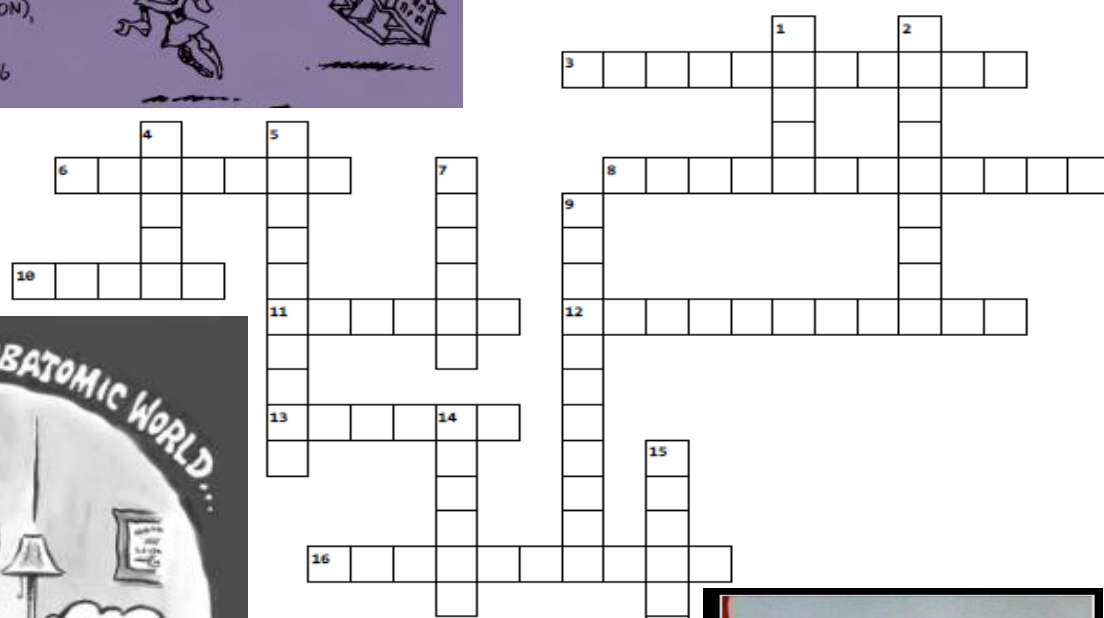
As the colony thrived and the years passed, the story of Alex Thompson, the boy who rose to become a hero, became the stuff of legend. His legacy echoed through the generations, reminding the people of Proxima Centauri B of the indomitable spirit of humanity and the power of courage in the face of adversity.

ATL-IIC Linkage Programme: An Orientation-cum-Mentoring Session

Kanya Maha Vidyalaya (KMV) is selected by MHRD Innovation Cell as an Institution's Innovation Council (IIC) to promote innovation. KMV serves as a mentor institute for Atal Tinkering Lab (ATL) schools under the Atal Innovation Mission (AIM). Mentoring sessions were conducted on May 4, 2023 to empower students with innovation skills. KMV-IIC selected Kendriya Vidyalaya as mentee schools. KMV's achievements and initiatives were shared, emphasizing the importance of innovation and entrepreneurship. President Dr. Rashmi Sharma and Vice President Dr. Neetu Verma appreciated the efforts of coordinators.



Fun Times with Physics



Across

3. The bending of light around an obstacle or through an opening.
6. The unit of measurement for the refractive power of a lens.
8. The phenomenon where light waves reinforce each other, creating increased intensity.
10. A device that separates light into its different colors.
11. A mirror with a curved surface that converges light.
12. The distance between the center of a lens or mirror and its focus point.
13. Study of light and its behavior.
16. The distance between corresponding points on a wave, e.g., from peak to peak.

Down

1. Light with a single wavelength and direction.
2. The type of lens that spreads out light and makes objects appear smaller.
4. The point where light rays meet or appear to diverge from.
5. The bending of light as it passes from one medium to another.
7. The color with the shortest wavelength.
9. The phenomenon of a wave's direction changing as it passes through an aperture.
14. A lens that is thicker at the center than at the edges.
15. The angle of incidence at which light refracts at a 90-degree angle.

Solutions: Across: 1. Diffraction 2. Diverging 3. Laser 4. Diopier 5. Interference 6. Dispersion 7. Violet 8. Diffraction 9. Convex 10. Prism 11. Convex 12. Focal length 13. Optics 14. Wavelength 15. Critical angle 16. Wavelength

