GURU TEGH BAHADUR INSTITUTE OF TECHNOLOGY

THE PARTICLE POST

SCHRÖDINGERS KATZE

NEW SOCIETY ALERT!!

QUANTUM QUORUM

YOUR PHYSICS FORUM

EDITION : 1-1 DATE:15/11/24

QUANTUM QUORUM

launches its first newsletter on the auspicious day of Guru Nanak Dev Ji's Prakash Purab.

S. Amarjeet Singh
(Chairman,GTBIT)

We would like to express our sincere thanks to our respected Chairman S.Amarjeet Singh for his continuous support in all our endeavors.

S. Harjeet Singh
(Manager,GTBIT)

We are deeply grateful to S.Harjeet Singh for his unwavering support throughout our journey, which has been vital to our growth and achievements.

Dr. Rominder Kaur Randhawa
(Director,GTBIT)

We would like to thank our honorable director Dr. Rominder Kaur Randhawa for encouraging us to start our society where we can explore the world of physics.

Dr. Simmi Singh
(Professor
Head, Exam cell)

We also want to express our sincere gratitude to Dr. Simmi Singh for continuously lighting our pathway with her valuable advice.

Dr. Parsan Kaur
(Associate Professor
HoD, Applied Sciences Deptt.)

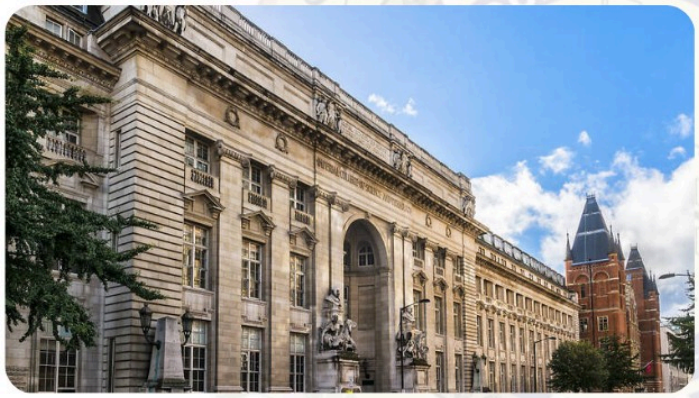
We want to thank Dr. Parsan Kaur for their ongoing support and motivation, which helps us to achieve our goals.

Dr. Daljeet Kaur
(Associate Professor,
Convener)

We would also like to acknowledge the invaluable effort put forth by Dr. Daljeet Kaur for guiding us and providing essential ground-level support.

Lesser Known Gems

Narinder Singh Kapany (1926-2020), known as the "Father of Fiber Optics," was a pioneering scientist born in Punjab. After studying in Dehradun and Agra University, he moved to London for a Ph.D. at Imperial College, where he achieved a breakthrough in transmitting images through optical fibers in 1953. His work in fiber optics led to over 120 patents and significant advances in communications, biomedical instrumentation, solar energy, and more.



Kapany's entrepreneurial efforts included founding Optics Technology Inc. in 1960, taking it public in 1967, and later starting Kaptron Inc., which he sold to AMP Incorporated. He continued influencing the field with K2 Optronics and served on multiple boards, gaining global business recognition.

A committed philanthropist, Kapany founded the Sikh Foundation, promoting Sikh art and culture. His contributions to education included endowing chairs at UC Santa Barbara and UC Santa Cruz. His legacy continues to impact science, business, and community initiatives.

LAB,LAUGH AND LOGIC

SUDOKU

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
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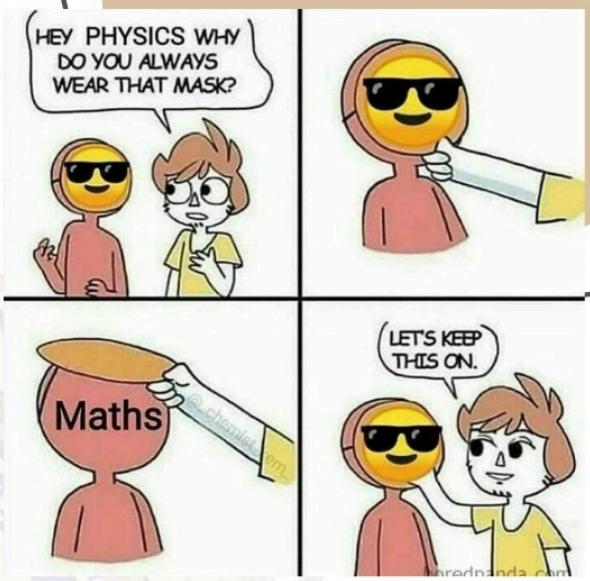
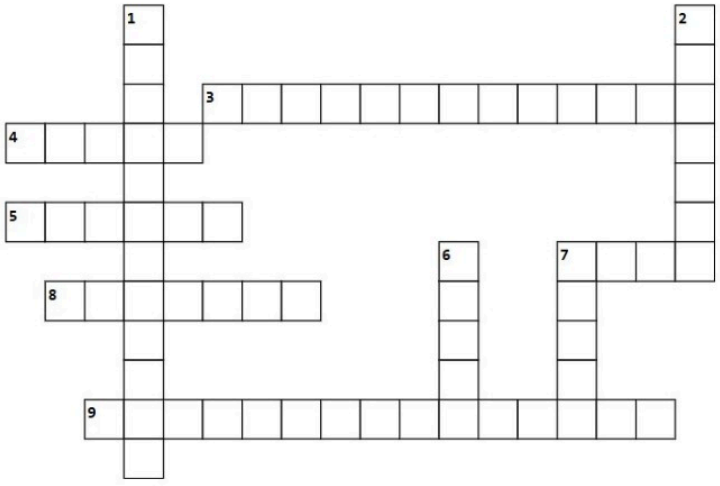
COMIC



CROSSWORD



Across

3. The energy of motion.

4. The rate at which work is done.

5. A unit of electric current

7. A measure of how much matter is in an object.

8. The force of attraction between any two objects wi mass.

9. A form of energy associated with the position or configuration of objects.

Down

1. The rate of change of velocity.

2. The study of the properties and behavior of matter and energy.

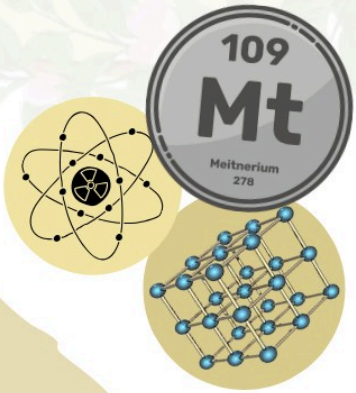
6. A push or pull that can change the motion of an object.

7. A device that converts electrical energy into mechanical energy.

Quantum Queens

Lise Meitner

Lise Meitner (1878–1968) was an Austrian-Swedish physicist known for her pioneering work in nuclear physics. She collaborated with chemist Otto Hahn in discovering nuclear fission, the process that would later become the basis for nuclear energy and weapons. Despite her crucial contributions, Meitner did not share the Nobel Prize in Chemistry awarded to Hahn in 1944, although she was widely acknowledged for her work. Meitner, a Jewish scientist, fled Nazi Germany in 1938, continuing her research in Sweden. She is often called the "mother of the atomic bomb," a title she disliked, as she advocated for peace and disapproved of nuclear weapons. Meitner's legacy endures, and in 1997, the element meitnerium (Mt) was named in her honor.



- 1905: Lise Meitner earns her Ph.D. in physics from the University of Vienna, establishing her as one of the early female physicists.
- 1938: She escapes Nazi Germany due to her Jewish heritage, moving to Sweden, which allowed her to continue her research.
- 1939: Together with her nephew Otto Frisch, she explains nuclear fission, a groundbreaking discovery that would lead to atomic energy.
- 1944: Otto Hahn receives the Nobel Prize in Chemistry for nuclear fission, but Meitner's contribution is controversially overlooked.
- 1966: Meitner is awarded the Enrico Fermi Award by the American Physical Society, acknowledging her contributions to nuclear science.

Research Rundown

Student's Space

Recent studies are indicating that the expansion of space is accelerating, meaning space is moving faster than ever before. This revelation raises numerous questions for physicists, astronomers, and space enthusiasts alike. To explain this acceleration, scientists have coined the term "dark energy." It's hypothesized that this mysterious force is driving the increased expansion rate. However, our understanding of dark energy remains limited, challenging many of our fundamental beliefs about the universe.

Interestingly, some scientists propose modifying our understanding of gravity itself to account for these cosmic observations, potentially eliminating the need for dark energy. Einstein himself suggested an alternative in 1919, known as "unimodular gravity," a modified version of general relativity. Today, researchers are exploring whether this approach could explain the universe's behavior without invoking dark energy, pushing us to reconsider our grasp of the cosmos.

Dikshant Tayal (IT-3)

Hey future physics legends! Got a theory, project, or cool insight you'd love to share? Send us your entries for a chance to be featured in our next newsletter. Show us what you've got—let's inspire together!"
Kindly send your entires to the society mail
soc4gtbit@gmail.com

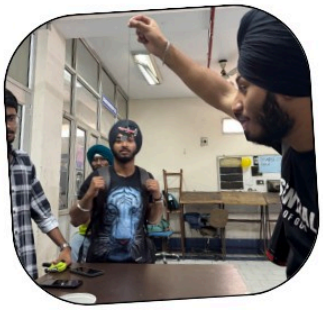
Convener's Column

Dr. Daljeet Kaur

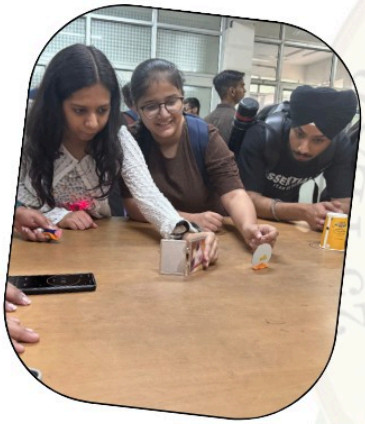
Vertically aligned carbon nanostructures (VACNs, e.g. nanotubes, nano-fibres, nano-ribbons, nano-rods, nano-wires,etc. have attracted an amazing level of attention in the last decade due to their many potential applications in field emission devices, filter media, super hydrophobic surfaces, synthetic membranes, intracellular gene delivery devices, biosensors, composites, logic and memory devices and numerous others. It has been shown that plasma enhanced chemical vapour deposition (PECVD) techniques can be successfully used for the controlled synthesis of nanostructures.(*)

*Reference: Formation of vertically aligned carbon nanostructures in plasmas: numerical modelling of growth and energy exchange Denysenko and N A Azarenkov

KEEPING UP WITH Q²



Scavenger Without Hunt



WINNER

Relativity Rebels

On October 24th, our society launched with an on-campus event featuring games that highlighted fundamental physics concepts, making learning interactive and fun. With over 100 registrations from various academic branches, the event concluded with a quiz covering topics from quantum mechanics to science fiction, sparking curiosity and a new appreciation for physics. This successful debut has established our presence on campus, motivating us to organize more physics-focused initiatives in the future.

About Our Team

This society aims to unite like-minded individuals to explore physics, solve real-world problems, and make impactful contributions, envisioning a future where physics advances technology and improves lives.

Vishal Verma
CSE-AIML
President

Sukhmeet Kaur
CSE-DS
Vice President

Harshal Chauhan
CSE-DS
General Secretary

Abhinoor Singh
CSE-DS
Graphic Design Head

Dikshant Tayal
IT-3
Content Team Head

Lavanya Bedhara
CSE-DS
Social Media Head

Harmanjeet Singh
CSE-AIML
Project Team Head

Archita Garg
CSE-DS
Management Lead

Vanshika Bansal
CSE-DS
Outreach Team Head

Team Members

Karamjass Kaur (Co-Head Management Team)

Satyam Singh Negi (Co-Head Design Team)

Abu Bakar (Co-Head Project Team)

Sidak Singh Suri (Co-Head Content Team)

Ashish Jakhmola (Member Design Team)

Ishmeet Kaur (Member Social Team)

Mehraj Singh (Member Content Team)

Manan Makhija (Member Project Team)

Jaskaran Singh (Member Management Team)

Kinshunk Garg (Member Management Team)