



*Department of Physics*  
*St. Bede's College, Shimla*

## **ACTIVITY 1: TALK ON IKS**

**Speaker:** Dr. O. S. K. S. Sastri, Professor of Physics at Central University of Himachal Pradesh, expert in Nuclear/Computational Physics

**Title of Talk:** “*A Physics Perspective of Akasa in Indian Knowledge Systems*”

**Date & Venue:** 24 July, 2025, Seminar Room

### **Objectives**

- To introduce students and faculty to the concept of **Ākāśa** as understood in **Indian Knowledge Systems (IKS)**.
- To explore the conceptual connections between ancient Indian philosophical ideas and modern physics.
- To encourage interdisciplinary thinking by bridging metaphysics, philosophy, and contemporary scientific frameworks.
- To promote academic dialogue and critical inquiry on integrating traditional knowledge with modern science.
- To inspire students to view physics beyond conventional boundaries and appreciate its philosophical dimensions.

### **Description**

The Department of Physics hosted a thought-provoking talk on “*A Physics Perspective of Ākāśa in Indian Knowledge Systems*” on 24th July, 2025. The session was delivered by **Prof. O. S. K. S. Sastri**, a distinguished physicist from the Central University of Himachal Pradesh, Dharamshala, known for his work in theoretical and computational physics.

In his engaging talk, Prof. Sastri offered a compelling exploration of the ancient Indian concept of **Ākāśa** traditionally described as the primordial element among the five classical elements (pañca mahābhūta) through the analytical lens of modern physics. He explained how **Ākāśa**, often understood as the subtle substratum of sound and existence in Indian philosophical traditions, finds conceptual resonance in contemporary physical frameworks such as the spacetime continuum of Einstein's relativity and the quantum vacuum in field theory.

Prof. Sastri skillfully drew parallels between ancient metaphysical insights and current scientific paradigms, suggesting that **Ākāśa** can be interpreted as a fundamental field or



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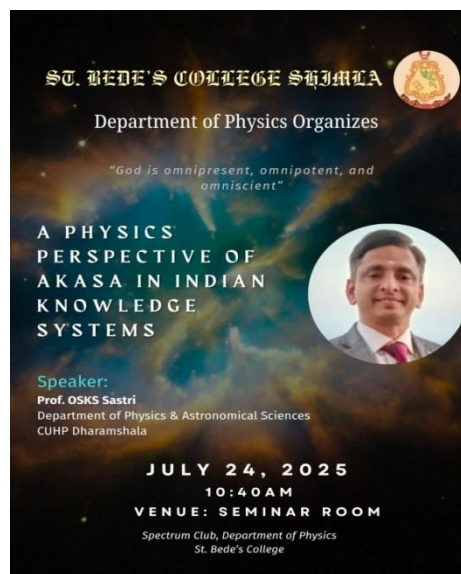
background an ever-present medium that supports and permeates all physical phenomena. His interdisciplinary approach encouraged the audience to rethink the boundaries between traditional Indian metaphysics and modern scientific inquiry.

The talk drew a strong turnout from faculty, and students across disciplines, sparking a lively and intellectually rich discussion during the Q&A session that followed.

Events like this underscore the significance of fostering dialogue between **Indian Knowledge Systems (IKS)** and contemporary science opening new avenues for integrative thinking and research.

**Outcomes:**

- Participants gained a deeper understanding of Ākāśa from both traditional Indian and modern physics perspectives.
- The program fostered interdisciplinary awareness and appreciation for Indian Knowledge Systems within the scientific community.
- Students developed critical and integrative thinking skills, connecting philosophy with physics concepts.
- The event stimulated **academic discussion and curiosity**, encouraging further exploration and research at the intersection of IKS and contemporary science.
- The program strengthened the department's efforts toward holistic and inclusive education, aligning with national initiatives promoting Indian Knowledge Systems.





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## **ACTIVITY 2: NATIONAL SPACE DAY CELEBRATION**

**Speaker:** Dr. Hemant Sharma, Coordinator of **IAPT NASNI** and Former Director of **SCERT Solan**,

**Title of Talk:** “Observational & Data-Driven Astronomy”

**Date & Venue:** 23 August, 2025, Seminar Room

### **Objectives:**

1. To commemorate National Space Day by engaging students and faculty in a scientific discussion on astronomy.
2. To create awareness about the significance of observational techniques in exploring celestial objects and phenomena.
3. To emphasize the role of data-driven approaches in advancing modern astronomy and scientific research.
4. To motivate students to develop curiosity, analytical skills, and a research-oriented mindset.
5. To connect classroom learning with real-world applications of physics and astronomy.
6. To provide exposure to expert knowledge through interaction, thereby encouraging academic and career interests in space sciences.
7. To foster scientific temper and critical thinking among participants by highlighting the interdisciplinary nature of astronomy.

### **Description**

The Department of Physics celebrated National Space Day on 23<sup>rd</sup> August 2025 by organizing a special talk on “*Observational & Data-Driven Astronomy*”. The event aimed to inspire students and faculty by highlighting the growing importance of astronomy in the modern scientific era.

The department had the privilege of hosting Dr. Hemant Sharma, Coordinator of **IAPT NASNI** and Former Director of **SCERT Solan**, as the guest speaker. Dr. Hemant Sharma



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delivered an insightful and engaging talk that bridged the gap between traditional observational methods and the emerging role of data-driven approaches in astronomy.

During his talk, Dr. Sharma emphasized how careful sky observations, when combined with advanced data analysis techniques, enable scientists to explore celestial phenomena with greater accuracy. He also explained the relevance of astronomy in education and motivated students to develop critical thinking skills through research-based learning.

The session proved to be highly interactive, with students actively participating in discussions and raising questions about astronomical research and its applications. Faculty members appreciated Dr. Sharma's ability to simplify complex scientific ideas and make them accessible to a diverse audience.

The program concluded with a vote of thanks, expressing deep gratitude to Dr. Hemant Sharma for sharing his knowledge and enriching the celebration with his expertise. The talk left participants with a renewed curiosity about space sciences and inspired them to explore future opportunities in the field of astronomy.

### **Conclusion**

The special talk on "***Observational & Data-Driven Astronomy***" organized by the Department of Physics as part of the **National Space Day Celebration** proved to be highly enriching and insightful. Dr. Hemant Sharma's expertise and engaging presentation helped students and faculty understand the significance of combining traditional observational methods with modern data-driven techniques in astronomy. The session not only deepened participants' knowledge of space science but also sparked curiosity and inspired them to think critically about future possibilities in astronomical research. Overall, the event successfully met its objectives of fostering scientific temper, motivating young learners, and celebrating the spirit of space exploration.

### **Outcomes**



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- Improved conceptual understanding of observational and data-driven astronomy
- Exposure to modern tools and techniques in astronomical research
- Encouragement of critical thinking and scientific inquiry
- Increased student interest in space science and research careers
- Promotion of scientific temper and innovation
- Active participation and engagement of students and faculty

Celebrating National Space Day  
ST. BEDE'S COLLEGE SHIMLA

23 August  
NATIONAL SPACE DAY  
Inspiring Curiosity, Igniting the World, India's Space Day

Department of Physics Invites You  
For an Online Talk

OBSERVATIONAL  
& DATA DRIVEN  
ASTRONOMY

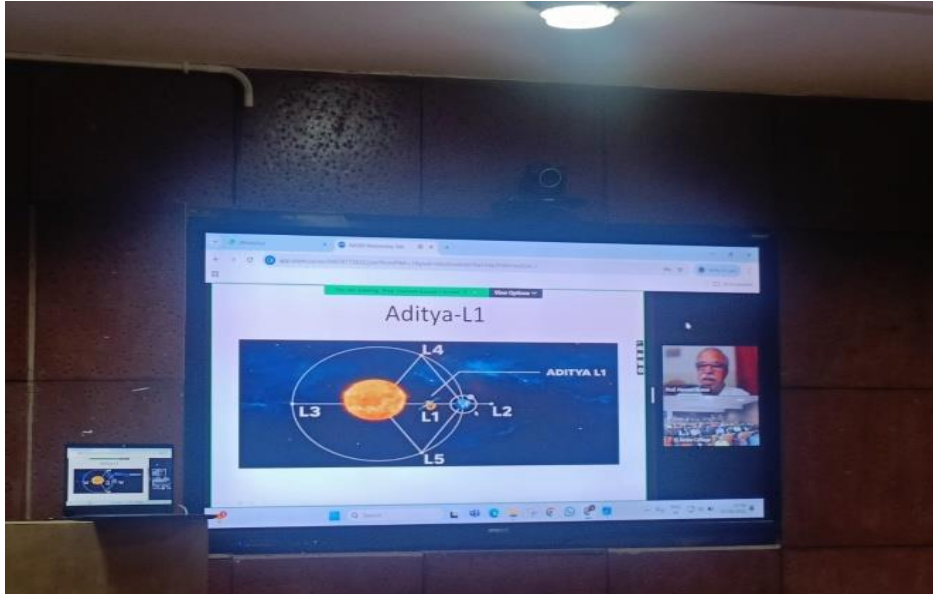
Speaker:  
Prof. Hemant Sharma  
Principal, SCERT (Retd.)  
Coordinator, IAPT NASNI

AUGUST 23, 2025  
10:40AM  
VENUE: SEMINAR ROOM

*Spectrum Club, Department of Physics  
St. Bede's College*



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### **ACTIVITY3: INDIAN KNOWLEDGE SYSTEM (IKS): FROM VEDIC WISDOM TO MODERN APPLICATIONS**

**Speakers:** BSc. Physics Students

**Title of Talk:** *"Indian Knowledge System (IKS): From Vedic Wisdom to Modern Applications."*

**Date & Venue:** 25 September, 2025, Seminar Room

On September 25, 2025, **the** Physics Club, Spectrum, successfully organized a PowerPoint presentation session on the theme: *"Indian Knowledge System (IKS): From Vedic Wisdom to Modern Applications."* The presentations were delivered by B.Sc. II and B.Sc. III non-medical students, who explored various aspects of the Indian Knowledge System-ranging from ancient Vedic sciences and philosophical thought to their relevance and application in modern physics and technology.

#### **Objectives:**

1. To explore the rich heritage of Indian Knowledge Systems.
2. To understand the relevance of Vedic knowledge in the modern context.
3. To align with the goals of the National Education Policy (NEP) 2020. To support the NEP's vision of incorporating India's cultural and intellectual traditions into the mainstream education system.
4. To develop research and presentation skills among students.
5. To encourage critical thinking and innovation.

#### **Description**

A series of insightful and educational presentations were delivered by students exploring the **Indian Knowledge Systems (IKS)**, focusing on the historical, scientific, and technological advancements of ancient India. The students presented a historical overview of IKS, tracing its evolution from Vedic times to the classical period. The topics covered a wide spectrum from the works of pioneering scientists like Aryabhata, Brahmagupta, and Varahamihira, to



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the mechanics of ancient instruments like the sundial and astrolabe, the physics behind musical instruments like the sitar, and modern applications of IKS.

Early Indian scholars made significant contributions to various branches of science, including Physics, though often embedded in astronomy (Jyotisha), mathematics (Ganita), and cosmology. Among the most influential figures in this tradition are Aryabhata (5th century CE), Brahmagupta (7th century CE), and Varahamihira (6th century CE). While they are more widely known for their contributions to astronomy and mathematics, their works also demonstrate foundational principles of physics, especially in areas such as mechanics, time calculation, planetary motion, and gravitation.

**Outcome:**


The student presentations showcased a rich and diverse understanding of physics concepts rooted in Indian Knowledge Systems. From planetary motion to optics, acoustics, and time measurement, these ancient scholars laid down early frameworks for many branches of physical science. Brought out the relevance of IKS in today's world, inspiring future integration of traditional wisdom with modern scientific methods.






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## **ACTIVITY 4: EDUCATIONAL VISIT TO CENTER FOR SCIENCE LEARNING AND CREATIVITY (CSLC), SHOGHI, SHIMLA**

**Date: October 4, 2025**

### **Objectives:**

1. To understand the scientific concepts through exposure to interactive exhibits and hands-on learning experiences.
2. To promote scientific temperament and creativity among students.
3. To inspire and nurture interest in science and technology

### **Description**

The Department of Physics organized an educational visit to the **Center for Science Learning and Creativity (CSLC), Shoghi, Shimla** for the B.Sc. Non-Medical students on October 4, 2025. The objective of the visit was to enhance students' understanding of scientific concepts through exposure to interactive exhibits and hands-on learning experiences. A total of 26 students from the B.Sc. Non-Medical participated in the visit, accompanied by faculty member Dr. Sarveena and Mr. Amit. The visit was part of the department's ongoing efforts to provide experiential learning opportunities that complement classroom teaching.

The CSLC features around sixty science exhibits covering a wide range of topics in physics, chemistry, mathematics, and environmental science. Exhibits related to optics, electromagnetism, the Pythagorean Theorem, planetary motion, and space exploration were particularly engaging. Students actively interacted with the models and demonstrations, which simplified complex theories and sparked curiosity. They also participated in hands-on experiments such as simulated earthquake experience, exploring momentum conservation, experimenting with floating objects and wind tables, demonstrating the Pythagorean Theorem, and observing pressure distribution. The interactive nature of the exhibits allowed students to explore scientific phenomena at their own pace and in an intuitive manner.



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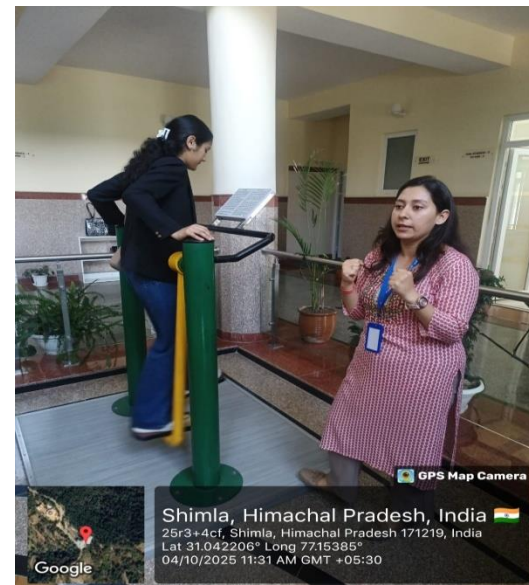
**Outcomes:**

The visit proved to be both enriching and inspiring. It helped bridge the gap between theoretical knowledge and real-world application. The hands-on experience deepened the student's conceptual understanding and sparked greater interest in scientific exploration. The overall experience encouraged students to think critically and creatively about science and its role in everyday life.





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**ACTIVITY 5 : IYQ  
ENGAGING YOUNG MINDS: A QUANTUM CELEBRATION**

**Organized by:** The Department of Physics, St. Bede's College, Shimla  
In Collaboration with Indian Association of Physics Teachers (IAPT), Regional Council RC 23

**Date:** October 31, 2025

**Venue:** St. Bede's College, Shimla



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To mark the *International Year of Quantum Science and Technology (IYQ2025)*, the Department of Physics at St. Bede's College, Shimla, in collaboration with the Indian Association of Physics Teachers (IAPT), Regional Council RC 23, organized a one-day program titled "*Engaging Young Minds: A Quantum Celebration*" on October 31, 2025.

The event brought together around 150 enthusiastic physics students from various reputed institutions, including RKMV, Government College Sanjauli, Government College Kotshera, UIIT H.P. University, Shimla, Sacred Heart Convent School Dhalli, and Jesus & Mary School (Chelsea). The program served as an engaging platform for young learners to explore the wonders of quantum science and appreciate its profound influence on modern technology.

### **Objectives**

- To commemorate the International Year of Quantum Science and Technology by promoting awareness of quantum science among young learners.
- To stimulate interest and curiosity in quantum physics and its role in shaping modern technology.
- To provide students with exposure to foundational concepts and historical milestones in the development of quantum mechanics.
- To encourage interactive and experiential learning through lectures, quizzes, virtual resources, and poster presentations.
- To foster inter-institutional academic interaction among students and faculty from different schools and colleges.
- To inspire students to pursue higher studies and research in physics and emerging quantum technologies.

### **Inaugural Session**

The program commenced with a formal inaugural ceremony. Prof. P. K. Ahluwalia, Professor of Physics (Retd.), Himachal Pradesh University, and President of IAPT, graced the occasion as the Chief Guest. In his address, he emphasized the importance of nurturing curiosity and research-oriented thinking among students to keep pace with the rapidly advancing domain of quantum science. Principal Dr. Sr. Rosily T.L. welcomed the chief guest and other participants.



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### **Technical Sessions**

Prof. P.K. Ahluwalia delivered an insightful talk on “*Louis de Broglie's Quantum Legacy*”, highlighting the revolutionary impact of de Broglie's wave-particle duality concept on the evolution of quantum mechanics. His lecture was followed by an interactive quiz session, conducted by the quiz masters Dr. Sarveena faculty St. Bede's College & Dr. Neha Katoch, faculty, Govt. Degree College Kotshera. The quiz saw active participation from the students, reinforcing their understanding of key quantum concepts in an engaging manner.

Following this, Dr. Sapna Sharma, Head of the Department of Physics, St. Bede's College, conducted a session titled “*Quantum Mechanics Through the Lens of Virtual Resources.*” Her presentation introduced students to innovative digital tools and virtual simulations that make abstract quantum phenomena more accessible and comprehensible. The session demonstrated how technology can serve as a bridge between theoretical understanding and visual experience.

### **Poster Exhibition**

A poster exhibition was organized as part of the event, showcasing the evolution of Quantum Science and Technology over the past century. The exhibits paid tribute to the pioneering scientists such as Max Planck, Albert Einstein, Schrödinger, Heisenberg, and Dirac & S.N.Bose whose groundbreaking work laid the foundation for this transformative field. The creativity and depth of research displayed by the participants were widely appreciated by the faculty and guests.

### **Documentary Screening**

The day concluded with the screening of a documentary titled “**Quantum Opportunities.**” The film explored the future possibilities of quantum research and its wide-ranging applications in computing, communication, cryptography, and materials science. It provided an inspiring glimpse into how quantum science continues to shape the technological frontier of the 21st century.

### **Conclusion**

The event was attended by the Principal, members of the Science Faculty of St. Bede's College, and faculty representatives from all participating institutions. The program



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succeeded in fostering scientific curiosity and enthusiasm among young minds, offering them valuable insights into the fascinating world of quantum mechanics.

Through this collaborative initiative, St. Bede's College and IAPT RC 23 reaffirmed their commitment to promoting science education and inspiring the next generation of physicists to explore, innovate, and contribute to the ever-evolving field of Quantum Science and Technology.

**Outcomes**

- Around 150 students from various institutions gained a broader and deeper understanding of quantum science and its applications.
- Participants developed an appreciation for the historical evolution and scientific legacy of pioneers in quantum mechanics.
- The interactive quiz and technical sessions enhanced students' conceptual clarity and critical thinking skills.
- Exposure to virtual simulations and digital learning tools helped students visualize and better comprehend abstract quantum concepts.
- The poster exhibition encouraged creativity, research orientation, and scientific communication skills among students.
- The documentary screening motivated students by highlighting future opportunities in quantum research and technology.
- The program successfully strengthened collaboration between St. Bede's College and IAPT, contributing to academic outreach and community engagement.



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The poster is dark blue and purple with white and yellow text. It features logos for IAPT and St. Bede's College Shimla. The text reads: 'St. Bede's College Shimla Department of Physics in Association with IAPT RC-23 invites you to celebrate International Year of Quantum Science & Technology IQ 2025 Engaging Young Minds: A Quantum Celebration'. It lists activities: 'Exhibition on 100 Years of Quantum Science', 'Talk on Louis de Broglie's Quantum Legacy and Quiz', and 'Documentary: Offering Quantum Opportunities'. The event is on '10:00 AM, 31st October @ Auditorium'. Contact: +918219665839. It includes icons of a sine wave, an atom, a film camera, and portraits of Louis de Broglie and Albert Einstein.





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## **ACTIVITY 6: NATIONAL SCIENCE DAY (2026) CELEBRATION**

National Science Day was enthusiastically celebrated with a series of engaging and educational activities organized by the Department of Physics.

### **Program 1:**

#### **Objectives of the Programs**

The program was centered on the theme ***“Women in Science: Catalysing Viksit Bharat.”***

The celebration aimed to:

1. Commemorate the discovery of the Raman Effect by **C. V. Raman**.
2. Highlight the contributions of women scientists in nation-building.
3. Promote gender equity in scientific research and innovation.
4. Inspire young women to pursue careers in STEM fields.
5. Foster scientific temper in alignment with the vision of *Viksit Bharat* (Developed India).
6. Encourage students to recognize the role of science and innovation in national development.



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### **Description of the Program**

On 24<sup>th</sup> February, 2026, the program commenced with the screening of a documentary on Sir **C. V. Raman**, highlighting his life journey, struggles, and the groundbreaking discovery of the Raman Effect. The documentary provided students with valuable insights into his dedication, perseverance, and immense contribution to the field of physics.

Following the screening, a quiz competition based on the documentary was conducted. The quiz tested students' understanding and encouraged active participation. The session was interactive, intellectually stimulating, and witnessed enthusiastic involvement from the participants.

Dr. Sapna Sharma, Head of the Department of Physics, delivered an inspiring talk on the theme "Unsung Heroes of Science." She shed light on lesser-known women scientists whose remarkable contributions have significantly shaped scientific progress. Her address motivated students to value perseverance, curiosity, and innovation in their academic and professional pursuits.

An exhibition of working models prepared by students of the Physics Department was another highlight of the celebration. The models demonstrated various scientific principles and reflected the students' creativity, teamwork, and practical understanding of theoretical concepts.

The Principal of the college, Sr. Rosily, addressed the gathering and encouraged students to cultivate a scientific mindset. She emphasized the importance of research, innovation, integrity, and dedication in contributing meaningfully to society.

### **Outcomes of the Program**

The National Science Day celebration successfully:

1. Enhanced students' awareness of India's scientific legacy.
2. Strengthened their understanding of the Raman Effect and its significance.



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3. Increased awareness about the pivotal role of women in scientific advancement.
4. Encouraged female students to aspire toward leadership roles in STEM.
5. Reinforced the message that inclusive participation in science is key to achieving *Viksit Bharat*.

The celebration concluded on a high note, leaving students inspired and motivated to explore the wonders of science and contribute positively to the scientific community and society at large.

**Department of Physics**  
is  
**CELEBRATING**  
**NATIONAL SCIENCE DAY 2026**

**Women in Science**  
Catalysing **Viksit Bharat**

**HIGHLIGHTS :**

- > Documentary on Sir C.V. Raman
- On the Spot quiz
- > Talk: Unsung Heroes of Science
- > Future Physicists at work
- > Slogan/Poster Making

**February 24, 2026**  
**Venue : Seminar room**  
**At 10:00 AM**  
**ST. BEDE'S COLLEGE, SHIMLA**



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## Program 2

**A webinar organised on 28.02.2026 by Physics Department in collaboration with Indian Association of Physics Teachers (IAPT) on ZOOM link.**

### Description:

National Science Day 2026 was celebrated with great enthusiasm, commemorating the remarkable contributions of **C. V. Raman** and focusing on the theme “*Women in Science: Catalysing Viksit Bharat.*” The program was organized as a webinar with distinguished speakers and active participation from teachers and students.

The session began with National Science Day greetings, followed by a warm welcome address by Dr. Sapna Sharma, Secretary of IAPT RC23. She highlighted the significance of the theme, emphasizing the crucial role of women scientists in nation-building and in realizing India’s vision of becoming a developed nation by 2047.

The webinar featured two eminent speakers: Dr. Y. C. Kamala, an experienced physics educator with over 33 years of teaching experience, and Prof. P. K. Ahluwalia, President of the **Indian Association of Physics Teachers**. The session was presided over by Prof. Kuldeep Sharma. The objective of the webinar was to celebrate India’s scientific



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achievements and to deliberate upon the role of women in shaping the scientific landscape of the country.

Prof. Y. C. Kamala delivered a thought-provoking lecture on the theme “Women in Science: Catalysing Viksit Bharat.” She emphasized the importance of increasing women’s participation in science and research to achieve India’s developmental goals by 2047. Presenting relevant data, she highlighted the existing gender gap in scientific careers, noting that while there is near parity in higher education enrolment, women constitute only about 18% of the R&D workforce. She drew attention to the “leaky pipeline” phenomenon between Ph.D. completion and appointments in scientific institutions and stressed the need for policy interventions. She also advocated for supportive measures such as the establishment of crèches in workplaces to assist working parents. While appreciating the government’s initiatives to enhance women’s participation in science, she underscored the need for sustained, collaborative efforts across sectors.

Prof. P. K. Ahluwalia delivered an insightful lecture on the life and scientific contributions of **C. V. Raman**, elaborating on his pioneering work and the discovery of the Raman Effect. He also spoke about the inspiration Raman drew from leaders such as **Jawaharlal Nehru**. Prof. Ahluwalia recommended several books for further reading on Raman’s life and legacy, encouraging participants to explore the depth of his scientific journey.

The session was highly informative and well-received by the audience. The program concluded with a formal vote of thanks proposed by Dr. Sapna Sharma, expressing gratitude to both speakers and participants for their valuable contributions.

The webinar successfully celebrated the spirit of National Science Day while reinforcing the importance of women’s empowerment in science as a cornerstone for achieving the vision of *Viksit Bharat*.



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In Collaboration with

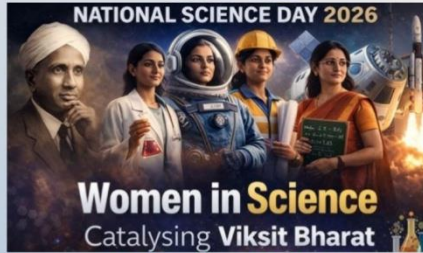


INDIAN ASSOCIATION OF PHYSICS TEACHERS

(IAPT) RC23

Celebrates

NATIONAL SCIENCE DAY 2026



Women in Science

Catalysing Viksit Bharat

through a Webinar

**INVITED SPEAKERS :**



**PROF. P.K. AHLUWALIA**  
National President, IAPT

Topic: Renaissance Man of Indian  
Science: Bharat Ratna CV Raman



**28th February 2026**

6:15 PM (IST)

Convener :

Dr. Sapna Sharma



**PROF. Y.C. KAMALA**

GOVT. FIRST GRADE COLLEGE, TUMAKURU &  
MALLESHWARAM BANGALORE

Topic: Women in Science :  
Catalysing Viksit Bharat

Organising committee :

Dr. Kuldeep Sharma  
Dr. Chhavi Kashyap  
Dr. Ram Murti Sharma  
Dr. Dinesh Sharma



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## Women in Science : Catalysing Vikasita Bharath

**Dr Y C Kamala**  
Associate Prof of Physics  
Govt First Grade College Tumkur and Malleshwaram Bangalore.

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PK AHLUWALIA  
Sapna Sharma  
Dr Kuldeep Kumar Sharma  
Meenakshi Sayal  
Sr Dr Susai  
**Y C Kamala**  
Y C Kamala  
Srilatha  
Srilatha

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## Nobel Prize and Women

**The Nobel Prize Gender Gap**  
Nobel Prize winners between 1901 and 2023 by category and gender

Category	Female	Male
Total	95	220
Peace	19	92
Literature	17	103
Medicine	13	214
Chemistry	4	186
Physics	5	220
Economics	3	90

Source: Nobel.org  
<https://www.statista.com/chart/2805/nobel-prize-winners-by-gender/?srsltid=AfmBOoGbcUeVW3aQLZza-1zPG-G>

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PK AHLUWALIA  
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Dr Kuldeep Kumar Sha...  
Sr Dr Susai  
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Recording... Sign in

Raman's Assistant Account General's Office Room










National Audits and Accounts Academy Museum, Shimla



PK AHLUWALIA

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 PK AHLUWALIA	 Sapna Sharma	Y C Kamala Y C Kamala	 Dr. Kuldeep Kumar Sharma	Dr. Manjula Shar... Dr. Manjula Sharma
aastha aastha	 Y C Kamala	aanya jaret aanya jaret	Sachin Pandey Sachin Pandey	Somesh Gupta Somesh Gupta
Chaudhary sahab Chaudhary sahab	 Minaxi Sharma	D Deepak Negi	 Sr. Dr. Susai	 Meenakshi Sayal
Jyoti Kalia Jyoti Kalia	Rohan Rohan	Yashasvi Dhadwal Yashasvi Dhadwal	B Bhanvi Sharma	Abhishek Bhard... Abhishek Bhardwal
Hemanjali Sharma Hemanjali Sharma	Sanjeev Sanjeev	Dr. Sanjay Kr Sh... Dr. Sanjay Kr Sharma	Rakshita Rakshita	M Mr. ANIRUDH



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## **ACTIVITY 7: WORKSHOP**

### **Inside Artificial Intelligence: From Origins to Real-World Impact and Ethical Innovation**

**Date:** 10.03.2026

**Venue:** COE lab

A workshop titled *“Inside Artificial Intelligence: From Origins to Real-World Impact and Ethical Innovation”* was organized through the collaborative efforts of the Indian Association of Physics Teachers (IAPT) RC23, the National Institute of Technology Hamirpur, and the St. Bede's College. The program was jointly conducted by the Department of Physics and Photonics, NIT Hamirpur, and the Department of Physics, St. Bede's College, with the aim of introducing students and educators to the rapidly developing field of Artificial Intelligence (AI) and its growing influence across disciplines.

The workshop featured expert sessions delivered by Ajay Mokta and Dishant Gupta, professionals from the technology company Unisole, who shared their knowledge and experience in Artificial Intelligence, Machine Learning, and emerging digital technologies.

#### **Objectives of the Workshop**

The main objectives of organizing this workshop were:

1. To introduce the fundamental concepts of Artificial Intelligence and trace its development from early computational ideas to modern intelligent systems.
2. To highlight real-world applications of AI in various sectors such as healthcare, education, finance, automation, and scientific research.
3. To encourage interdisciplinary learning, particularly for physics students, by demonstrating the role of data science and machine learning in modern scientific investigations.
4. To create awareness about ethical innovation in AI, including issues related to data privacy, algorithmic bias, transparency, and responsible technology use.



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5. To motivate students to explore career opportunities and research avenues in Artificial Intelligence, Machine Learning, and related fields.

### **Description of the Workshop**

The workshop provided an engaging and informative exploration of Artificial Intelligence, beginning with its historical origins and evolution. The speakers explained how AI developed from early rule-based computational systems into modern machine learning and generative AI technologies that are transforming industries worldwide.

Ajay Mokta discussed the foundational concepts of Artificial Intelligence and Machine Learning, explaining how intelligent systems learn from data and identify patterns to make predictions or decisions. He emphasized the importance of computational thinking, problem-solving skills, and programming knowledge for students aspiring to work in AI-related domains.

Dishant Gupta elaborated on real-world applications of AI, presenting examples from areas such as predictive analytics, automation, natural language processing, and smart technologies. Through practical insights, participants gained a better understanding of how AI tools are used to solve real-world problems and enhance efficiency in multiple sectors.

A significant part of the workshop focused on ethical innovation in Artificial Intelligence. The speakers highlighted the growing need for responsible development and implementation of AI technologies. Topics such as algorithmic fairness, data security, transparency, and accountability were discussed, encouraging participants to consider the broader societal impact of intelligent systems.

The sessions also included interactive discussions, where students and faculty members actively engaged with the speakers. Participants raised questions about skill development, future research opportunities, and career prospects in AI and Machine Learning, making the workshop highly engaging and informative.

### **Outcomes of the Workshop**

The workshop proved to be highly beneficial for all participants. The key outcomes include:



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1. Improved understanding of Artificial Intelligence, including its origins, development, and modern applications.
2. Greater awareness of interdisciplinary opportunities, particularly the integration of AI with physics, data analysis, and scientific research.
3. Exposure to emerging career paths in Artificial Intelligence, Machine Learning, and data science.
4. Enhanced awareness of ethical considerations in AI, encouraging responsible and thoughtful use of advanced technologies.
5. Motivation among students and faculty to explore AI tools and technologies for innovation, research, and academic development.

**Conclusion**

The workshop was a valuable academic initiative that successfully introduced participants to the rapidly evolving world of Artificial Intelligence. The insightful sessions delivered by Ajay Mokta and Dishant Gupta provided participants with a balanced perspective on both the technological potential and ethical responsibilities associated with AI.

The collaborative efforts of the Indian Association of Physics Teachers (IAPT RC23), the National Institute of Technology Hamirpur, and the St. Bede's College ensured the successful organization of this workshop. The event inspired students and educators to explore Artificial Intelligence as an important interdisciplinary field with significant potential for scientific innovation and societal development.



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**MISSION TO MAKE HIMACHAL SKILLFUL**

**WORKSHOP ON: INSIDE ARTIFICIAL INTELLIGENCE, FROM ORIGINS TO REAL-WORLD IMPACT AND ETHICAL INNOVATION**

**ORGANIZED BY INDIAN ASSOCIATION OF PHYSICS TEACHERS (IAPT) REGIONAL COUNCIL RC-23, HIMACHAL PRADESH**

**IN COLLABORATION WITH**  
Department of Physics and Photonics Science, NIT Hamirpur  
**AND**  
Department of Physics & Computer Science St. Bede's College, Shimla

**Organizing Committee**

 <b>DR. KULDEEP SHARMA</b> Coordinator Associate Professor, DoPPS, NIT Hamirpur (President IAPT RC 23)	 <b>DR. SUBHASH CHAND</b> Chairman Head, Deptt. of Physics & Photonics Science, NIT Hamirpur	 <b>DR. (SR.) ROSILY T.L.</b> Co-Chairman Principal, St. Bede's College, Shimla
 <b>AJAY MOKTA</b> DoPPS Speaker Founder Unisoole	 <b>DISHANT GUPTA</b> DoPPS Speaker Research Associate at Unisoole	 <b>MS. NEHA WALLIA</b> Co-Coordinator

**CHIEF ADVISORY COMMITTEE**  
Prof. P.K. Ahluwalia,  
National President IAPT  
Prof. Rekha Ghorpade,  
Gen. Secretary IAPT

**TIMINGS**  
**10:00 AM - 12:00 PM**  
10 MARCH, 2026

**ORGANIZING SECRETARY**  
Prof. Sapna Sharma,  
Gen. Secretary IAPT-RC23

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