



## Activity Report

### Science Talk on the Occasion of National Science Day

**Theme:** *Indian Knowledge System & Modern Scientific Research*

**Date:** 27 February 2026

**Venue:** Chemistry Seminar Room, Christ Church College, Kanpur

**Organised by:** Department of Physics in association with the Institution's Innovation Council (IIC), Christ Church College, Kanpur

### Introduction

The Department of Physics, in association with the Institution's Innovation Council of Christ Church College, Kanpur, organized a Science Talk on 27<sup>th</sup> February 2026 to mark the celebration of National Science Day. The day is celebrated annually on 28 February to commemorate the discovery of the Raman Effect by Nobel Laureate Sir C. V. Raman in 1928.

The event aimed to highlight the relevance of science in everyday life, promote scientific temper among students, and explore the integration of the Indian Knowledge System with contemporary scientific research. The program also focused on scientific innovation, the innovation ecosystem, and emerging areas of research such as Spintronics.

### Inaugural Session

The programme commenced with a warm welcome by **Dr. Satya Prakash Singh**, Incharge of the Department of Physics. In his introductory remarks, he explained the objective of the programme and emphasized the importance of science in modern education and society. He encouraged students to cultivate scientific temper, critical thinking, and innovation. He also urged educators to create an environment where ideas are respected, experimentation is encouraged, and perseverance is celebrated.

In his address, **Dr. Manish Kapoor, President, IIC** discussed the importance of innovation and incubation in the scientific ecosystem. He explained how innovative ideas can be transformed into practical solutions through institutional support systems such as innovation cells and incubation centres. He encouraged students to actively engage in problem-solving, explore entrepreneurial ventures, and utilize incubation platforms for prototyping and scaling their ideas.

**Dr. Shweta Chand**, Vice Principal of the college, delivered an insightful address on the historical background and significance of National Science Day. She highlighted the ground-breaking discovery of the Raman Effect by Sir C. V. Raman and explained its lasting scientific importance. She also emphasized how the spirit of scientific inquiry reflected in such discoveries aligns with the principles of the Indian Knowledge System, which encourages observation, logical reasoning, and the pursuit of knowledge.

## **Keynote Lecture on Spintronics**

The **Chief Guest, Dr. Rohit Medwal**, delivered an engaging and informative lecture on the emerging field of Spintronics and its modern applications. He introduced the concept of spin transport electronics, explaining that spintronics is an advanced area of physics and electronics in which the intrinsic spin of an electron, along with its charge, is utilized to carry information in electronic devices.

Unlike conventional electronics that rely solely on electric charge, spintronics exploits electron spin and its magnetic moment for data storage and transfer, thereby offering greater efficiency and performance. He discussed several applications of spintronics, including non-volatile memory technologies such as Magnetic Random Access Memory (MRAM), improved hard disk technologies, and its potential role in quantum computing and magnetic sensing devices.

Dr. Medwal also elaborated on the underlying physics that connects quantum mechanics with practical electronic devices, paving the way for faster, smaller, and more energy-efficient technologies. During his lecture, he introduced several advanced experimental techniques and concepts, including Magnetic Domain Imaging using Magnetic Force Microscopy (MFM), Spin Transfer Torque, spin currents, and the differences between charge current, pure spin current, and spin-polarized current. Additional concepts such as spin current induced domain wall motion, spin filters, magnetization dynamics, spin pumping, and the Inverse Spin Hall Effect were also discussed.

During his address, Dr. Rohit Medwal also highlighted the connection between the Indian Knowledge System and modern scientific research. He explained that ancient Indian traditions emphasized systematic observation, logical reasoning, and the pursuit of knowledge about nature, principles that form the foundation of contemporary scientific methodology. According to him, modern interdisciplinary fields such as Spintronics reflect the same spirit of inquiry and innovation that has long been encouraged within India's knowledge traditions.

## **Interaction and Discussion**

Following the lecture, an interactive question-and-answer session was conducted in which students enthusiastically engaged with the speaker. The discussion covered topics related to electron spin properties, technological applications of spintronics, career opportunities in scientific research, and the process of initiating innovation projects within academic institutions. The speakers also guided students on how institutional mechanisms support young innovators and researchers.

## **Conclusion**

The programme concluded with a vote of thanks delivered by Dr. Ashutosh Dwivedi, who expressed gratitude to all dignitaries, faculty members, students, and volunteers for their valuable contributions to the success of the event.

The Science Talk effectively highlighted the essence of National Science Day by celebrating scientific discovery, innovation, and progress while emphasizing the connection between the Indian Knowledge System and modern scientific research. The event witnessed active participation from 18 faculty members, 92 undergraduate students, and 10 postgraduate students, making it a meaningful academic engagement for the college community.





# Christ Church College, Kanpur



**DEPARTMENT OF PHYSICS**  
In association with  
**Institution's Innovation Council**



**NATIONAL SCIENCE DAY**



(Knowledge, Honour,  
Opportunity  
and Joy)

On  
**Indian Knowledge System and  
Modern Scientific Research**

Join us to turn  
"What IF" into  
"WHY NOT!"

**Date : 27th February 2026**  
**Time : 10:30 AM to 11:30 AM**  
**Venue : Chemistry Seminar Room**

**Chief Guest : DR. ROHIT MEDWAL**  
Department of Physics, IIT Kanpur

**Chairman**  
Prof. Vinay John Sebastian  
Principal

**Convenor**  
Prof. Satya Prakash Singh  
Incharge, Deptt. of Physics

**Co-Convenor**  
Dr. Manish Kapoor  
President, IIC

**Organizing Secretary**  
Dr. Ashutosh Kumar  
Dr. Ashutosh Dwivedi



Kanpur, Uttar Pradesh, India  
Shivala Road, Kurswan, Kanpur, Uttar Pradesh 208001, India  
Lat 26.471077, Long 80.353391  
Friday, 27/02/2026 10:51 AM GMT+05:30  
Note : Captured by GPS Map Camera

Kanpur, Uttar Pradesh, India  
Shivala Road, Kurswan, Kanpur, Uttar Pradesh 208001, India  
Lat 26.470946, Long 80.353420  
Friday, 27/02/2026 11:02 AM GMT+05:30  
Note : Captured by GPS Map Camera



