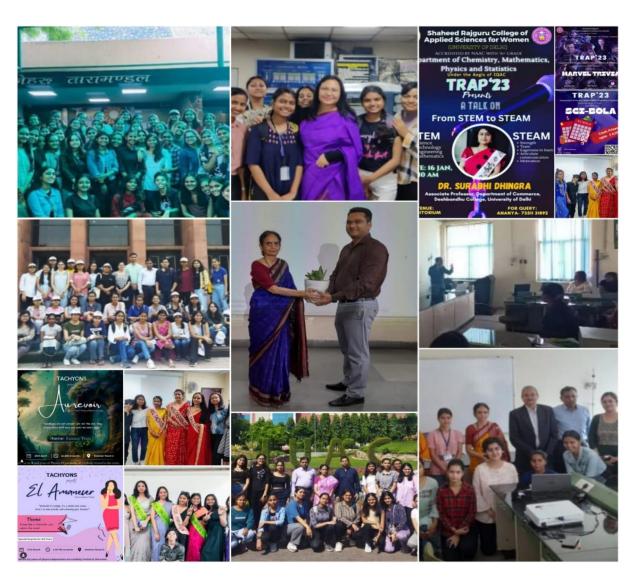
# **DEPARTMENT OF PHYSICS 2022-2023**

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11.	Session on "How Science Works"	May 15, 2023	10-11



## 1. Visit to Nehru Planetarium

One day visit to Nehru Planetarium, Teen Murti House, New Delhi was organized for the students and teachers on 2 September 23, 2022. Total 55 students along with 07 teachers (Dr. Alka Vohra Kuanr, Dr. Ashok Kumar, Dr. Amit Kumar, Dr. Rashmi Verma, Dr. Pooja Sharma, Dr. Rajan Goyal, and Mr. Ginminlen Touthang). It was organised to make students learn the mysteries of the universe. It gave students insight into the birth of the universe. The Big Bang and the various distinct shapes of galaxies like Andromeda galaxy and the Milky Way galaxy.



## 2. Visit to CSIR-National Physical Laboratory (NPL)

One day visit to CSIR-National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi was organized for the students and teachers on September 28, 2022. Total 31 students along with 04 teachers (Dr. Ashok Kumar, Dr. Manoj Kumar Jaiswal, Dr. Pooja Sharma, and Mr. Ginminlen Touthang). It was organised to let students learn about the usage of various scientific equipment. Students learned about various scientific instruments and their working through various scientists in the Laboratory.



# 3. Visit to Inter University Accelerator Centre (IUAC)

One day visit to Inter University Accelerator Centre (IUAC), Aruna Asaf Ali Marg, Delhi was organized for the students and teachers on October 14, 2022. Total 24 students along with 03 teachers (Dr. Alka Vohra Kuanr, Dr. Kishan Das, and Dr. Manoj Kumar Jaiswal). It was organised to let students know the importance of nuclear sciences in the modern world. Students learned about various scientific instruments (Particle Accelerators) and their working through various scientists in the Centre.



## 4. Talk on "Optical Tweezers"

A talk was organised on 16 November, 2022 titled "Optical Physics" by Dr. Deepak K. Gupta, Scientific Officer E, Department of Atomic Energy, Indra Gandhi Centre for Atomic Research, Kalpakkam, Chennai, Tamilnadu. Total 28 students attended the session. He explained the students regarding Optical Tweezer and about its application. Students were made familiar to a new world of nano particles.



## 5. Technical Fest: TRAP-23

The Department of Physics organized its technical fest TRAP on 16<sup>th</sup>-17<sup>th</sup> January, 2023 with the coalition of the Department of chemistry, Department of Mathematics, and Department of

statistics. A total of three events were conducted altogether, one of which was a combined event with the other three departments.

#### **EVENTS ON JANUARY 16, 2023:**

- MARVEL TRIVIA fun game full of questions related to marvel universe. It was conducted in three rounds. It was conducted for knowledge and entertainment of students. Total 130 students from our college and other colleges participated in the event.
- FROM STEM TO STEAM A talk by Dr. Surbhi Dhingra, Professor at Delhi School of Economics and Co-founder POSHCA (NGO) on "steps to stay motivated". It was full of methods and techniques to stay motivated all the time and deliver our best performance.

#### **EVENTS ON JANUARY 17, 2023:**

• SCI-BOLA – In this event participants has to play tambola but with a little touch of science. The students has to solve the questions for a numerical value then mark it in the tables. Total 137 students from our college and other colleges participated in the event.





# 6. Visit to IUAC for National Science Day

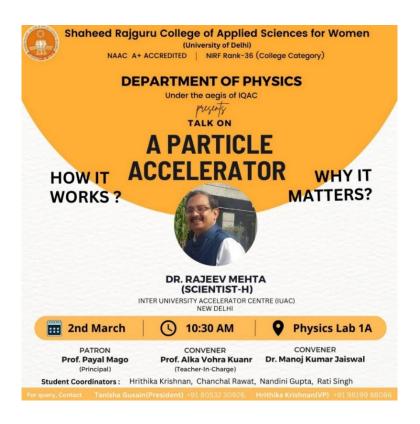
Total 08 students and 02 teachers (Dr. Alka Vohra Kuanr and Dr. Manoj Kumar Jaiswal) got the opportunity to celebrate National Science Day at Inter University Accelerator Centre (IUAC), Aruna Asaf Ali Marg, Delhi on 28 February, 2023. They received various presents and learnings from scientists of the Centre.



# 7. Talk on "A Particle Accelerator"

A talk was organised on the topic titled "A Particle Accelerator" by Dr. Rajeev Mehta, a Scientist-H at IUAC on 2 March 2023. Total 21 students attended the session. The talk was based on nuclear particle accelerator and what could be the future in it.





#### 8. Sessions on E-waste and Plastic waste

Two sessions were organised on the topic titled "E-waste" by the speaker Mr. Shekar Sharma and "Plastic waste" by Mr. Ravi Chaudhary on 20 March, 2023. Total 61 number of students attended the session. They inspired about E-waste and Plastic management and also taught various methods of managing plastic and waste etc.





# 9. EL AMANEVER: Fresher's Party of the Batch 2022-2025

The Department of Physics organised EL AMANEVER: Fresher's party of the batch 2022-2025 on 27<sup>th</sup> of March in which the theme was chosen to be the movie character you adore the most. The Batch of 2022-2025 attended the party along with the host Batch of 2021-2024 and Batch 2020-23.



## 10. AU REVOIR: Farewell Party of the Batch 2020-2023

The Department of Physics organised AU REVOIR: Farewell party of the batch 2020-2023 on 24<sup>th</sup> of April in which the theme was chosen to be fantasy prom. It was conducted to motivate the students and wish them luck for future. The Batch of 2020-2023 attended the party along with the host Batch of 2021-2024 and Batch 2022-25.



## 11. Session on "How Science Works"

The Department of Physics organised a session on "How Science Works" by Dr. Kishan Sinha, Cambridge Programme Coordinator and Head of Professional Development at HVB Global Academy (Mumbai) on May 15, 2023. Total 18 students attended the session. In the session, he delivered lecture on "How we create and use (mathematical) models to present and understand various aspects of physical reality". The speaker also discussed about the mathematical origin of the concepts of Electric Field and Electric Field Lines.

## Shaheed Rajguru College of Applied Sciences for Women University of Delhi

### 'How Science Works' Series

How we create and use (mathematical) models to represent and understand various aspects of physical reality

by Dr Kishan Sinha

### Session 1: Representation vs Reality

#### Case in point: Mathematical Origin of the Concepts of Electric Field and Electric Field Lines

In the first instalment of this series, we will discuss the idea of representation used in science as a way to mathematically model certain aspects of physical reality. Such a representation, when subjected to mathematical analysis, reveal hidden relationships and properties and provide deep insights into the mechanics of the physical world. I will consider the case of electrostatics governed by Coulomb's inverse square law and create a mathematical model that leads to the notion of electric field lines. I will then demonstrate how the notion of electric field lines naturally leads to Gauss's law of electrostatics.

#### Date and time:

Monday 15 May 2023 11:00 am to 1:00 pm

# Certificate of attendance will be awarded to the participants at the end of the session.

About the speaker: Dr Kishan Sinha earned his master's degree in physics from IIT Madras and doctorate in condensed matter physics from the University of Nebraska-Lincoln. He then moved into the field of education and has been working to develop tools and resources with the aim to make quality education accessible to students across the country regardless of their personal circumstances. At present, he is the Cambridge Programme Coordinator and Head of Professional Development at HVB Global Academy (Mumbai).