

हंसराज महाविद्यालय

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**HANSRAJ COLLEGE**

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**NAAC ACCREDITED 'A++' GRADE COLLEGE**

**2022-2023**

**Name of the Department/Society: Rasayanatva- Chemical Society**


**Name of the Event: Laboratory: The Role of Chemistry in Infrared Detector Technology**

**Date of the Event: 14th January 2023**

**RASAYANATVA**  
The Chemical Society of Hansraj College  
Presents a Talk on  
**The Role of Chemistry in  
Infrared Detector Technology**

**Date : 14 January 2023**  
**Time : 2 pm to 3:30 pm**  
**Platform: Google Meet**

**Speaker : Dr. R.S.Saxena**  
Scientist F  
Solid State Physics Laboratory  
(DRDO)  
Lucknow Road  
Timarpur Delhi - 110054

Scan/Click Here To Join  
  
<https://meet.google.com/ehb-zrme-vcr>

Patron Prof.(Dr.) Rama  
Platinum Jubilee Celebration Convenor Dr. Shailu Singh  
Teacher in charge Dr. Manoj kumar  
Event Convenor Dr. Shweta Rastogi  
Chemical Society Convenor Dr. Anjali Saxena

On 14<sup>th</sup> January, 2023, a talk on “The Role of Chemistry in Infrared Detector Technology” was organized by the Chemical Society (RASAYANATVA), Department of Chemistry, Hansraj College from 2:00 p.m. onwards in online mode under the guidance of Prof. (Dr.) Rama, (Patron) and Dr. Shailu Singh (Platinum Jubilee Celebration Convenor). The other members involved are as follows:

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Dr. Manoj Kumar : Teacher-in-Charge  
Dr. Shweta Rastogi : Event Convenor  
Dr. Anjali Saxena : Chemical Society Convenor

The Resource Person for the talk was Dr. Raghvendra Sahai Saxena, Scientist F, SSPL (DRDO), Delhi.

At the onset of the event, Aniket and Vishakha welcomed the principal madam, the speaker and all the attendees and requested Dr. Shweta Rastogi to introduce the speaker. Dr. Shweta Rastogi introduced Dr. R. S. Saxena, highlighting his field of interest, achievements, awards, research publications and membership of professional societies. She also informed the audience that Dr. Saxena is ASQ (American Society for Quality) certified reliability engineer and an editor of international journals. Finally, she invited him to deliver his talk on the topic "The Role of Chemistry in Infrared Detector Technology"

Dr. Saxena started by introducing his work place, i.e., Solid State Physics Laboratory. He told that the SSPL is a premier laboratory of DRDO and the only place in the country where the fabrication technology of state-of-the-art semiconductor devices are being developed. He highlighted the core competence area of SSPL and the material/device characterization facilities available at SSPL.

The technical content of the talk was divided in three sections. In the first section, Dr. Saxena introduced the infrared technology along with its applications and benefits. He elaborated the active and passive modes of imaging and the difference between the two with explanation of how passive imaging is beneficial in war scenario.

In second section, he explained the different wavelength bands of infrared radiations that can travel through atmosphere without (or with very less) attenuation. He briefly discussed the semiconductor materials that are mostly used in detector fabrication for these infrared bands and explained how the materials and the detector configurations are selected for the targeted applications.

In the third part of the talk, he discussed the importance and role of chemistry in fabrication technology of detector arrays. He told that once the material is decided, the chemistry starts playing role in variety of the processes, including material growth, surface preparation, passivation, defect/dislocation revealing/control, pattern transfer for pixelization. He explained all these roles with illustrations. He showed the results of InGaAs based IR detector fabrication and laboratory IR camera development done at SSPL.

At the end, he answered the queries of the students and concluded his talk with thanks to the organizers. Finally, Dr. Shweta Rastogi gave vote of thanks to the speaker and all those directly or indirectly contributed in the success of the event.

Some glimpses of the event:

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