

FRIDAY COLLOQUIUM

Ms. M Shakthi Maheshwari, a third-year BSc PEM student, presented an intriguing research session on the applications of nanoparticles in pyrometry and a comprehensive review on the use of 2D nanoparticles in optical thermometers. The presentation, attended by the executive council members, delved into a novel topic that sparked the interest of the audience.

The central focus of the presentation was on thermometry, encompassing various types, and shedding light on the advantages and significance of pyrometers. Ms. Shakthi Maheshwari provided a thorough understanding of the origin of thermometry and the different types of thermometers, emphasizing their importance in various applications.

The presenter extensively covered the role of nanoparticles in pyrometers, highlighting two crucial types—Graphene and Mxenes. She traced the experimental discovery of graphene in 1962 by Hans-Peter Boehm, and the groundbreaking work by Andre Geim and Konstantin Novoselov in 2004, which led to their Nobel Prize in 2010. Emphasizing graphene's exceptional properties, such as high conductivity, light absorption capabilities, and flexibility, Ms. Shakthi Maheshwari illustrated its significant benefits in pyrometry.

The audience was further educated on Mxenes, discovered in 2011 by researchers at Drexel University of Pennsylvania, USA. Drawing parallels with graphene, Ms. Shakthi Maheshwari elucidated on the high conductivity and light-absorbing properties of Mxenes, obtained through the molten salt etching method. Notably, she highlighted the advantages of Mxenes over Graphene, providing a comprehensive overview of their applications.

The presentation concluded with an engaging Q&A session, where the audience posed questions about the efficiency of pyrometers, inquired about various nanoparticle devices, and sought advice on career options in the field. Vignesh Sir, concluding the session, encouraged attendees to explore and present exciting topics while fostering an environment for the exchange of diverse views.

Ms. M Shakthi Maheshwari's presentation not only unveiled the fascinating world of nanoparticles in pyrometry but also stimulated thoughtful discussions and inquiries. The session exemplified the importance of exploring cutting-edge research topics and sharing knowledge within the academic community.

For the Images of the Friday Colloquium, kindly refer to the Photo Gallery:
<https://www.sju.edu.in/gallery/76>