

PHYSICS FEST -2023

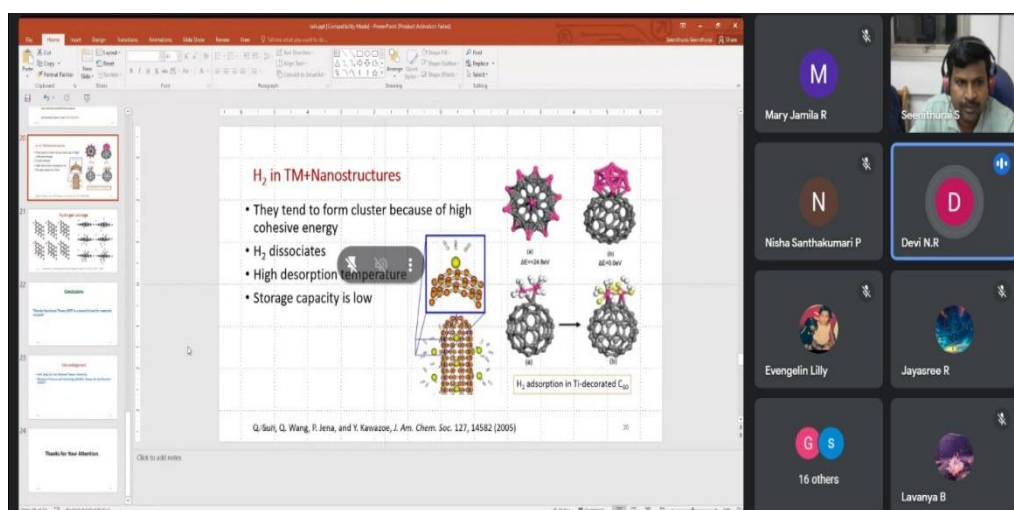
The Intra-Collegiate Physics Fest Association has concluded a successful year of promoting a deeper understanding and appreciation of physics among students within our college community. Our flagship event, the Intra-Collegiate Physics Fest, featured engaging activities such as Quiz, Debate, Poster presentation, Physics memes, Model making and Oral presentation. Mr. Noah Eastman, Assistant Professor, Department of Physics, Voorhees College Vellore delivered the Inaugural Address on 'Touring on Nanoworld'. It was followed by an interactive session with the students. Dr. Saravana Kumar, Assistant Professor at Muthurangam College, Vellore, who served as the event judge, demonstrated exemplary judgment in his role. and his evaluation and decision-making were conducted with excellence and precision. Dr. Seenuvasa Kumaran, the Principal of Government Arts and Science College, Tirupattur, delivered the valedictory address. On September 7, 2023, our association successfully conducted interdepartmental and intercollegiate events, followed by a prize distribution ceremony. The Intercollegiate Physics Fest 2023 overall Trophy was won by Sacred Heart College, Tirupattur.

- No of students Registered: 120
- No of Students Attended : 100



INTERNATIONAL WEBINAR

An International Webinar titled “Unlocking the Power of Density Functional Theory: From Quantum Complexity to Practical Applications” was organized on 12 September 2023 by the Department of Physics. The aim of the webinar was to introduce participants to the fundamentals and advanced applications of Density Functional Theory (DFT) in modern scientific research. The invited speaker for the session was Dr. Sonai Seenithurai, Postdoctoral Researcher in the Department of Physics at National Taiwan University, Taiwan. During the lecture, Dr. Sonai Seenithurai explained the theoretical background of Density Functional Theory and its significance in studying electronic structures of materials. The speaker discussed how DFT helps scientists understand complex quantum mechanical systems and its applications in materials science, nanotechnology, catalysis, and condensed matter physics. Practical examples were presented to illustrate how DFT simulations assist researchers in predicting material properties and designing new functional materials. The webinar was attended by 22 postgraduate students, who actively engaged in the session and gained valuable knowledge about computational physics and quantum simulations. The program concluded with an interactive discussion session, where participants clarified their queries related to DFT methodologies and research opportunities in computational physics.



The image shows a screenshot of a Zoom webinar. The main window displays a presentation slide titled "H₂ in TM+ Nanostructures". The slide contains the following text:

- They tend to form cluster because of high cohesive energy
- H₂ dissociates
- High desorption temperature
- Storage capacity is low

The slide also features several diagrams: a cluster of atoms, a Ti-decorated C₆₀ molecule, and a diagram illustrating H₂ adsorption in Ti-decorated C₆₀. At the bottom of the slide, the citation reads: "Q. Guo, Q. Wang, F. Jena, and Y. Kawazoe, J. Am. Chem. Soc. 127, 14582 (2005)".

On the right side of the screenshot, there is a grid of participant avatars. The visible participants are:

- Mary Jamila R
- Seenithurai S
- Nisha Santhakumari P
- Devi N.R
- Evangelin Lilly
- Jayasree R
- 16 others
- Lavanya B

SCIENCE EXPO

The Science Expo organized by the association emerged as a dynamic platform where the intellectual skill and creative insight of undergraduate students from all three years converged. The event showcased an impressive array of models that characterized the students' dedication to scientific exploration and technological innovation. Among the standout projects were motion sensors that demonstrated a sophisticated understanding of detection mechanisms, blind sensor glass incorporating cutting-edge accessibility technology, Bluetooth speakers showcasing wireless audio advancements, piezoelectric effect demonstrations revealing the students' grasp of material science, and weather stations offering insights into meteorology and environmental monitoring. The diverse range of models underscored the depth and breadth of scientific curiosity among the participating students. Adding a layer of expertise to the event, the projects were evaluated by Dr. (Sr) Venci. X, a discerning judge who brought valuable insights and industry perspective to the assessment process. The culmination of the Science Expo was marked by the announcement of three well-deserved prizes, acknowledging the exceptional efforts and ingenuity displayed by the participating students. This event not only served as a celebration of scientific inquiry but also fostered a sense of community and collaboration among the budding scientists, inspiring them to continue pushing the boundaries of knowledge and innovation.



INDUSTRIAL VISIT

An industrial visit was organized to the Sophisticated Analytical Instrument Facility (SAIF) at Indian Institute of Technology Madras, Chennai, on 23 February 2024. The purpose of the visit was to provide students with practical exposure to advanced analytical instruments used in scientific research. During the visit, the students were introduced to various sophisticated instruments such as Scanning Electron Microscope (SEM), X-Ray Diffraction (XRD), and Fourier Transform Infrared Spectroscopy (FTIR). The experts explained the working principles

and applications of these instruments in material characterization and research. The visit helped students gain a better understanding of modern analytical techniques and their importance in physics and interdisciplinary research.

