

One-Day Workshop on Materials Characterization Tools (XRD & SEM) and Simulation Through DFT Held at MGIT

The Department of Physics and Chemistry, Mahatma Gandhi Institute of Technology (MGIT), Gandipet, in collaboration with the Telangana Academy of Sciences (TAS), organized a one-day workshop today (29-8-2026) on Materials Characterization Tools (XRD & SEM) and Simulation Through DFT.

The workshop brought together faculty members, researchers, scientists and students to enhance their understanding of advanced techniques used in materials characterization and their applications in research.

Addressing the gathering, the guest of honour Prof. K. Sudhakar Reddy, Vice-Principal, said that workshops of this nature provide valuable real-time exposure and practical insights into research. He further noted that the XRD technique is highly useful for students and faculty members, particularly in simulations and research-related studies.

Addressing the gathering, the Zonal In charge of Telangana Academy of Science (TAS) Prof. B. N. Reddy, said that the Telangana Academy of Sciences (TAS) is committed to promoting technological advancement. He emphasized that, in the present rapidly evolving technological environment, everyone should continuously update their knowledge and skills in emerging technologies.

Prof. S. Satyanarayana, Secretary of the Telangana Academy of Sciences (TAS) and Chief Guest of the workshop, stated that the roots of fundamental research lie at the institutional level. He urged faculty members to pursue research activities within their institutions while continuing their research contributions at the national level.

The workshop was conducted in a hybrid mode, with around 100 participants joining online and approximately 60 participants attending in person. During the technical sessions, Dr. Ashish Pathak, Scientist, DMRL, Hyderabad, delivered a lecture on Density Functional Theory (DFT) and its applications in various fields. Dr. K. Suresh, Scientist, ARCI, Hyderabad, delivered a lecture on Rietveld Refinement using XRD.

In his inaugural address, Prof. A. K. Singh, Chairperson of the workshop, highlighted the importance of materials and their characterization from a multidisciplinary perspective. He emphasized that a comprehensive understanding of materials characterization techniques is essential for advancing research across different scientific and technological disciplines.

At the conclusion of the workshop, certificates were distributed to the participants. Dr. B. Venugopal Rao, Head of the Department of Physics and Chemistry, proposed the vote of thanks and expressed gratitude to the resource persons, dignitaries, participants and organizers for contributing to the success of the workshop.

Staff of MGIT and delegates from various institutions participated in the program and the workshop provided an excellent platform for them to gain and share the knowledge in materials characterization techniques.