FRONTIERS IN BIOMATERIALS AND CRYSTALLOGRAPHY

NATIONAL SEMINAR (1-3 FEBRUARY 2024)

X-ray diffraction is one of the most significant developments of the 20th century. As of today, crystallography is an indispensable research tool that uses powerful techniques like X-ray diffraction, neutron diffraction, and electron diffraction. Demonstration of diffraction from crystals by Laue and co-workers in 1912 followed by the foundations of X-ray crystallography laid by William Lawrence Bragg and William Henry Bragg in 1914 led to understanding the composition and structure of matter at molecular and even atomic scale. Over the last 110 years, rystallography has advanced a lot and opened up several branches in Physics, Chemistry, Biology, Biotechnology, Pharmacology, etc. Most of the biologically significant molecules like drugs, proteins, nucleic acids and the ribosome were investigated by X-ray diffraction at atomic resolution to understand their biological functions. Many of the advanced materials exhibiting exotic magnetic and electric properties have a strong dependence on their crystal structure and in this context, their structure elucidation is very essential. Enormous contributions from X-ray crystallography have enriched the development of technological and medicinal applications.

About SPAP

The School of Pure and Applied Physics (formerly the Material Science department) is one of the departments that started along with the establishment of the Mahatma Gandhi University in 1983. Currently, the department is one of the premier research departments across various universities in India. The school comprises more than 20 researchers covering a wide area of research including biophysics, astrophysics, advanced materials, solar physics, optoelectronics, photonics and crystalline materials, sol-gel optics, ultrafast, and attosecond Science.

SCHOOL OF PURE AND APPLIED PHYSICS
MAHATMA GANDHI UNIVERSITY
KOTTAYAM - 686 560

SCOPE

Small Molecule Crystallography
Macromolecule Crystallography
Crystallography in drug design and pharmaceuticals
Crystal growth and characterization
Crystals for device applications
Powder diffraction & Rietveld refinement
Metal-organic framework
Functional materials: structure and defects
Smart Materials
Nano-biomaterials
Drug- macromolecular Interactions
Nanoparticle – Macromolecular interactions
Biomaterials
Biosensors
Biopolymers

ABSTRACT DEADLINE : 25/01/2024

Registration fees*
Students/Researchers : 250 INR
Teachers : 500 INR

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Targeted Audience: Teachers & Students of University departments/centers and affiliated colleges

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