



JOINT INTERNATIONAL SCHOOL

Basics and Applications of the Rietveld Method & Pair Distribution Function Analysis in Material Science (July 27 - 29, 2022)



Jointly Organized by

National Centre for Physics (NCP), Islamabad, Pakistan &

Max Planck Institute for Solid State Research (MPI-FKF) Stuttgart Germany

Introduction

The National Centre for Physics (NCP) in joint collaboration with Max Planck Institute for Solid State Research (MPI-FKF) Stuttgart Germany is organizing its first annual 'International School on Basics and Applications of the Rietveld Method & Pair Distribution Function Analysis in Material Sciences (ISBARM-22) from July 27 - 29, 2022. The three days' scientific activity will consist of invited lectures from renowned experts of various areas of Powder diffraction, Crystallography, Magnetism, Metallurgy, Material science and technology. In general, the school will cover the following topics:

- *Basics of powder diffraction & Rietveld Refinement in Material Science & Crystallography.*
- *Quantitative Phase Analysis (%QPA) with the Rietveld method. Different methods for quantifying the Amorphous content.*
- *Basics of total scattering measurements & Pair Distribution Function (PDF) analysis*
- *Crystal structure solution & refinement of planar & stacking faulted materials.*
- *Magnetic Structure Refinement and Neutron Spallation Sources.*
- *Determination of the Instrument Resolution Function (IRF) for powder diffractometers.*

Key Invited Speakers

- Prof. Dr. Robert E. Dinnebier (MPI-FKF Germany)
- Prof. Dr. Reinhard K. Kremer (MPI-FKF Germany)
- Dr. Sebastian Bette (MPI-FKF Germany)
- Dr. Maxwell W. Terban (MPI-FKF Germany)

Objective

The aim of this intensive course is to impart the Rietveld method and PDF analysis in theory and practice. Using selected examples, the entire process from profile fitting using fundamental parameters to crystal structure determination & refinement, total scattering analysis, and modelling of stacking faulted crystal structures will be explained. The combined analysis of the magnetic space groups & magnetic structure refinement on the neutron powder diffraction data alongwith practical examples on the analysis of technologically important materials will be presented.

Registration Fee

Professionals / Faculty Members: PKR. 15000/-

Students: PKR. 3000/-

Participation

Research students, post-doctoral researchers, faculty members and scientists/engineers actively involved in material science & technology research are encouraged to apply. A list of shortlisted participants will be available on the NCP website by July 02, 2022.

Note: It is mandatory for all the selected participants to attend Two Days ISBARM-22 Pre-School from 21 - 22 July, 2022.

How to Apply

For online registration, application form is accessible at: <http://ncp.edu.pk/isbarm-2022.php>

For Further Information

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Application Deadline

Thursday
June 30, 2022

