

WORKSHOP ON POWDER X-RAY DIFFRACTION *Material Characterization (PXRD-MC)*

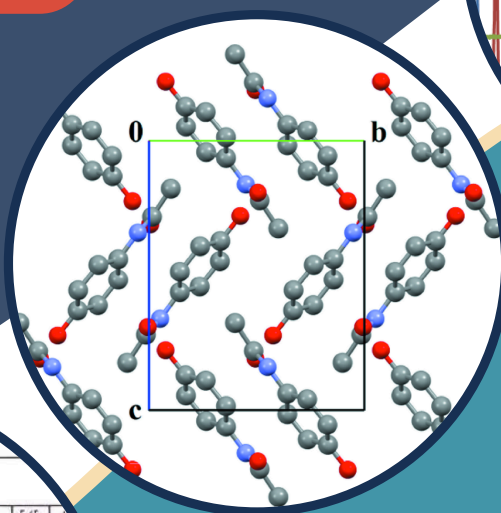
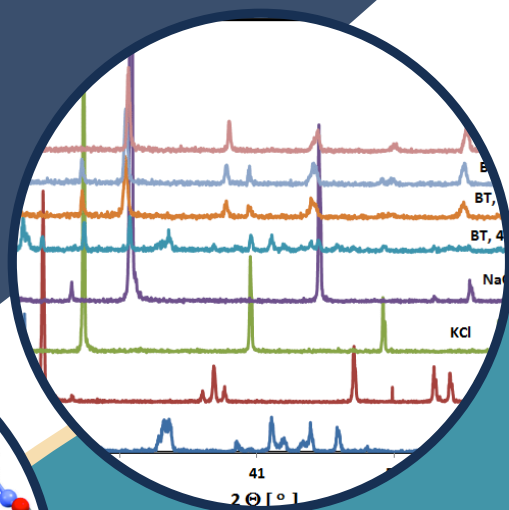
November 21 & 22, 2025

Prayoga Campus, Bengaluru

Organized by
Prayoga Institute of Education Research



REGISTER NOW



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In collaboration with

International Centre for Diffraction Data (ICDD)

&

Vivertana Distributors Pvt. Ltd.

The PXRD-MC will be highly interactive, combining lectures with hands-on sessions where participants will solve problems ranging from basic to advanced, reinforcing key concepts. PXRD-MC will cover both data mining using the ICDD PDF-5+® database and methods of analysis embodied in ICDD PDF-5+® Sieve+ and ICDD MDI JADE® Pro software.

Hands-on access to PDF-5+® and JADE® Pro will be available through a remote desktop server via web access. Attendees should bring their laptop with wireless web access (Edge, Chrome, Firefox).

Day 1 of the workshop will present the PDF-5+® databases, database overview, features, data mining capabilities and Sieve+ for phase identification and quantification (RIR method).

Day 2 will be qualitative and quantitative XRD analyses (Rietveld) using MDI JADE® Pro software.

In addition, materials characterization using the JADE Pro Toolkit features will be demonstrated. **The PDF-5+® database and JADE® Pro software will be freely accessible to all registered participants through a remote desktop server for a period of 3 weeks after the workshop.**

Note: Mac laptop (macOS) users should have a Windows emulator installed.

Speakers



Dr. Thomas Blanton

Executive Director, International Centre for Diffraction Data (ICDD), USA



Dr. Soorya N. Kabekkodu

Editor-in-Chief, International Centre for Diffraction Data (ICDD), USA



Prof. T. N. Guru Row

Emeritus Professor, SSCU, Indian Institute of Science, Bengaluru



Prof. Arun M. Umarji

Emeritus Professor, MRC, Indian Institute of Science, Bengaluru

Patron

Dr. H. S. Nagaraja

Founder and Chief Mentor, Prayoga

Convener


Dr. K. S. Nagabhushana

Director - Research, Prayoga

Selection will be based on a first-come, first-served basis. The maximum number of participants, with access to software, is 70 numbers.

Online application to register for the workshop will be available from October 07, 2025. After the application is submitted, the **first 70 applicants will be shortlisted for registration and details for the payment will be communicated.**

Registration


Students
₹1,000


Faculty Members
₹2,500


Industry Participants
₹8,000

Important Dates

OCTOBER 07	Registration Window Opens
NOVEMBER 01	Registration Window Closes
NOVEMBER 04	Announcement of shortlisted/waitlisted candidates
NOVEMBER 10	Last date for Registration payment

Note

- Refreshments and Lunch will be provided on November 21 & 22, 2025.
- Outstation participants will be provided accommodation based on availability. Contact the organizing team in advance.
- Attendance for all sessions is mandatory to receive the certificate of participation

For Queries, contact:

Mr. Sai Krishna - **9148983346**

Mr. Kishorkumar - **9035440906**

Prayoga is a not-for-profit research institution, registered under the Indian Trusts Act, established in 2015.

Recognised by DSIR, Govt. of India as a **Science and Industrial Research Organisation**.



www.prayoga.org.in

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Program Schedule - Day 1

November 21, 2025

 9.00 am onwards

 [Prayoga, Bengaluru](#)

Time	Event	Speaker
9:00 - 09:30 AM	Registration at Prayoga	
9:30 - 10:00 AM	Inauguration	
10:00 - 10:30 AM	High Tea	
10:30 - 11:00 AM	Powder X-ray Diffraction (PXRD) - Concepts & Applications	Prof. T. N. Guru Row
11:00 - 12:30 PM	Diffraction Geometry, Systematic Angular Errors and Calibration Procedures, Sample Preparation	Dr. Soorya N. Kabekkodu
12:30 - 01:00 PM	Setting up PDF-5+® and JADE® Pro access	
01:00 - 02:00 PM	Lunch Break	
02:00 - 03:30 PM	Hands- on Session: Introduction to Search/ Match Procedures with PDF-5/ Sieve+, PDF-5+ Database and Features Overview, Data mining	Dr. Soorya N. Kabekkodu
03:30 - 04:00 PM	Tea Break	
04:00 - 05:30 PM	Phase Identification Method Qualitative and Semi-quantitative Phase Analysis, Advanced Phase Identification (With Amorphous Component, Trace Phases), Additional Problem Solving, Q&A	Dr. Soorya N. Kabekkodu
05:30 - 06:00 PM	Key note lecture (online)	Dr. Thomas Blanton



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Program Schedule - Day 2

November 22, 2025

 9.30 am onwards
 [Prayoga, Bengaluru](#)

Time	Event	Speaker
09:30-10:00 AM	Data collection strategies	Prof. Arun M. Umarji
10:00 - 11:00 AM	Indexing, Introduction to profile functions, Fitting And quantity phase analysis using Rietveld method	Dr. Soorya N. Kabekkodu
11:00 - 11:30 AM	Tea Break	Dr. Soorya N. Kabekkodu
11:30 - 1:00PM	JADE pro hands-on sessions JADE pro features overview, Angular Calibration (Instrument Profile Curve, IPC), Pattern indexing Using JADE	
1:00 - 02:00 PM	Lunch Break	
02:00 - 03:30 PM	JADE pro hands-on sessions Whole Pattern Fitting (WPF) and Rietveld Refinement, Phase Identification and Quantitative Phase Analysis (Rietveld), Crystallinity Measurement, Crystallite size and Micro-strain Analysis	Dr. Soorya N. Kabekkodu
03:30 - 04:30PM	Q&A, Concluding Remarks and Feedback From Participants followed by High Tea	

Research at Prayoga

At Prayoga, our research is anchored around five key thematic areas — **Green Chemistry & Technologies, Advanced & Functional Materials, Earth Sciences, Wellness, and Agriculture & Food Sciences.**

These focus areas reflect our commitment to advancing scientific innovation that addresses real-world challenges that contribute to societal well-being and environmental sustainability in the years ahead.

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