Programme schedule

2nd Summer Short-Term Training Course on X-ray Diffraction: Theory, Methods and Workflow (XRD 2024)

July 08-13, 2024

Day/Date	Events	Time Schedule
Day 1 08. 07. 2024 Monday	Desk Registration & Inaugural Function L1: An expert lecture emphasizing the comprehensive overview of XRD analysis. L2: Introduction and Theory of X-ray diffraction L3: Understanding Crystallography	I:(09:30-10:00 AM) L1:External expert (10.30-11:15 AM) L2: CSK/PKP/JR (11.15 AM-12:15 PM) L3: JR (12:15-1:00 PM)
	L3: Structure factor, CIF P1: Demonstration of Equipments P2:Sample preparation: Powders Thin-films, Capillary/fibers, Single crystal, Biological samples	L3: PKP (03:00-04:00 PM) P1: CSK (03:00-04:00 PM) P2:CSK (04:15-05:15 PM)
Day 2 09. 07. 2024 Tuesday	L4: X-ray methods L5:Diffractometer: Theory and Instrumentation (Tube design, Goniometry) L6: Detector	L4: JR (09:30-10:30 AM) L5: CSK (11:00-12:00 PM) L6: PKP (12:00-01:00 PM)
	L7: Intensity of diffracted beam P3: XRD plotting, background correction P4: Structure factor (Practical)	L7: AV (02:00-03:00 PM) P3: JR (03:00-04:00 PM) P4: PKP (04:15-05:15 PM)
Day 3 10 07. 2024 Wednesday	P5: Peak identification L8: Lattice parameter calculation L9:Determination of crystal structure/Phase analysis (Qualitative)	P5: CSK (09:30-10:30 AM) L8: PKP (11:00-12:00 PM) L9: CSK (12:00-01:00 PM)
	P6: Determination of crystal structure/Phase analysis (Quantitative) L10: W-H Plot, Crystallite size and lattice strain (Theory) P7: Dislocation density	P6: CSK (02:00-03:00 PM) L10: PKP (03:00-04:00 PM) P7: CSK (04:15-05:15 PM)
Day 4 11. 07. 2024 Monday	P8: W-H Plot, Crystallite size and lattice strain (Practical) L11: Chemical analysis by x-ray fluorescence P9: Texture analysis	P8: PKP (09:30-10:30 AM) L11: JR (11:00-12:00 PM) P9: Dr. S. Das
	P10: Stress analysis P11: Demonstration with oxides sample P12: Exposure of Research Papers	P10: CSK (02:00-03:00 PM) P11: JR (03:00-04:00 PM) P12: PKP (04:15-05:15 PM)
Day 5 12. 07. 2024 Thursday	L12: SAED ring pattern TEM (Theory & Practical) P13: Demonstration with thin sample P14: Exposure of Research Papers	L12: PKP (09:30-10:30 AM) P13: CSK (11:00-12:00 PM) P14: JR (12:00-01:00 PM)
	L13: Fundamentals of Rietveld Refinement L14: Rietveld Refinement for cubic structure material L15: Rietveld Refinement for composite materials	L13: JR (02:00-03:00 PM) L14: PKP (03:00-04:00 PM) L15: CSK (04:15-05:15 PM)
Day 6 13. 07. 2024 Saturday	P15: Hands on Rietveld Refinement (Part I) P16: Hands on Rietveld Refinement (Part-II) P17: Exposure of Research Papers	P15: JR (09:30-10:30 AM) P16: PKP (11:00-12:00 AM) P17: CSK (12:00-01:00 PM)
	Valedictory function	02:00 PM onwards

CSK: Dr. C. Sasikumar, PKP: Dr. Piyush Kumar Patel, JR: Dr. Jyoti Rani, AV: Dr Abhinav Varshney
KB: Prof. Kantesh Balani SD: Dr. S. Das