

ICDD Powder Diffraction Workshop

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The purpose of this course is to provide participants with an understanding of the theoretical basis as well as the practical applications of X-ray powder diffraction as an analytical technique as it is currently used in today's laboratory. This knowledge and understanding are applicable whether the attendee works in academia, industry, or government laboratory, or whether they are a student, professor, researcher, or analyst.

As part of this course, the participant will have the opportunity to use the ICDD PDF-4+ database with worked examples for materials data mining and JADE PRO software for phase identification. Participants are invited to bring a laptop computer (Windows or MAC with Windows emulator, with USB port, and administrative privileges) to install a PDF-4+ 30-day license and JADE PRO software.

Course Outline:

- XRD and Crystallography
- Sample preparation
- The X-ray diffractometer. Data collection.
- Data mining using PDF-4 databases (including class participation worked examples)
- Phase Identification using PDF-4 databases and JADE PRO software (including class participation worked examples)
- Phase identification when you have no exact reference
- Quantitative analysis using JADE PRO software (including class participation worked examples)

