

# Short Courses and Workshops

## JCPDS - International Centre for Diffraction Data

### Short Course on Search/Match Methods

The JCPDS-International Centre for Diffraction Data will continue to offer three-day short courses on Search/Match methods at the Swarthmore, PA, headquarters of the International Centre and elsewhere (see attached schedule).

The courses, which are now in their 5th year, are intended to build proficiency of the user in the interpretation of experimental data, especially in the application of the information provided in the *Powder Diffraction File*. The courses should be useful to the novice as well as the experienced powder diffractionist, and all discussions start with the basic principles leading on to useful laboratory procedures. Workbooks are provided to all attendees and these contain a number of experimentally obtained X-ray diffraction data sets which are used as class exercises. During the workbook sessions, the classes are subdivided to match the needs and experience of the attendees.

The course will emphasize the nature and organization of the information in the *Powder Diffraction File* and retrieval and use of this information for interpreting experimentally collected diffraction data. The implications of the accuracy of measurement of d-spacings and intensities of experimental data with respect to use of the powder file will be discussed, as well as common instrumentation and specimen-induced errors. The use of both manual and computer search/match methods for phase identification will be practiced through the use of workbooks. Applications of File data for further characterizing phases will be illustrated using several mineralogical problems and a special X-ray diffraction minerals workbook. Other types of materials may be studied including organic and forensic materials, depending upon the needs of the participants.

### Course Schedule

Day 1 Morning:	Optimization of data collection Evaluation of experimental data Instrumental induced errors Sample induced errors
Day 1 Afternoon:	Introduction to the Powder Diffraction File Role of the JCPDS-ICDD Alphabetic search procedures The Hanawalt search/match procedure
Day 2 Morning:	The Fink search/match procedure Classical powder diffraction problems Phase identification Analysis of polyphase materials
Day 2 Afternoon:	Computer techniques in data collection Use of the computer in qualitative analysis Use of CD-ROM based systems
Day 3 Morning:	Continuation of problem solving session Use of the Crystal data file Other data files (max-d; electron diffraction, etc)
Day 3 Afternoon:	General question and answer session

For further information please contact:

Ms. Josephine Felizzi

JCPDS - International Centre for Diffraction Data

1601 Park Lane

Swarthmore, PA 19081, U.S.A. (215) 328-9403

The cost of a course is \$625.00 which includes textual materials and lunches. Lodging, transportation and other costs are at the expense of the attendee.

## JCPDS - International Centre for Diffraction Data Course Schedules

### 1991

April 30 - May 2 Cocoa Beach, Florida  
Howard Johnson Plaza Hotel

• • •

## Short Course Announcements

### X-Ray Diffractometry and Spectrometry Short Course at the University of Texas at Austin

X-ray Diffractometry and Spectrometry, May 20-24, 1991, Austin, Texas. The objective of this course is to familiarize the participant working in an industrial laboratory with powder X-ray diffraction and spectrometric techniques. The acquisition of expertise in this area will be of particular value to persons engaged in research, development and quality control. Theoretical and experimental procedures will be presented so that, upon completion, the students will be able to interpret X-ray fluorescence spectra and be able to use powder diffraction techniques for the analysis of crystalline constituents of unknown specimens. Students are encouraged to bring samples of direct interest to them to the course. FEE: \$950. For registration information on this course, contact: Continuing Engineering Studies, College of Engineering ECJ 10.324, The University of Texas at Austin, Austin, Texas, 78712; Phone (512) 471-3506 or FAX: (512) 471-0831.



Attendees at the Grants-in-Aid Workshop held in Heidelberg, Germany, September 1990.