tributions to ceramics science. Several of the symposia were also sponsored by, or held in cooperation with, the Basic Science and Electronics divisions of the Society. There were approximately 530 oral presentations among the symposia and special lectures, and about 80 posters among six scientific sections. These 15 symposia included applications for ceramics in modern society, computer applications in ceramic technology, the 4th International Conference on the Science and Technology of Zirconia, cement manufacturing and chemistry, ceramic composites, commercial glass manufacturing and applications, electro-optics and nonlinear optics, materials and processing of ceramics, sol/gel and colloidal processing, superconductivity and ceramic superconductors, high-temperature materials, current trends in California dinnerware and tile, and corrosion and corrosive degradation of ceramics.

The speakers of the plenary lectures included world-renowned scientists such as Paul Chu who lectured on "High temperature electron and hold oxide superconductors", R. Roy on "Rational and Irrational Strategies for Research of New Materials Synthesis", L. E. Cross on "Unusual Ferroic Phenomena and Their Potential Device Applications" and A. M. Glass on "Optoelectronic Materials."

The Continuing Education Committee of the National Institute of Ceramic Engineers also sponsored two-day short courses related to ceramic science and technology immediately after the Congress meetings. These courses carried a credit of 1.6 continuing education units.

Approximately 80 companies exhibited their products and services. These exhibits featured a wide range of raw materials, manufacturing equipment and services relating to the manufacture of traditional and high-tech ceramic, glass and refractory products.

Society functions included the society reception which took place on the first evening of the Congress. Attendees were able to meet the Society officials and special guests and enjoy light refreshments and entertainment. The Society luncheon which took place on the second day featured keynote speaker Richard Rutan, copilot of the Voyager aircraft. Rutan and J. Yeager flew the featherweight craft 26,000 miles around the world. Rutan reminisced about the events of the nine-day Voyager flight.

The meeting started and concluded with the perfect southern California weather - sunny and warm.

Winnie Wong-Ng
Ceramics Division
National Institute of Science and Technology

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

1990

April 24-26 Holiday Inn, Cocoa Beach, Florida