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Simultaneous, real time measurement of the entire 2 theta range at high resolution

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No moving parts!

Reflection or transmission mode

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Equinox 100: Designed for QA applications and routine x-ray diffraction studies. Suitable for research in fields such as chemical, environmental, metallurgical, geological, cement, mining and pharmaceuticals



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2013–2014 ICDD X-RAY CLINICS & WORKSHOPS

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for
Diffraction Data*

*Live Instrumentation
Hands-on Training
Theoretical Lectures*

Rietveld Refinement & Indexing:

Basic Workshop 30 September–2 October 2013

Advanced Workshop 3–4 October 2013

Handheld XRF Workshop 15–17 October 2013

Practical X-ray Fluorescence Spectrometry
28 April–2 May 2014

Fundamentals of X-ray Powder Diffraction—XRD I
2–6 June 2014

Advanced Methods in X-ray Powder Diffraction—XRD II
9–13 June 2014



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International Centre for Diffraction Data

Let our team of experts help you take your skills to the next level!

2013-2014 Education Events

*Rietveld Refinement & Indexing Workshops:

Basic: 30 September–2 October 2013

Advanced: 3–4 October 2013

These completely hands-on computerized problem-solving workshops provide training in the use of the Rietveld method for crystal structure refinement.



Handheld XRF Workshop: 15–17 October 2013

The combination of portability, nondestructive on-site analysis, and relatively low cost has led to explosive growth in the use of handheld X-ray fluorescence spectrometers. This workshop will focus on XRF theory, X-ray safety, methods to optimize results, as well as various applications.



Practical X-ray Fluorescence: 28 April–2 May 2014

From theory to hands-on exercises, this course offers techniques and skills to improve lab performance. Discover the latest in cutting-edge instruments such as TXRF, hand-held devices, energy dispersive and wavelength dispersive spectrometers through live demonstrations.

The XRF course covers the basics of X-ray spectra; instrumentation design; methods of qualitative and quantitative analysis; specimen preparation and applications for both wavelength and energy dispersive spectrometry. Emphasizing quantitative methods; use of automated X-ray spectrometers; review of mathematical matrix correction procedures and new developments in XRF. Submit your samples for analysis by the XRF experts. Selected results will be the basis for class discussion!



Fundamentals of X-ray Powder Diffraction: 2–6 June 2014

For the novice with some XRD knowledge or for the experienced with an interest in the theory behind XRD, this clinic offers a strong base for increased lab performance.

Covering instrumentation, specimen preparation, data acquisition and qualitative phase analysis. Hands-on use of personal computers for demonstration of the latest software; data mining with the PDF. The powder diffractometer: optical arrangement, factors affecting instrumental profile width, choice and function of divergence slit, calibration and alignment, detectors, X-ray optics.



*Advanced Methods in X-ray Powder Diffraction: 9–13 June 2014

For the experienced XRD scientist, this session offers enhanced analysis skills through intense problem solving, as well as an introduction to the Rietveld Method. Emphasizing computer-based methods of data collection and interpretation, both for qualitative and quantitative phase analysis.

Factors affecting d-spacing of crystals: unit cell, crystal structure, and solid solutions. Factors affecting diffraction-line intensities: relative and absolute intensities; structure-sensitive properties (atomic scattering and structure factors), polarization effects, and multiplicity; specimen-sensitive effects (orientation, particle size), measurement-sensitive effects (use of peak heights and peak areas), and choice of scanning conditions.



* See the ICDD web site for prerequisites for advanced courses.

Location

ICDD Headquarters: 12 Campus Boulevard ♦ Newtown Square, Pennsylvania, 19073-3273 U.S.A.

For More Information

Contact Eileen Jennings, Education Coordinator

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Don't miss the opportunity to meet with our faculty, offering knowledge in a wide range of industries and applications. You'll meet seasoned professionals with experience in metals, microelectronics, thin films, indexing, polymers, organic chemistry and much more. Featuring live instruments for the XRF & XRD Clinics!



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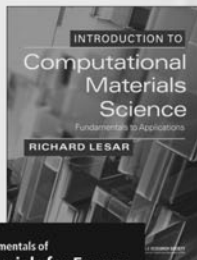
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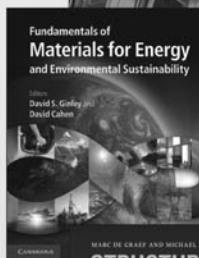
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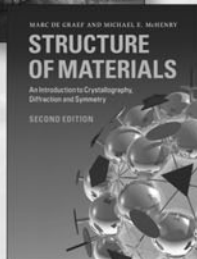


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- First-time grantees receive a complimentary one-year subscription to *Powder Diffraction*

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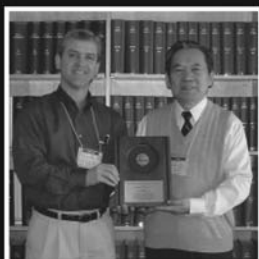
2013: (L)
Professor Xinkan Yao

2010: (R)
Dr. Tom Blanton
presenting to
Professor Bogdan Lazoryak



2007: (L)
Dr. Miguel Delgado
presenting to
Dr. Sergei Kirik

2004: (R)
Dr. Tom Blanton
presenting to
Professor Shao-Fan Lin



2001: (L)
Dr. Tom Blanton
presenting to
Professor Evgeny Antipov

1998: (R)
Dr. Ekkehart Tillmanns



For over 50 years, ICDD has supported a well-developed program of grants to researchers around the world.

One of our main objectives is to expand the range of reference materials by producing and cataloging high-quality X-ray diffraction patterns in our internationally renowned database, the Powder Diffraction File. Thanks to the longevity of this program, these contributions account for approximately a quarter of the current experimental file. ICDD awards financial support to qualified investigators in the form of grants-in-aid on a competitive proposal basis. The duration of a grant is 12 months with two cycles per year. Cycle I begins 1 April and Cycle II begins 1 October.

Geographic Locations of Grants for the Past 15 Years:

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Czech Republic	Russia
Estonia	Spain
Finland	Switzerland
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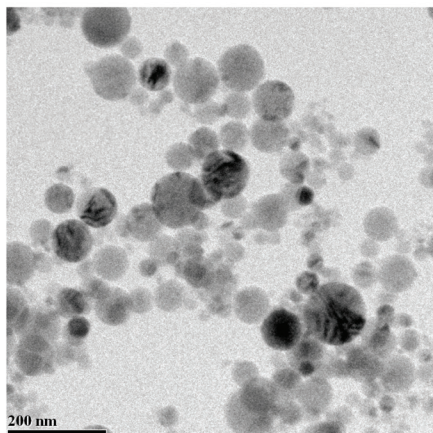


Versatile and easy to use

The basic configuration enables powder analysis by phase identification and quantification.

With easy and affordable extensions you can also:

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