56th Annual Conference on Applications of X-ray Analysis

Denver X-ray Conference

30 July–3 August 2007
Sheraton Colorado Springs • Colorado Springs, Colorado • U.S.A.

Call for Papers

Plenary session:
Stardust—X-rays in Space

Training & Applications
Techniques & Instrumentation
Networking
Exhibits
Workshops
Sessions

Sponsored by
International Centre for Diffraction Data

Free CD of the Proceedings
XRD & XRF

X-ray Optics

Organizer & Instructors:

G.J. Havrilla, Los Alamos National Laboratory, Los Alamos, NM, havrilla@lanl.gov
N. Gao, X-ray Optical Systems, Inc., East Greenbush, NY
P. Hoqhoj, Xenocs SA, Sassenage, France
S. Cornaby, Cornell University, Ithaca, NY

There are many X-ray optics available to spatially restrict X-rays for use in X-ray spectrometry. Each optic has its own characteristics, capabilities, advantages and disadvantages and unique application niches. This workshop will provide basic knowledge about X-ray optics specifically multilayer optics, polycapillary optics, doubly-curved crystal optics, and monocapillary optics. One of the objectives in this workshop is to help users understand the basic working principles and performance characteristics of these optics. Attendees will learn the function of an X-ray optical system in selected applications and their capabilities.

XRD

Fundamentals and Applications of Neutron Scattering for Characterizing Structural Materials and Components

Organizers & Instructors:

C. Hubbard, Oak Ridge National Laboratory, Oak Ridge, TN, hubbardcr@ornl.gov
H. Choo, University of Tennessee, Knoxville, TN, hchoo@utk.edu
D. Brown, Los Alamos National Laboratory, Los Alamos, NM

Application of neutron diffraction in characterizing engineering materials in North America is becoming increasingly prevalent due to (a) the unique ability to provide microscopic insights to the physical and mechanical behavior of advanced materials and components and (b) the major investment made in new neutron scattering facilities at NIST, Los Alamos and Oak Ridge.

This workshop will provide a set of lectures and discussions on the fundamentals and applications of neutron diffraction that are relevant to the field of structural materials research. The presentations are intended for new users and engineers/scientists who are interested in using neutron scattering as a tool to their structural materials and engineering research and development. Specific topics will include:

- Fundamentals of neutron scattering
- Application of neutron scattering to fundamental materials sciences (with examples on the studies of deformation mechanisms, phase transformation, etc.)
- Application of neutron scattering to industrial problems (with examples on non destructive through thickness residual stress mappings)
- In situ, time resolve neutron measurements of process and reactions
- Guidance to the facilities, instruments, and opportunities for new users

Two-dimensional XRD

Organizers & Instructors:

T.N. Blanton, Eastman Kodak Company Research Labs, Rochester, NY, thomas.blanton@kodak.com
B. He, Bruker AXS, Inc., Madison, WI, bob.he@bruker-axs.com
R.G. Tissot, Sandia National Lab, Albuquerque, NM
U. Preckwinkel, Bruker AXS, Inc., Madison, WI

Two-dimensional diffraction data contains abundant information about the atomic arrangement, microstructure and defects of a solid or liquid material. In recent years, usage of two-dimensional diffractometer has dramatically increased in academic researches and various industries. This workshop covers recent progress in two-dimensional X-ray diffraction in terms of detector technology, geometry, and configuration of the two-dimensional diffractometer and various applications such as phase ID, texture, stress, crystallinity, combinational screening and thin film analysis.
Diffraction Peak Broadening and Peak Shape Analysis

Organizer & Instructors:

T. Ungár, Eotvos University, Budapest, Hungary, ungar@ludens.elte.hu
D. Louër, Honorary Director of Research, CNRS, Rennes, France
E. Schafler, University of Vienna, Vienna, Austria

Topics to be covered include:

1) Fundamentals of “Diffraction Peak Broadening and Peak Shape Analysis”—An Introduction
2) Size and size anisotropy
3) Strain and strain anisotropy
   • dislocations as one of the prime sources of strain
   • strain anisotropy rationalized by the concept of contrast factors
4) Planar defects, stacking faults, twin boundaries
5) Applications to polymers

Small Angle Scattering

Organizers & Instructors:

J.D. Londono, DuPont Company, Wilmington, DE, j-david.londono@usa.dupont.com
B.G. Landes, Dow Chemical Company, Midland, MI, bglandes@dow.com
J. Ilavsky, Argonne National Laboratory, Argonne, IL
N.S. Murthy, University of Vermont, Burlington, VT

The purpose of this workshop is to attract new people to the field—particularly those that may be wondering whether this is a useful technique for their application. The format will be tutorial in nature. It will be divided into three parts:

1. Summary of basic theory behind the technique
2. Details on instrumentation
3. Data analysis and examples

Specific topic suggestions of broad interest falling within the scope can be submitted for consideration in advance to j-david.londono@usa.dupont.com. Small-angle scattering has had impact in many areas (biology, materials science, metallurgy, polymer and colloid physics) over several decades, and is of even greater relevance today with the need to characterize structure at the nanoscale.

Rietveld Applications (Full day)

Organized by:

J.A. Kaduk, INEOS Technologies, Naperville, IL, james.kaduk@innovene.com
J. Faber, International Centre for Diffraction Data, Newtown Square, PA, faber@icdd.com

Instructors & description to be announced.

X-ray Crystallography without Crystals

Organizer & Instructors:

V. Petkov, Central Michigan University, Mt. Pleasant, MI, petkov@phy.cmich.edu
I. Dragomir-Cernațescu, PANalytical, Inc., Natick, MA
P. Chupas, APS, Argonne National Laboratory, Argonne, IL
T. Proffen, Los Alamos National Laboratory, Los Alamos, NM

Countless materials of technological and scientific importance (catalysts, composites, nanoceramics, drugs, minerals, etc.) are not like regular crystals, which possess long-range translational symmetry, due to the presence of a substantial intrinsic disorder and/or their very limited (nanometer) size. The powder diffraction patterns of such materials show a few Bragg-like peaks and a pronounced diffuse component rendering traditional crystallography difficult to apply. The workshop will illustrate the recent advances and inherent limitations of traditional (Bragg) diffraction, and concentrate on the nontraditional total (Bragg and diffuse) scattering and Pair Distribution Function approach in structure studies of anything but regular crystals.
XRF Analysis of RoHS/WEEE Elements

Organized by:

M.A. Zaïtz, IBM, Hopewell Junction, NY, zaïtz@us.ibm.com

Instructors & description to be announced.

XRF Sample Preparation (full day)

Organizer & Instructors:

J.A. Anzelmo, Anzelmo & Associates, Inc., Madison, WI, jaanzelmo@aol.com
J. Tully, Glen Mills, Inc., Clifton, NJ
L. Arias, Bruker AXS, Madison, WI
P. Daigle, Corporation Scientifique Claisse, Quebec, Canada

This workshop will start with a description of sampling techniques and equipment from bulk samples through the specimen prepared for analysis (Tully). A discussion of basic and fundamental considerations with respect to sample preparation for XRF will follow (Anzelmo). The afternoon will begin with a discussion on the preparation of liquid samples (Arias), followed by a presentation on the basics of fusion (Daigle).

Basic XRF

Organized by:

W.T. Elam, EDAX/University of Washington, Redmond, WA, wtelam@apl.washington.edu

Instructors & description to be announced.

Quantitative Analysis I & II (full day)

Organizer & Instructors:

M. Mantler, Vienna University of Technology, Vienna, Austria, michael.mantler@iitp.tuwien.ac.at
B. Vrebos, PANalytical, Almelo, The Netherlands
W.T. Elam, EDAX/University of Washington, Redmond, WA

Morning:
1. Fundamentals
2. Classical fundamental parameter models and mathematical foundation
3. Compensation Methods
4. Error analysis, iteration schemes, determination of elements by difference

Afternoon:
The afternoon session will discuss a selection of special methods at an advanced level.

Energy Dispersive XRF

Organizer & Instructors:

B. Scruogs, EDAX, Inc., Mahwah, NJ, Bruce.Scruogs@Ametek.com
B. Cross, CrossRoads Scientific, El Granada, CA
J. Heckel, Spectro Analytical, Kleve, Germany
C. Streli, P. Wobrauschek, Atom Institut – TU Wien, Wien, Austria

The Energy Dispersive X-ray Fluorescence (EDXRF) workshop provides a comprehensive review of XRF spectroscopy for both the beginner and experienced X-ray spectroscopist. Topics to be covered are instrumentation including sources and detectors, spectral processing, and qualitative and quantitative analysis. Applications will be discussed for “bulk” ED-XRF and “micro” ED-XRF analyses.

Trace Analysis

Organizer, Instructors & description to be announced.
Plenary Session

Stardust—X-rays in Space
Organized by: W.T. Elam, EDAX/University of Washington, Redmond, WA, wtelam@apl.washington.edu

In Situ Measurement of Hydration of Martian Soils and Rocks Using the Scatter Component of the XRF Spectrum
J.L. Campbell, University of Guelph, Guelph, Ontario, Canada

Remote X-ray Diffraction of Planetary Bodies: What is Mars Really Made of?
D.L. Bish, Indiana University, Bloomington, IN

X-rays on Mars: How a Handful of Photons is Helping Revolutionize our Understanding of the Red Planet
B.C. Clark, III, Lockheed Martin Space Systems Company, Denver, CO

The Chandra X-ray Observatory: Observing the High Energy Universe
R.J. Brissenden, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA

XRD AND XRF

Detectors & Sources
Organized by: S.T. Misture, NYS College of Ceramics at Alfred University, Alfred, NY, misture@alfred.edu
Invited speaker(s) to be announced.

New Developments in XRD & XRF Instrumentation
Organized by: V.E. Buhrke, Consultant, Portola Valley, CA, vebuhrke@sbcglobal.net
Abstracts should be submitted by technical representatives of a manufacturer. They should discuss specifications, and applications concerning one of their newest and most important products. Talks should include comments about software, XRD and XRF equipment, and accessories. No mention of prices or a comparison with competitors’ products can be included.

Analysis of Nanostructures
Organized by: R.L. Snyder, Georgia Institute of Technology, Atlanta, GA, bob.snyder@mse.gatech.edu

Nanostructures from Diffraction—Obtaining a ‘Complete’ Structural Fingerprint
T. Proffen, Los Alamos National Laboratory, Los Alamos, NM

Nanostructures Materials Characterization by X-ray Diffraction
I. Dragomir-Cernatescu, PANalytical, Inc., Natick, MA

X-ray Optics
Organized by: G.J. Havrilla, Los Alamos National Laboratory, Los Alamos, NM, havrilla@lanl.gov

Low-power Monochromatic Focused Beam XRF Using Doubly Curved Crystal Optics
Z. Chen, X-ray Optical Systems, Inc., East Greenbush, NY
Microbeam X-ray Analysis

Organized by: I.C. Noyan, Columbia University, New York, NY, icn2@columbia.edu
G.J. Havrilla, Los Alamos National Laboratory, Los Alamos, NM, havrilla@lanl.gov

Combined use of conventional and confocal \(\mu\)-XRF and \(\mu\)-XANES, \(\mu\)-XRD, X-ray absorption tomography and Raman spectrometry for speciation analysis in two and three dimensions
K. Janssens, Universiteit Antwerpen, Antwerp, Belgium

Title to be announced
H. Yan, APS—Argonne National Laboratory, Argonne, IL

XRD

Applications of Linear and Area Detectors for XRD

Organized by: B. He, Bruker AXS, Inc., Madison, WI, bob.he@bruker-axs.com
D. Balzar, University of Denver, Denver, CO and NIST, Boulder, CO, balzar@du.edu
TN. Blanton, Eastman Kodak Company Research Labs, Rochester, NY, thomas.blanton@kodak.com

Multitasking on CCD and MWPC three-circle X-ray diffractometers
J.H. Reibenspies, Texas A&M University, College Station, TX

Software for analysis and reducing 2-D data
S. Vogel, Los Alamos National Laboratory, Los Alamos, NM

Stress Analysis

Organized by: C. Goldsmith, IBM, Poughkeepsie, NY, cgoldsmi@us.ibm.com
T.R. Watkins, Oak Ridge National Laboratory, Oak Ridge, TN, watkinstr@ornl.gov

Insights into the deformation mechanisms of HCP metals from diffraction measurements
M. Daymond, Queen’s University, Kingston, Canada

Investigation of creep damage evolution in alloys and composites using synchrotron radiation
A. Pyzalla, Max-Planck-Institut für Eisentorschung GmbH, Duesseldorf, Germany

Diffraction from Biopolymers and Biological Systems

Organized by: K.H. Gardner, University of Delaware, Newark, DE, khg@udel.edu
T. Forsyth, Institut Laue Langevin/Keel University, Grenoble, France, tforsyth@ill.fr

Flexible filamentous virus structures from fiber diffraction
G. Stubbs, Vanderbilt University, Nashville, TN

Towards an understanding of stretch activation in insect flight muscle
T. Irving, Illinois Institute of Technology, Chicago, IL

Neutron and synchrotron X-ray fiber diffraction studies of cellulose polymorphs
P. Langan, Los Alamos National Laboratory, Los Alamos, NM
Polymers and Composites
Organized by: N.S. Murthy, University of Vermont, Burlington, VT, sanjeeva.murthy@uvm.edu
H. Koerner, AFRL/MLBP, Wright-Patterson AFB, OH, hilmar.koerner@wpafb.af.mil

SOFT-CONFINEMENTS OF CHIRAL SMECTIC PHASES ON CRYSTALLIZATION IN THE MACROSCOPIC MONODOMAINS OF A MAIN-CHAIN NON-RACEMIC LIQUID CRYSTALLINE POLYESTER
S. Cheng, University of Akron, Akron, OH

SAXS FROM POLYMER-CLAY COMPOSITES AND OTHER LAYERED SYSTEMS
C. Burger, Stony Brook University, Stony Brook, NY

SCANNING X-RAY MICROBEAM EXPERIMENTS FOR THE INVESTIGATION OF DEFORMATION AND FRACTURE OF POLYMERS
M. Stamm, Leibniz-Institut fuer Polymertorschung Dresden e.V. (IPF), Dresden, Germany

Industrial Applications
Organized by: E.A. Payzant, Oak Ridge National Laboratory, Oak Ridge, TN, payzanta@ornl.gov
R.L. Snyder, Georgia Institute of Technology, Atlanta, GA, bob.snyder@mse.gatech.edu

TITLE TO BE ANNOUNCED
B.R. Wheaton, Corning, Inc., Corning, NY

Neutron Analysis
Organized by: C.R. Hubbard, Oak Ridge National Laboratory, Oak Ridge, TN, hubbardcr@ornl.gov

IN-SITU NEUTRON DIFFRACTION DURING CYCLIC DEFORMATION: STUDYING THE REVERSIBILITY OF DEFORMATION INDUCED TWINNING AND PhASE TRANSFORMATION
D. Brown, Los Alamos National Laboratory, Los Alamos, NM

IN SITU NEUTRON DIFFRACTION STUDIES OF DEFORMATION INDUCED PHASE TRANSFORMATION IN AN ULTRAFINE GRAINED TRIP STEEL
H. Choo, University of Tennessee, Knoxville, TN

XRF
Applications of Handheld XRF & Analysis of RoHS/WEEE Elements
Organizer & Invited speaker(s) to be announced.

Fusion & Industrial Applications of XRF
Organized by: J.A. Anzelmo, Anzelmo & Associates, Inc., Madison, WI, jaanzelmo@aol.com

X-RAY FLUORESCENCE IN THE LIME INDUSTRY, AN IMPORTANT QUALITY CONTROL TOOL
D. Hoffman, Chemical Lime Company, Fort Worth, TX

Quantitative XRF
Organized by: W.T. Elam, EDAX/University of Washington, Redmond, WA, wtelam@apl.washington.edu

THE NIST TES MICROCALORIMETER, NOW AND IN THE FUTURE
T. Jach, National Institute of Standards & Technology, Gaithersburg, MD
Wednesday, Thursday & Friday 1–3 August
The exact date and time of each session will not be determined until April 2007.

Trace Analysis
Organized by: M.L. de Carvalho, Centro de Fisica Atómica da Universidade de Lisboa, Lisboa, Portugal, luisa@cii.fc.ul.pt

**Handy Waveguide TXRF Spectrometer for NG Sensitivity**
J. Kawai, Kyoto University, Kyoto, Japan

**XRS, Indoor Aerosols and Human Health**
R. Van Grieken, University of Antwerp, Antwerp, Belgium

**Trace Elements for Characterization Artificial Aging Processes in Modern Papers**
M.L. de Carvalho, Centro de Fisica Atómica da Universidade de Lisboa, Lisboa, Portugal

**Contributed Abstracts**
Abstracts are hereby solicited for oral presentation in any of the special sessions previously listed, or the XRD and XRF poster sessions. Not all contributed abstracts submitted for oral presentation will be placed in a special session, but rather, will default to poster presentation. Poster sessions will be held on Monday and Tuesday evening of conference week, in conjunction with the evening receptions. Abstracts of more general interest will be placed in oral sessions. The Organizing Committee considers the withdrawal of an abstract after it has been accepted and advertised as highly nonprofessional (except in special circumstances). Please try to secure travel funding and approvals before submitting your abstract.

The deadline for submissions is 1 March 2007.
Abstracts are reproduced as submitted in the Book of Abstracts, and will also be published on the Denver X-ray Conference web site, with links to, or duplicate copies on other affiliated web sites (e.g., ICDD). If you do not want your abstract so published, please note your request on the information page of your abstract submission. Abstracts must not exceed one page in length and must include the title, author(s), affiliation(s) and the text. To provide uniformity, abstracts must be prepared according to the following guidelines:

Abstract Format
▼ Paper Size: 8.5 x 11 inches; A4 paper must be formatted for 8.5 x 11 inches
▼ Size: Entire abstract, including title, author(s), affiliation(s), and text, must fit into a maximum area of 15 cm (5.9") wide by 20 cm (7.9") high. Please allow a top margin of 3.8 cm (1.5") to allow insertion of session codes/information by conference staff
▼ Font: Times or Times New Roman, 12 point
▼ Title: Bold, centered, all uppercase (except where lowercase letters are needed for clarity)
▼ Leave one blank line between the title and the author(s)
▼ Author(s) and affiliation(s): mixed upper and lowercase, centered; if there is more than one author, underline the presenting author's name
▼ Leave two blank lines before beginning the text
▼ Text:
▲ text should appear flush left; do not indent
▲ use line spacing sufficiently large enough to allow the abstract to be read easily, including subscripts, superscripts and Greek letters
▲ a blank line is recommended (space permitting) between paragraphs

Information Page
In addition to the abstract, please submit a separate page with the following information:
▼ Permission to post abstract on the DXC web site and affiliated web sites
▼ Speaker's name, mailing address, phone number, fax number, and e-mail address
▼ If the speaker is not the person to whom correspondence should be sent, please include contact person's name, mailing address, phone number, fax number, and e-mail address

Indicate your preferences:
▲ oral presentation or poster
▲ if oral presentation is preferred, suggest session where paper may be best suited
▲ if poster presentation is preferred, choose the XRD or XRF evening poster session
▼ If your submission is invited, please indicate that your paper is invited and include the chairperson's name that issued your invitation along with the session title
▼ Indicate whether you intend to publish this paper in Advances in X-ray Analysis, Volume 51. If you do not plan on publishing, please explain why.

Abstract Submission
Abstracts may be submitted on-line or by e-mail:
1. On-line:
   Please visit the DXC web site: www.dxcicdd.com for complete instructions for on-line submission
2. E-mail:
   Send to dxc@icdd.com as an attached file created in:
   a) Adobe® PDF (preferred format)
   b) Microsoft® Word (6.0 through Office 2003)

Please note:
▼ Special characters, tables, mathematical formulae and figures should be kept to a minimum
▼ If special symbols or Greek letters are used, please limit the fonts to those that are available with the standard distribution of Microsoft® Word. Non-standard fonts may lead to errors in transmission
▼ All graphics must be embedded in the Word document

Note: Because they do not reproduce well, abstracts submitted by facsimile will not be accepted.

Receipt of abstracts will be confirmed via e-mail. If you do not receive your confirmation within two weeks of your submission, please contact:

Denise Flaherty
Conference Coordinator
flaherty@icdd.com
phone: 610.325.9814

DEADLINE FOR SUBMISSION IS 1 MARCH 2007
Visa Application Notice

Obtaining a Visa is the sole responsibility of the attendee. The Denver X-ray Conference is not permitted to mediate with either the U.S. Embassy abroad or with the State Department on behalf of any conference attendee. However, if you need an invitation letter to the conference to submit with your application, please e-mail your request to: flaherty@icdd.com. Please include your name, mailing address, fax number, and the title(s) of any abstract(s) that you have submitted for the conference. A copy of the letter will be faxed and airmailed to you.

Hotel Reservation (Rates applicable until 9 July 2007, subject to availability)

The 2007 Denver X-ray Conference will be held at the Sheraton Colorado Springs, 2886 South Circle Drive, Colorado Springs, Colorado, 80906 U.S.A. Phone: 1.800.325.3535 or dial direct: 1.719.576.5900, fax: 1.719.576.0507, or make your reservation on-line at:

http://www.starwoodmeeting.com/StarGroupsWeb/res?id=0610315075&key=2CEAE

Attendees are responsible for making their own reservations. Please identify yourself as a Denver X-ray Conference attendee when booking your reservation. A special conference rate of $115.00 per night plus tax has been contracted for our group. Don’t wait to book your reservation—there are a limited number of rooms available at the special conference rate! Rates applicable until 9 July 2007 (subject to availability). All reservations must be guaranteed and accompanied by a first night room deposit, or guaranteed with a major credit card.

Student Rooms

There are a limited number of hotel rooms being offered to students at a discounted rate of $60 per night plus tax. Student rooms are shared—each room will be equipped with two double beds to accommodate two persons. Please visit the Denver X-ray Conference web site: www.dxcicdd.com for a Student Room Authorization form. Student identification will be required. Rooms will be booked on a first come first serve basis.

Exhibits

Vendors—don’t miss this opportunity to display your company’s products and services to this elite crowd of scientists. Applications for exhibit space will be available on 1 March 2007. Contact Denise Flaherty: flaherty@icdd.com, 610.325.9814, to add your name to the mailing list.

Sponsorship Opportunities

There are various sponsorships available to exhibitors of the Denver X-ray Conference. Please visit our web site: www.dxcicdd.com for details or contact Denise Flaherty: flaherty@icdd.com.

Have an idea for a workshop or session?
Visit: http://www.dxcicdd.com/workshopsuggestions.htm
Jerome B. Cohen Student Award

This award was instituted in the name of Professor Jerome B. Cohen, one of the leaders in the field of X-ray analysis, and in the training of students in this art. The award is intended to recognize the outstanding achievements of student research in this field. All students, graduate or undergraduate, who are working in the field of X-ray analysis, can submit a technical paper describing their work. The following criteria applies:

★ The research must be original, of high quality, and must be primarily the work of the student.
★ All papers submitted to the Cohen Award must be presented at the conference in either oral or poster session. Thus, all first-author students must submit an abstract and also attend the conference.
★ The papers submitted for this competition must be received in final publication form electronically by 1 July 2007. The winning manuscript will also be listed in the conference proceedings.

The winner will be selected by a committee of researchers in the field, and notified one week before the conference. The winner must be able to attend the Plenary session of the conference on Wednesday morning for the announcement of the award. The award for the year 2007 will be in the amount of $1,000. Students interested in participating in this year’s competition must submit their papers and a certification form to dxc@icdd.com by 1 July 2007. The certification form and instructions for preparing a manuscript can be obtained on the Denver X-ray Conference web site: http://www.dxcicdd.com.

Conference Proceedings

Don’t miss this opportunity to showcase your research by submitting your presented paper in the conference proceedings, Advances in X-ray Analysis. Select papers will also be published in Powder Diffraction. Advances in X-ray Analysis is distributed throughout the world, and the complete manuscripts of past volumes can also be viewed on the ICDD web site: http://www.dxcicdd.com/advances/advances.htm. In the interest of releasing the conference proceedings, Advances in X-ray Analysis, as early as possible after the conclusion of the conference, we are encouraging authors to submit their manuscripts for publication during the conference at the conference registration desk. If you are unable to bring your manuscript with you at that time, please mail it no later than 3 September 2007 to:

Denise Flaherty
ICDD
12 Campus Boulevard
Newtown Square, PA  19073-3273  U.S.A.

Note: To be acceptable for publication, papers should describe either new methods, theory and applications, improvements in methods or instrumentation, or other advances in the state of the art. Papers emphasizing commercial aspects are discouraged. Information for preparing manuscripts will be mailed after abstracts have been received.

Conference Preregistration Fees*

<table>
<thead>
<tr>
<th>Description</th>
<th>Fee</th>
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<tr>
<td>Full week: exhibits, workshops, sessions†</td>
<td>$450</td>
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<tr>
<td>Monday &amp; Tuesday: exhibits, workshops†</td>
<td>$400</td>
</tr>
<tr>
<td>Wednesday, Thursday &amp; Friday: exhibits, sessions†</td>
<td>$400</td>
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<tr>
<td>Session organizers, invited speakers &amp; workshop instructors†</td>
<td>$100</td>
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<tr>
<td>Students, unemployed X-ray people, and persons 65 and older:</td>
<td></td>
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<tr>
<td>exhibits, workshops, sessions</td>
<td>$100</td>
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* Preregistration fees will only be valid until 5 July 2007. Registration fees will increase after 5 July 2007.
† Includes a copy of Volume 51 of Advances in X-ray Analysis on CD-ROM.
## Dates to Remember

<table>
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<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Deadline for submission of abstracts</td>
<td>1 March 2007</td>
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<tr>
<td>Exhibit packets mailed</td>
<td>1 March 2007</td>
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<tr>
<td>Conference Programs mailed (includes registration forms)</td>
<td>May 2007</td>
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<tr>
<td>Conference Preregistration begins</td>
<td>May 2007</td>
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<tr>
<td>Deadline to register at the Sheraton Colorado Springs (Conference rate, subject to availability)</td>
<td>9 July 2007</td>
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<tr>
<td>Deadline for submission of manuscripts:</td>
<td></td>
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<td>at the Conference or no later than</td>
<td>3 September 2007</td>
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## For More Information

The Call for Papers and the tentative Conference Program can be found on the Denver X-ray Conference web page at: [http://www.dxcicdd.com](http://www.dxcicdd.com). Please continue to monitor this site for the latest conference information.

For additional information, contact: Denise Flaherty  
Phone: 610.325.9814  
Fax: 610.325.9823  
E-mail: flaherty@icdd.com