

DENVER X-RAY CONFERENCE®



75TH ANNUAL DENVER X-RAY CONFERENCE PROGRAM

2026



Sponsors:



DXC

3 - 7 August 2026

The Westin Chicago Lombard
Lombard, Illinois, USA

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Late Announcements – DXC Event App

Please download the official DXC Event App – PheedLoop, for the latest program changes. Visit your App Store on your mobile device to download PheedLoop Go or access using your desktop browser. PheedLoop supports one-time password logins through email. With this feature, attendees can simply send a code to their email and enter the corresponding code to login. It is important that you log in with the email you registered with for the event, or it may not work.



Download PheedLoop

Future Conference:

2 - 6 August 2027, The Westin Westminster, Westminster, Colorado, USA

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- ▶ Basic XRF

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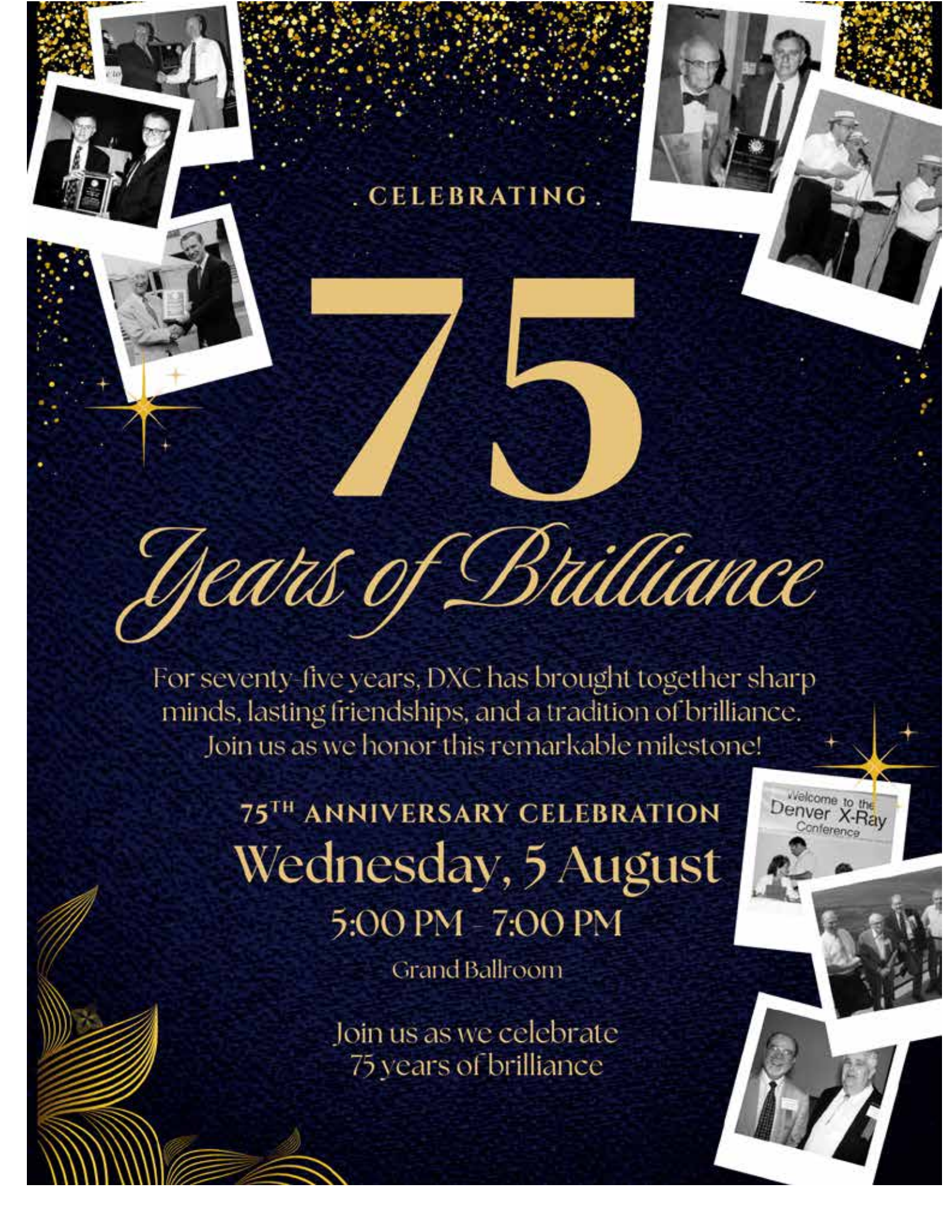
- ▶ Tomography and X-ray Microscopy
- ▶ Biomedical Imaging
- ▶ Industrial Applications of XRD
- ▶ Spatially-Resolved Benchtop Micro-XRF

Hotel Layout

Inside Back Cover

Program-at-a-Glance

Back Cover



CELEBRATING

75

Years of Brilliance

For seventy-five years, DXC has brought together sharp minds, lasting friendships, and a tradition of brilliance.

Join us as we honor this remarkable milestone!

75TH ANNIVERSARY CELEBRATION

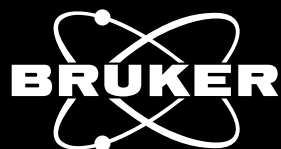
Wednesday, 5 August

5:00 PM – 7:00 PM

Grand Ballroom

Join us as we celebrate
75 years of brilliance

Welcome to the
Denver X-Ray
Conference



TITAN - Power Over the Elements

Fast and Accurate: From Na to U

This high-performance handheld X-ray Fluorescence (XRF) gun makes ultra-fast, highly-accurate elemental analysis possible everyday, by anyone, and even in difficult conditions.

TITAN's strong, robust design means it can be relied upon in even the harshest environments - whether that is a factory floor, a scrap yard exposed to the elements, or a remote and dusty mining camp.

Visit Bruker booth 17 & 18

Learn more at bruker.com/titan



D8 ADVANCE HE and D8 DISCOVER HE

High Energy Diffraction Solutions

High-energy diffraction opens new horizons for materials research that go far beyond the limits of conventional Cu-based systems. Greater sampling depth and expanded reciprocal-space coverage, combined with high-efficiency detectors, a wide range of sample environments, and advanced software solutions, enable the study of real materials under realistic conditions - from simple powders to fully assembled devices such as battery cells. With the D8 ADVANCE HE and D8 DISCOVER HE, high-energy XRD becomes a truly versatile research tool across a broad range of applications - empowering researchers to see more, do more, and understand more.

Visit Bruker booth 17 & 18

Learn more at bruker.com/d8advancehe

Innovation with Integrity

PDF-5+ 2027

THE POWDER DIFFRACTION STANDARD

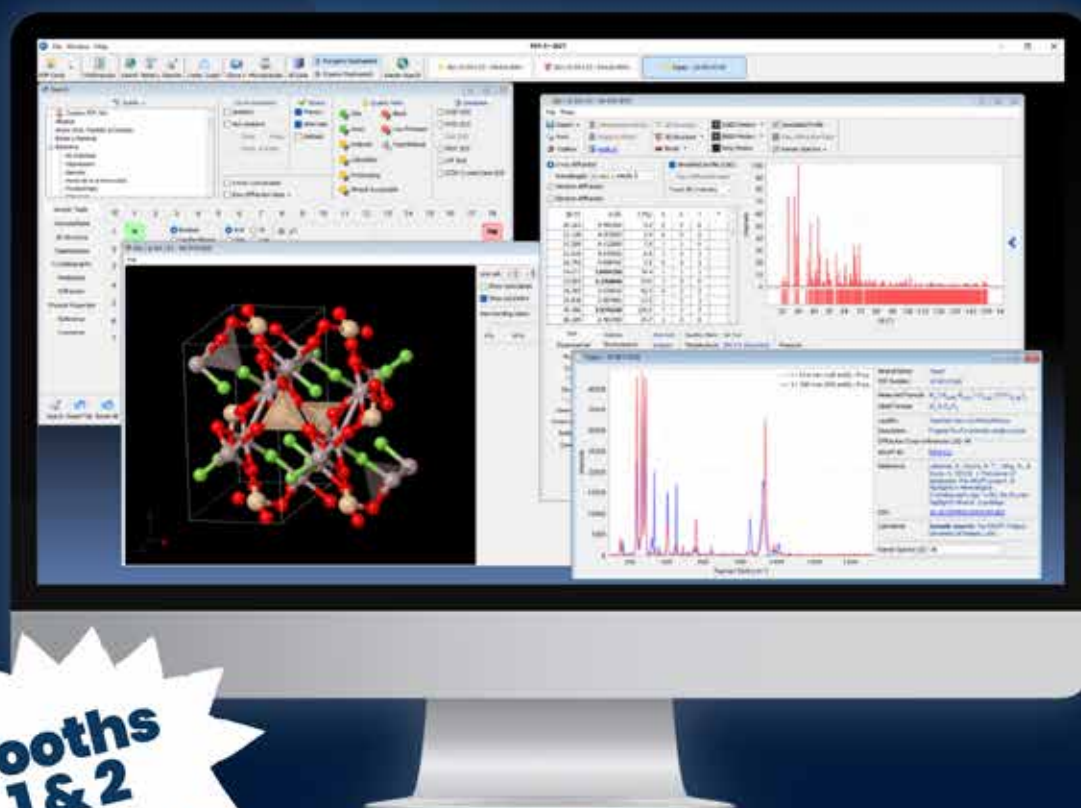
1,149,100+ Inorganic & Organic entries combined into one powerful database.

www.icdd.com/pdf-5



PDF-5+ is the world's most comprehensive diffraction reference database for solid-state materials – combining inorganic and organic data from crystals and powders into a single, searchable resource. Researchers rely on it for phase identification and quantitative analysis of unknown materials using X-ray diffraction.

- Features 486,100+ entries for inorganic materials and 667,100+ entries for organic materials
- 700,400+ entries with atomic coordinates
- All entries have digital patterns for use in total pattern analysis
- 1,043,800+ entries have I/I_c values for quantitative analysis by Reference Intensity Ratio
- All entries are stored in a standardized format for easy search and interpretation
- All entries go through a rigorous editorial process to ensure quality



**Booths
1 & 2**

JADE® PRO

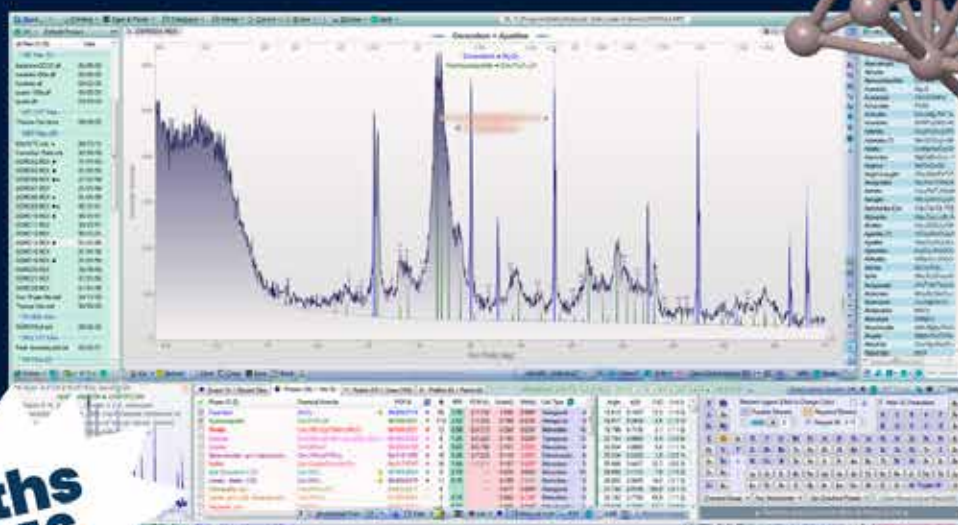
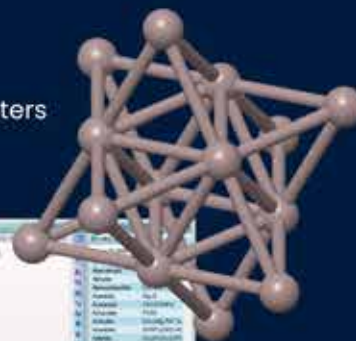
IDENTIFY WITH CONFIDENCE



You need data you can trust, AND you need to find the best way possible to analyze your data. Now you can extend the power of your ICDD PDF-5+ by including the highly regarded data analysis software JADE Pro. We created JADE to provide independent, unbiased results for peak search, Whole Pattern Fitting, and Rietveld. JADE gets daily improvements and has grown to include an enormous list of valuable tools for your materials research and exploration.

www.icdd.com/mdi-jade

- All-inclusive – Everything in JADE Standard and so much more
- Phase ID (Search/Match)
- Batch processing Whole Pattern Fitting (WPF) and Rietveld
- One-Click-Analysis™ for Whole Pattern Fitting (WPF)
- Pattern Indexing (All Crystal Systems)
- Rietveld Structure Refinement (Atomic Parameters)
- Ab Initio Tools (Charge Flipping +)
- Cluster Analysis of Powder Patterns
- Hardware Independent – supports a wide range of diffractometers



**Booths
15 & 16**



Company Introduction

Founded in 2011, Taiyang Technology is an integrated advanced beryllium materials manufacturer specializing in R&D, production, and global supply.

Headquartered in Shanghai, with production bases in Jiangsu and Guangxi, we operate a fully integrated value chain from beryllium ore processing to precision-engineered components.

Our core portfolio includes high-purity beryllium foil and X-ray windows, beryllium alloys, beryllium compounds, ingots, and precision-machined parts.

Our materials are widely used in X-ray imaging systems, XRD/XRF instrumentation, synchrotron radiation facilities, aerospace applications, semiconductor equipment, and advanced scientific research.

From beryllium ore to precision X-ray components, we enable next-generation scientific, industrial, and technological innovation.

Beryllium Materials



Beryllium oxide, beryllium fluoride, etc.



Beryllium beads, beryllium powder, beryllium copper/beryllium aluminum alloy, etc.



Beryllium Windows, Beryllium Foil, Beryllium Ingot



Beryllium Windows

Beryllium Foil

Be

Beryllium-Copper Master Alloys

CuBe2.5 / CuBe3.8 / CuBe4.0 / CuBe10.0

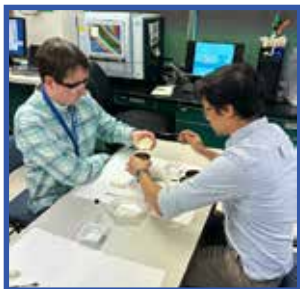
Beryllium-Aluminum Alloys

AlBe1 / AlBe3 / AlBe5 / AlBe62

Beryllium fluoride

BeF2

LET OUR TEAM OF EXPERTS HELP YOU TAKE YOUR SKILLS TO THE NEXT LEVEL!



X-ray Fluorescence Courses:

Fundamentals of X-ray Fluorescence

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. The course emphasizes quantitative methods, use of automated X-ray spectrometers, review of mathematical matrix correction procedures, and new developments in XRF.

Advanced Methods in X-ray Fluorescence

Advanced Methods in X-ray Fluorescence course is designed to teach and practice method development with respect to scope definition, selection and creation of reference material, instrumental settings, and most importantly the mathematical matrix correction and compensation methods for calibration. This practical oriented course alternates lectures and hands-on practical experience to deepen and intensify the material.

www.icdd.com/xrf



X-ray Powder Diffraction Courses:

Fundamentals of X-ray Diffraction

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

The course covers instrumentation, specimen preparation, data acquisition and qualitative phase analysis through live demonstrations. It consists of hands-on exercises, demonstrating the latest software, including data mining with the Powder Diffraction File™ (PDF®) and use of the powder diffractometer: optical arrangement, factors affecting instrumentation profile width, choice and function of divergence slit, calibration and alignment, detectors, and X-ray optics.

Advanced Methods in X-ray Powder Diffraction

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

The advanced course covers a wide range of topics including systematic errors, factors affecting intensities of diffraction peaks; data reduction algorithms; phase identification; advanced data mining with the PDF and its application in search/match; powder pattern indexing methods; structure solution methods; quantitative phase analysis using both reference intensity ratio (RIR) and Rietveld Method.

www.icdd.com/xrd



Rietveld Refinement & Indexing Course:

Powder pattern indexing and Rietveld structural refinement techniques are complementary and are often combined to determine the structure of a material. Successful indexing of a powder pattern is considered strong evidence for phase purity. Indexing is considered a prelude to determining the crystal structure, and permits phase identification by lattice matching techniques. This course introduces the theory and formalisms of various indexing methods and structural refinement techniques along with quantitative analysis. One unique aspect of this course is the extensive use of computer laboratory problem solving and exercises that teach method development in a hands-on environment.

www.icdd.com/rietveld



More information at www.icdd.com/icdd-education

Please note: A minimum of 10 registrants per course is required, otherwise the course will be cancelled and your registration fee will be refunded. You will be notified of a course cancellation no later than two weeks prior to the start of the course.

For More Information Contact:

Elizabeth Dempsey, Education Coordinator
Tel: 610.325.9814 Fax: 610.325.9823
Email: education@icdd.com

Location
ICDD Headquarters
12 Campus Boulevard
Newtown Square, Pennsylvania 19073-3273 USA



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06/26



2027

LUDO FREVEL

Crystallography

SCHOLARSHIP AWARDS

DEADLINE

Applications must be submitted online by

8 OCTOBER 2026

All applications must be submitted via the ICDD website at
www.icdd.com/ludo-frevel-scholarship

Over \$607,250

in scholarships awarded since 1991!

DONATIONS: Scholarship awards are made possible by donations from both individuals and corporations. Contributions can be directed to the Ludo Frevel Crystallography Scholarship Fund at www.icdd.com/ludo-frevel-scholarship/#donate. 100% of all donations to the scholarship fund are applied to student funding, as defined by the program's charter. The Ludo Frevel Scholarship Program is a registered non-profit charity, and all donations are tax-deductible.



The science of crystallography has played a key role in the development of X-ray diffraction, electron diffraction and neutron diffraction for the elucidation of the atomic structure of matter. Crystallography is an interdisciplinary branch of science that is taught in departments of physics, chemistry, geology, molecular biology, metallurgy and materials science.



SCHOLARSHIP COMMITTEE

A committee, consisting of the ICDD Scholarship Committee Chair, the ICDD Chair, the Chair of the ICDD Education Subcommittee, the ICDD Corporate Secretary, and three individuals without conflicts of interest, administers the awarding of the scholarships. One or more accredited professors (with no conflicts of interest) may be invited to assist in the selection of successful candidates.



EVALUATION OF APPLICATIONS

The amount of available funding limits the number of scholarships that can be granted in any given year.

A selection committee will evaluate the applications received to determine which are most deserving of a scholarship. These evaluations consider both the proposal (impact, innovativeness, originality, efficacy of approach, and relationship to crystallography) and the student (recommendation letter, educational track record, prior work and/or research, honors, awards, and professional activities) in determining which applicants will receive the award.

There is a limitation of one award per educational institution. In the event that two or more candidates from one institution are considered to be among the top applicants, only one will be given an award.



APPLICANT QUALIFICATIONS

The applicant should be enrolled in a graduate degree program during the 2027 calendar year with major interest in crystallography — e.g., crystal structure analysis, crystal morphology, modulated structures, correlation of atomic structure with physical properties, systematic classification of crystal structures, phase identification and materials characterization. Students with a graduation date prior to 1 July 2027 are not eligible for the 2027 scholarship award. The term of the scholarship is one year. The recipient may submit an application for one renewal at the end of the first year. Because a limited number of scholarships are awarded, renewal applications will be considered on a competitive basis in conjunction with all applications that have been submitted up to the closing date.



SCHOLARSHIP FUND RESTRICTIONS

The scholarship award is to be used by the graduate student to help defray tuition and laboratory fees. A portion of the award may be applied to registration fees and travel costs to attend accredited scientific meetings related to crystallography, where the recipient is presenting results of work performed as part of his or her graduate studies.

HOW TO APPLY

Applications must be submitted online by 8 October 2026

1. A description of the candidate's proposed graduate degree research (two-page limit) including:

- Purpose and rationale for the research
- Proposed methodology to be used in the study
- References and/or descriptions of the scientific background for the proposed research

2. A curriculum vitae including (two-page limit):

- Educational preparation (institutions, dates, degrees obtained and in progress, and particularly-pertinent course work)
- Awards, honors received
- Any research publications and/or presentations given
- Any work experience (dates, employers, positions)
- Professional activities, memberships

All applications are to be submitted online at the ICDD website: www.icdd.com/ludo-frevel-scholarship. Please follow the instructions on that web page.

The preferred method of application is via the web; however, if you require an alternate method, please contact Elizabeth Dempsey at dempsey@icdd.com or 610.325.9814.

Submission of the two documents below must be in PDF format. You will also be asked for the contact information of your primary research advisor. An email will be sent to this advisor seeking a letter of recommendation on your behalf. His/her letter must be submitted on or before the deadline date.

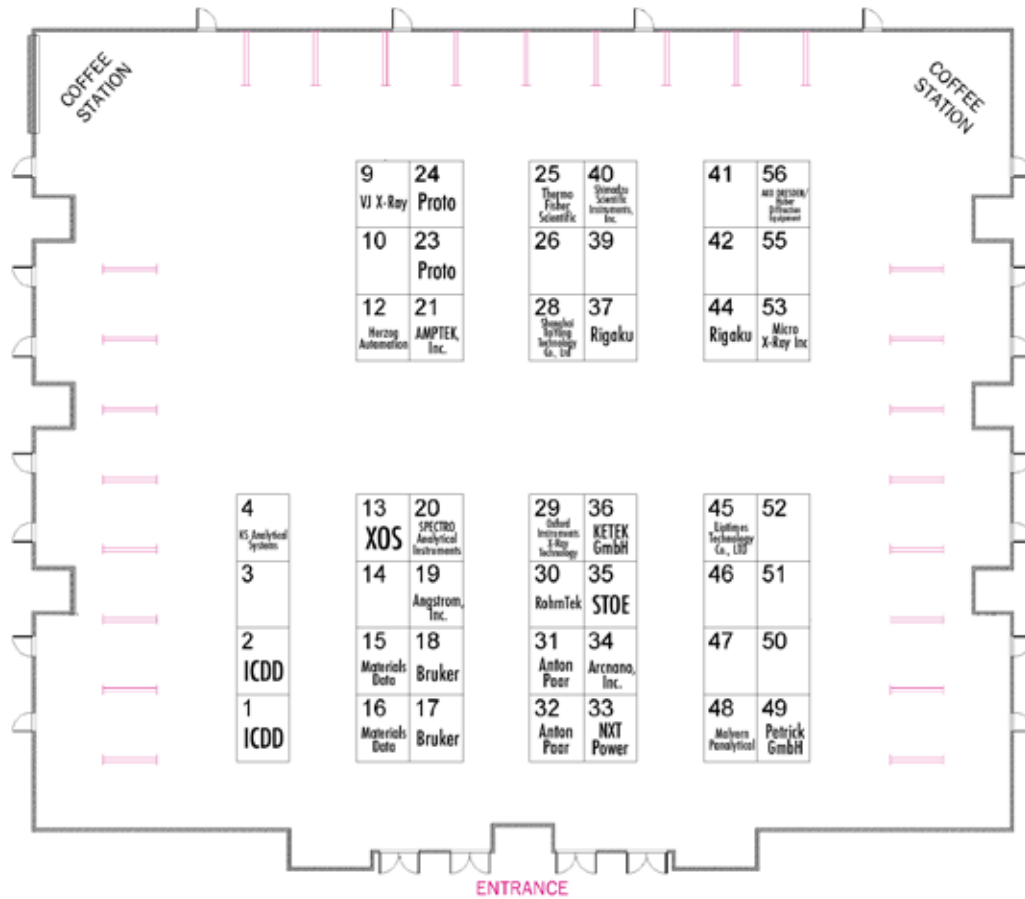


2026 Denver X-ray Conference Exhibitors

Exhibits will be held in the Grand Ballroom

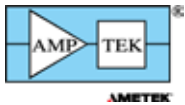
Exhibit Hours

Monday, 3 August	4:30pm - 7:00pm
Tuesday, 4 August	12:00pm - 7:00pm
Wednesday, 5 August	12:00pm - 7:00pm
Thursday, 6 August	10:00am - 1:00pm



Exhibitor	Booth Number(s)	Exhibitor	Booth Number(s)	Exhibitor	Booth Number(s)
AMPTEK, Inc.	21	KS Analytical Systems	4	Rigaku	37, 44
Angstrom, Inc.	19	Liotimes Technology Co., LTD	45	RohmTek	30
Anton Paar	31, 32	Malvern Panalytical	48	Shanghai TaiYang Technology Co., Ltd	28
Arcnano, Inc.	34	Materials Data	15, 16	Shimadzu Scientific Instruments, Inc.	40
AXO DRESDEN / Huber Diffraction Equipment	56	Micro X-Ray Inc	53	SPECTRO Analytical Instruments	20
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Herzog Automation	12	Oxford Instruments X-Ray Technology	29	Thermo Fisher Scientific	25
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KETEK GmbH	36	Proto	23, 24	XOS	13

Exhibitors



AMPTEK, Inc.

Booth: 21

Website: www.amptek.com

Email: amptek.sales@ametek.com

Amptek is a high technology company and a recognized world leader in the design and manufacture of state-of-the-art nuclear instrumentation for the satellite, X-ray and gamma ray detection, laboratory, analytical, and portable instrumentation industries.



Angstrom, Inc.

Booth: 19

Website: www.angstrom-inc.com

Email: sales@angstrom-inc.com

Angstrom is a manufacturer of sample preparation equipment and supplies for X-ray analysis. Product line includes the TE250 Ring & Puck Mill and the 4451AE/4452 Pellet Presses. Both products are highly regarded in the XRF community and are well suited for laboratories that require high sample throughput. A complete line of aluminum sample cups will also be on display including a variety of standard depth and deep cup sizes.



Anton Paar

Booths: 31, 32

Website: <https://www.anton-paar.com/us-en>

Email: info.us@anton-paar.com

XRDynamic 500 delivers best-in-class XRD data quality with maximum efficiency. Driven by the TruBeam™ concept, it combines a large goniometer radius, evacuated beam path, and fully automated optics for superior resolution and signal-to-noise ratio. Seamless switching between beam geometries, self-alignment, and high-throughput automation enable fast, error-free measurements across a wide range of XRD, SAXS, and non-ambient applications, with up to 105 samples handled fully unattended.



Arcnano, Inc.

Booth: 34

Website: www.arcnano.com

Email: sales@arcnano.com

Arcnano is a contract manufacturer of precision sensors and components for the scientific instrument and Mil/Aero markets. We operate Wafer Fab and Mech Fab facilities, along with a high-precision machine shop and advanced capabilities in microelectronic packaging, assembly, electronics, and testing.

We make Beryllium X-ray Window Assemblies, Sources, and Detectors for XRF and related X-ray markets, fully leak-tested. The source assemblies are typically made with various target films such as Ag, Au, Ti, W, and Rh. All windows are leak tested.

We carry a large inventory of Beryllium, and all work is done in-house.



AXO DRESDEN / Huber Diffraction Equipment

Booth: 56

Website: www.axo-dresden.de

Email: contact@axo-dresden.de

AXO DRESDEN is a specialist for tailored high precision deposition and multilayer coatings for multilayer X-ray optics, XRD and XRF applications. In addition to that we offer Multilayer Laue Lenses (MLLs) as well as Primux 50 micro focus X-ray source systems.

HUBER DIFFRACTION is a manufacturer of precise positioning and diffraction equipment for laboratory, synchrotron and neutron applications.



Bruker

Booths: 17, 18

Website: www.bruker.com

Email: info.baxs@bruker.com

Bruker is the worldwide leading supplier of advanced X-ray solutions. Continual innovation in X-ray sources, optics, detectors, software and sample handling ensures that Bruker is able to offer a solution for virtually any X-ray analytical task. Stop by our booth to learn about the latest innovations in diffraction, fluorescence, micro-XRF and microtomography.



Herzog Automation

Booth: 12

Website: www.herzog.com

Email: info@herzogautomation.com

Herzog is the world's leading supplier of laboratory automation systems, delivering trusted solutions for sample preparation and quality control across a wide range of global industries. Our systems are utilized by all leading producers in the cement, steel, chemical, metal, recycling, environmental, and food industries, improving efficiency, analytics, and data quality in laboratories worldwide.

Built on decades of German engineering expertise, Herzog delivers integrated automation solutions for sampling, transport, preparation, and analyzer integration, ensuring precise, reproducible material analysis and enhanced laboratory performance.



**International Centre for Diffraction Data
(ICDD)**

Booths: 1, 2

Website: www.icdd.com

Email: info@icdd.com



ICDD, started in 1941, focuses on meeting the needs of the scientific community through the publication of the Powder Diffraction File™ (PDF®) and JADE® software. We strive to provide quality educational opportunities to exchange new ideas and information for materials characterization. ICDD's carefully curated and edited material identification databases interface with diffractometers and analysis systems of the world's leading X-ray equipment manufacturers and software developers. The Powder Diffraction File and JADE are available in a variety of licensing options, including floating/ shareable server-based licenses. Visit us in booths 1 and 2 to discuss your analysis needs.



KETEK

KETEK GmbH

Booth: 36

Website: www.ketek.net

Email: info@ketek.net



KETEK, the leading manufacturer of Silicon Drift Detectors, presents its brand-new AXAS-AX/DX 3.0 electronics platform, replacing the state-of-the-art AXAS-M for large-area SDDs from 80 mm² to 150 mm². With a 40% smaller main body, it represents the smallest electronics for large-area SDDs on the market. Featuring the proprietary DPP3 Digital Pulse Processor, it delivers throughput up to 4 Mcps, excellent energy resolution below 126 eV and Ethernet & USB connectivity for XRF, µXRF and EDS applications.



KS Analytical Systems

Booth: 4

Website: www.ksanalytical.com

Email: ksa@ksanalytical.com

KS Analytical Systems is a premier provider of advanced analytical solutions, specializing in X-ray diffraction (XRD), X-ray fluorescence (XRF), and X-ray microscopy (XRM) technologies. We offer both refurbished and new instrumentation focusing on accuracy, efficiency, and outstanding customer support.



Liотimes Technology Co., LTD

Booth: 45

Website: <http://www.liotimes.com>

Email: sales@megmeet-hitech.com

Backed by MEGMEET Group, LIOTIMES delivers advanced high-voltage power solutions featuring ultra-low ripple and high stability. Our products are widely utilized as core components in precision instruments such as XRF, XRD, SEM, mass spectrometers, thickness gauges, and various X-ray analytical equipment. Equipped with integrated filament power supplies and versatile digital interfaces (CAN, RS-232, Ethernet), our compact designs ensure seamless installation. We provide premium, fully customizable components to power your core systems.



Malvern Panalytical

Booth: 48

Website: www.malvernpanalytical.com

Discover how Malvern Panalytical is redefining benchtop XRF performance with the Revontium analyzer — engineered for labs that demand speed, precision, and efficiency.

Revontium delivers 4× faster elemental detection in a compact, economical footprint, bringing true floor standing capability directly to your bench. With automated sample handling, low operating costs, and zero acid workflows, it gives demanding labs rapid, reliable insights without compromising accuracy or safety.

And for visitors looking to push performance even further, our team will be on hand to discuss Revontium Light Elements Boost — an advanced capability that increases light element sensitivity by up to 6× and boosts throughput by 3× compared to conventional benchtop XRF. It's ideal for at line QC and production control, where fast turnaround and dependable light element accuracy are essential.



Materials Data

Booths: 15, 16

Website: www.materialsdata.com

Email: mdi@materialsdata.com



Materials Data (MDI™), based in California and part of the International Centre for Diffraction Data, creates JADE™, hardware-independent analysis software for X-ray Powder Diffraction. Our software tools are engineered by a group of PhD Materials Scientists with a vision for better methods to analyze, characterize, quantify and simulate both the complex and routine. Together with the ICDD, we are building scalable products with break-through ideas and methods for our XRD community. Visit us in booths 15 and 16 for a demonstration of JADE.



Micro X-Ray, Inc.

Booth: 53

Website: www.microxray.com

Email: sales@microxray.com

Our company is dedicated to addressing unique X-ray application requirements that standard products can't fulfill. We specialize in customizing our products to meet specific customer needs, giving you a competitive edge in the market. Our team is committed to being responsive, flexible, and accommodating, ensuring we provide the best solutions for your X-ray tube challenges.



NXT Power

Booth: 33

Website: www.nxtpower.com

Email: luca.parisi@nxtpower.com

The NXT Power Integrity Max and Vanguard UPS product lines deliver true online double-conversion power protection for laboratories, healthcare, industrial automation, data centers, and analytical instrumentation. With extensive experience supporting X-ray fluorescence (XRF) and X-ray diffraction (XRD) applications, NXT Power provides clean, stable power essential for instrument accuracy, uptime, and data integrity. From compact single-phase systems to scalable three-phase solutions, NXT Power helps organizations eliminate disruptions and protect critical operations.



Oxford Instruments X-Ray Technology

Booth: 29

Website: <https://xray.oxinst.com>

Email: xray-sales@oxinst.com

Oxford Instruments X-Ray Technology develops high-stability XRF sources optimized for quantitative elemental analysis. Leveraging over four decades of tube design, our systems deliver consistent spectral output, high flux density, and low-energy transmission for enhanced sensitivity across a broad elemental range. Precision-engineered for continuous operation, our sources enable accurate coating thickness measurement, alloy discrimination, and trace element detection. Compact, application-focused designs integrate readily into benchtop and inline platforms, supporting reproducible, high-throughput analytical workflows in both industrial and research environments.



Petrick GmbH

Booth: 49

Website: www.petrickgmbh.com

Email: antje.petrick@petrickgmbh.com



Quality, Precision, Excellence

The right solution for every challenge.

Since our founding in 1991, we have been passionately dedicated to the manufacturing and advancement of top-notch X-ray tubes and X-ray assemblies for the fields of medicine and technology. Our extensive product portfolio is characterized by versatility, but beyond that, we excel in developing tailored solutions for your specific requirements. We don't just focus on mass production; we take pride in crafting small batches and individual pieces with the utmost precision.



Proto

Booths: 23, 24

Website: www.protoxrd.com

Email: info@proxrd.com



Proto is one of the fastest growing manufacturers of X-ray characterization equipment in the world. With our versatile team of scientists, you are sure to get the ideal system for your experimental needs. Our product line includes systems for high-resolution XRD, powder XRD, X-ray crystallography, X-ray fluorescence, Laue orientation, and residual stress measurement. We also offer X-ray tubes, high-end MetalJet systems, and custom systems.

Proto is committed to delivering quality products with world-class support that you can count on.



Rigaku

Booths: 37, 44

Website: www.rigaku.com

Email: info@rigaku.com

The Rigaku group of companies are world leaders in the fields of X-ray Diffraction (XRD), X-ray Fluorescence (XRF), X-ray Microscopy (XRM), and other scientific instruments and analytical techniques for industry and research. Using techniques such as powder diffraction, thin-film diffraction, in-situ heating/cooling diffraction, energy dispersive and wavelength dispersive XRF spectrometry, micro and nano computed tomography (CT) materials characterization is performed easily with high precision and accuracy. Rigaku welcomes an opportunity to consult with you on X-ray techniques and instruments for your materials research.



RohmTek

Booth: 30

Website: www.rohmttek.com

Email: bcook@rohmttek.com

RohmTek is a full-service analytical instrumentation partner specializing in XRF, XRD, and materials characterization technologies. As a certified Bruker distributor, we provide instrument sales, rentals, service, application support, and solutions from leading manufacturers. Our services include preventive maintenance, repairs, training, consulting, and custom calibration development through our in-house laboratory. Serving industries such as energy, petrochemical, mining, manufacturing, environmental, and advanced materials, RohmTek helps organizations maximize instrument performance, maintain uptime, and solve analytical challenges efficiently.



Shanghai TaiYang Technology Co., Ltd

Booth: 28

Website: www.en.taiyangkj.com

Email: riping.guan@taiyangkj.com



Shanghai Taiyang Technology Co., Ltd. supplies high-purity beryllium foil, sheets, windows, and custom beryllium components, with purity levels ranging from 98% to 99.8%. We offer customization options for thickness, dimensions, shapes, and surface finishes—including matte, mirror-polished, and sandblasted surfaces. Our beryllium products are widely utilized in X-ray windows, XRD/XRF analytical instruments, medical imaging, industrial inspection, vacuum systems, and other cutting-edge applications that demand exceptional X-ray transparency, lightweight properties, rigidity, and dimensional stability.



Shimadzu Scientific Instruments, Inc.

Booth: 40

Website: www.ssi.shimadzu.com

Email: maquaranta@shimadzu.com

Shimadzu will have on display the new EDX ALTRACE. The EDX ALTRACE is designed for high-sensitivity elemental analysis, achieving detection limits as low as 0.1 ppm for hazardous metals like cadmium and lead. It features a redesigned X-ray optical system, high-output 65 kV X-ray source, high-efficiency detector, and high-speed signal processing circuits. The instrument supports automated analysis of up to 48 samples, enhancing laboratory efficiency.



SPECTRO Analytical Instruments

Booth: 20

Website: www.spectro.com

Email: spectro.info@ametek.com

Members of the AMETEK Materials Analysis Division, SPECTRO Analytical Instruments is a worldwide leading supplier of Elemental Analysis Spectrometers. Specializing in ED-XRF, ICP-OES, ICP-MS and Arc/Spark OES analysis techniques. Featuring our SPECTRO XEPOS and SPECTROCUBE XRF analyzers which are ideal for any type of R&D or process QC applications. Also on display will be our SPECTRO xSORT handheld XRF analyzer. Visit our resource library for the latest in application notes, videos and webinars at www.spectro.com/resourcelibrary to view all related materials.



STOE - An AMI Company

Booth: 35

Website: www.stoe.com

Email: info@stoe.com

STOE by AMI is a leading provider of advanced X-ray diffraction solutions with over 135 years of German engineering excellence. Specializing in powder diffraction, single crystal diffraction, transmission geometry, and non-ambient analysis, STOE systems are designed to deliver exceptional precision, flexibility, and data quality for demanding research and industrial applications.

Known for innovative instrument design and robust analytical capabilities, STOE supports researchers across materials science, pharmaceuticals, chemistry, geology, catalysis, energy storage, and advanced manufacturing. From routine characterization to complex structural analysis, STOE provides solutions that enable deeper insight into material structure and performance.

Visit STOE by AMI to learn more about our XRD technologies and how we help advance materials characterization through innovation, reliability, and scientific expertise.



Thermo Fisher Scientific

Booth: 25

Thermo Fisher Scientific is committed to advancing material science and analytical chemistry through our innovative XRD and XRF solutions. We continuously invest in research and development to ensure we provide cutting-edge technology that meets the evolving needs of our customers. Known for the reliability and accuracy of our instruments, such as the Thermo Scientific™ ARL™ X'TRA Companion X-ray Diffractometer, which ensures detailed and accurate structural analysis crucial for complex sample characterization and widely used in academic research, industrial applications, and geological studies, we guarantee consistent and reproducible results. Additionally, our comprehensive support and services, including installation, training, and maintenance, ensure that our customers achieve optimal performance from their XRD and XRF instruments. Join us in our mission to make the world healthier, cleaner, and safer through scientific excellence and innovation. For more information about our XRD and XRF solutions and how they can benefit your research or industry, please visit our booth or contact our representatives.



VJ X-Ray

Booth: 9

Website: www.vjxray.com

Email: info@vjxray.com

VJ X-Ray designs and manufactures integrated X-ray sources and high-voltage generators engineered for the precision demands of XRD and XRF analysis. Our IXS series combines X-ray tube, high-voltage power supply, and control electronics in one compact, easily integrated package, while our HVL/HVG generators deliver the stable, repeatable output that accurate quantitative and qualitative analysis requires.



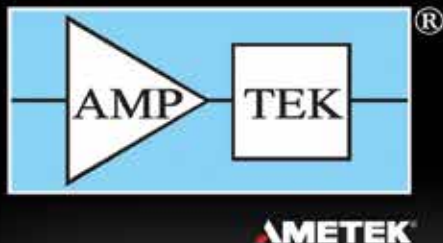
XOS

Booth: 13

Website: www.xos.com

Email: info@xos.com

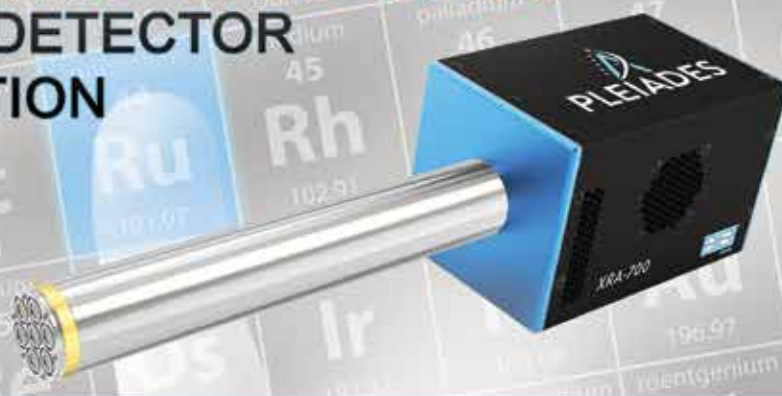
XOS is a global leader in elemental analysis, offering solutions that help drive innovation, ensure compliance, and improve customer efficiency in scientific research, semiconductor and battery manufacturing, pharma, and other industries. XOS advanced optics and OEM subsystems can increase precision, speed, and spatial resolution while helping decrease the instrument's size, complexity, and cost. Experts choose XOS for a broad range of applications, including microanalysis, plating thickness gauge, forensics, and highresolution elemental mapping. XOS: better analysis counts.



XRF DETECTORS: STATE OF THE ART PERFORMANCE

PLEIADES™ XRF SYSTEM

THE NEW SEVEN DETECTOR XRF SOLUTION



- Contains seven high-performance X-ray spectroscopy detectors with unequalled flexibility. Each XRA-700 can be configured to mix-and-match Amptek's X-ray spectroscopy detectors:
- 70 mm², 0.5 mm thick FAST SDDs: 130 eV FWHM at Mn K α at Tpeak of 1 μ s, input count rates > 1 Mcps.
- 70 mm² FAST SDD with C2 entrance window (40 nm of Si₃N₄) for light element detection.
- 1 mm thick, 70 mm² FAST SDD for up to 2x intrinsic efficiency >15 keV.
- CdTe detectors for high efficiency up to 100 keV.
- The XRA-700 can be reconfigured for different detector options in the field.
- Based on standard, stand-alone, hermetically sealed detector modules for the best maintainability, reliability, and flexibility. No vacuum pump is needed. Detector modules can be replaced in the field.
- Control module provides power and cooling. Can be used in "set and forget" mode or the XRA-700 can be monitored via USB or Ethernet interfaces, using EPICS, an SDK, or a standard app.
- Control module provides preamp outputs that are compatible with most third-party digital pulse processors.
- Flexible system design, allowing customization for the most challenging requirements and applications.

Front and rear view of a typical Pleiades Array configuration



Front view shows 7 x 70 mm FAST SDDs with C2 windows, maximizing detector area for low-energy spectra.



Rear view shows the individual BNC connectors, plus power supply and data connections for setup and control, and mode button.

**STOP BY THE AMPTEK BOOTH
TO LEARN MORE ABOUT THE
PLEIADES XRF SYSTEM**

PLEIADES™

2026 Denver X-ray Conference Workshops

Morning Workshops: 9:00am – 12:00pm

Afternoon Workshops: 1:30pm – 4:30pm

Monday AM Workshops, 3 August

9:00am – 12:00pm

Capabilities at the Upgraded APS — Feature Beamlines and New Imaging Frontiers — Part 1

Magnolia

Organizer & Instructors:

Stefan Vogt, Argonne National Laboratory, USA, svogt@anl.gov

Tomoya Kawaguchi, Argonne National Laboratory, USA, tkawaguchi@anl.gov

Gilberto Fabbri, Argonne National Laboratory, USA, gfabbris@anl.gov

Junjing Deng, Argonne National Laboratory, USA, junjingdeng@anl.gov

Pedro Roberto Mercado Lozano, Argonne National Laboratory, USA, pmercadolozano@anl.gov

Jun-Sang Park, Argonne National Laboratory, USA, parkjs@anl.gov

Zhang Jiang, Argonne National Laboratory, USA, zjiang@anl.gov

The recent completion of the Advanced Photon Source (APS) upgrade at Argonne National Laboratory marks a new era in X-ray capabilities, delivering beams up to 500 times brighter than the original APS and dramatically enhancing spatial resolution, sensitivity, and imaging throughput. This workshop will provide an overview of the upgraded APS with particular focus on feature beamlines and emerging methods.

The feature beamlines cover a broad range of capabilities: POLAR (4-ID) enables sensitive probes of electronic and magnetic structure under extreme conditions; XPCS (8-ID) opens new windows into dynamics in soft matter, quantum materials, and battery chemistries; CSSI (9-ID) studies surfaces and interfaces with coherent scattering; ISN (19-ID) provides nanoscale focused beams down to 25 nm for in situ and operando imaging; HEXM (20-ID) uses high-energy X-rays to image bulk materials at multiple length scales under realistic service conditions; and CHEX (28-ID) enables in situ studies of materials synthesis using coherent scattering techniques.

The workshop will also highlight ptychography, a coherence-based computational imaging technique that benefits directly from the upgraded source, enabling quantitative 2D and 3D imaging well beyond the limits of conventional optics.

Participants will have the opportunity to discuss access, experiment planning, and collaborative opportunities.

Introduction to XRD

Lilac C

Organizers & Instructors:

Tom Blanton, ICDD, USA, tblanton@icdd.com

Scott Misture, Alfred University, USA, misture@alfred.edu

Mark Rodriguez, Sandia National Laboratories, USA, marodri@sandia.gov

This workshop will discuss instrumentation and methods for powder XRD in the application of standard qualitative analysis and will detail progressively more challenging applications of XRD characterization including: quantitative analysis, profile fitting, lattice parameter refinement, crystallite size and microstrain determination, texture analysis, and structure refinement (Rietveld).

Basic XRF

Lilac D

Organizer & Instructor:

Andy Drews, Ford Motor Company, USA, adrews@ford.com

This workshop provides a basic introduction to the principles of XRF specifically aimed at those new to the field. In the first half, there will be a general overview of the basic principles of X-ray interactions with matter, sources, detectors and optimization of the signal. The second half of the workshop will cover a short introduction to quantitative analysis and review a variety of examples of applications of the method.

Monday PM Workshops, 3 August

1:30pm – 4:30pm

Capabilities at the Upgraded APS — Feature Beamlines and New Imaging Frontiers – Part 2

Magnolia

Organizer & Instructors:

Stefan Vogt, Argonne National Laboratory, USA, svogt@anl.gov

Tomoya Kawaguchi, Argonne National Laboratory, USA, tkawaguchi@anl.gov

Gilberto Fabbris, Argonne National Laboratory, USA, gfabbris@anl.gov

Junjing Deng, Argonne National Laboratory, USA, junjingdeng@anl.gov

Pedro Roberto Mercado Lozano, Argonne National Laboratory, USA, pmercadolozano@anl.gov

Jun-Sang Park, Argonne National Laboratory, USA, parkjs@anl.gov

Zhang Jiang, Argonne National Laboratory, USA, zjiang@anl.gov

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Participants will have the opportunity to discuss access, experiment planning, and collaborative opportunities.

Environmental Analysis

Cypress

Organizers & Instructors:

Martina Schmeling, Loyola University Chicago, USA, mschmel@luc.edu

Olga Antipova, Argonne National Laboratory, USA, oantipova@anl.gov

The objective of this workshop is to introduce participants to the wide variety of X-ray methods available for environmental analysis and what type of information can be obtained through them. We will discuss several different types of environmental samples and what issues are related to them. Part of the workshop will focus on analysis environmental samples by laboratory X-ray methods, and another part will discuss the capability of synchrotron X-ray methods with specific emphasis on X-ray tomography and microscopy.

Sample Preparation for XRD

Lilac C

Organizer & Instructors:

Tim Fawcett, ICDD, USA, dxcfawcett@outlook.com

Sue Quick, The Pennsylvania State University, USA, quick@cse.psu.edu

Mark Rodriguez, Sandia National Laboratories, USA, marodri@sandia.gov

Specimen preparation is often the limiting step for obtaining good results in a diffraction experiment. Preparation methods can influence the accuracy and precision of peak positions, intensities and profiles. These are the basic measurements required for qualitative and quantitative analysis. The presentation will focus on crystallite and particle effects, orientation and texture, particle statistics and how various preparation methods can reduce or eliminate these influences. We will also show how you can diagnose specimen preparation problems in your data. A discussion on “tricks of the trade” includes various techniques that experts use to analyze odd shaped parts, limited samples, as well as air and moisture sensitive specimens.

Quantitative Analysis of XRF

Lilac D

Organizers & Instructors:

Amber Quevy, Rigaku Americas, USA, amber.quevy@rigaku.com

Alexander Seyfarth, SGS North America Natural Resources Division, USA, alexander.seyfarth@sgs.com

This workshop will cover an introduction to fundamental parameters for quantitative XRF analysis by Alexander Seyfarth and examples using fundamental parameters for semi-quantitative analysis by Amber Quevy.

Tuesday AM Workshops, 4 August

9:00am – 12:00pm

Biomedical Imaging – Part 1

Magnolia

Organizer & Instructors:

Andrew Crawford, Michigan State University, USA, crawf472@msu.edu

Clinton Kidman, University of Saskatchewan, Canada, clinton.kidman@usask.ca

Sarah Gosling, Keele University, United Kingdom, s.b.gosling@keele.ac.uk

X-ray methods offer powerful tools for studying biological systems across multiple length scales, from nanoscale elemental distributions in cells to macroscale tissue structures. This workshop introduces key X-ray imaging techniques used in biomedical research, including absorption imaging, X-ray fluorescence (XRF) mapping, and scattering methods such as small- and wide-angle X-ray scattering (SAXS/WAXS). Emphasis will be placed on how laboratory and synchrotron-based systems can be used together to address complex biological questions. The workshop begins with an overview of biological motivations for X-ray imaging and the types of information each method provides. It then covers experimental design, instrumentation, and real-world applications.

Dr. Andrew M. Crawford will discuss absorption and XRF imaging for mapping elemental distributions and obtaining quantitative chemical data, along with practical considerations for synchrotron experiments and multimodal approaches. Dr. Clinton Kidman will focus on the importance of spatially resolved imaging in biology, highlighting applications such as disease and metal homeostasis, as well as key factors in sample preparation and technique selection. Dr. Sarah Gosling will introduce SAXS/WAXS for tissue analysis, including data collection, analysis, and practical workflow challenges.

This workshop provides a practical introduction for researchers interested in applying modern X-ray imaging techniques to biomedical problems.

Applied Cluster Analysis

Cypress

Organizer & Instructors:

Tim Fawcett, ICDD, USA, dxcfawcett@outlook.com

Thomas Degen, Malvern Panalytical B.V., Netherlands, thomas.degen@malvernpanalytical.com

Nick Rodesney, Bruker, USA, steven.rodesney@bruker.com

Akhilesh Tripathi, Rigaku, USA, akhilesh.tripathi@rigaku.com

Steffen Weber, MDI, USA, steffen@materialsdata.com

Nvidia CEO, Jensen Huang, recently said “AI is not something to fear but a tool that can help people learn faster and work more efficiently”. According to Google, “Cluster analysis in AI is an unsupervised machine learning technique that groups similar, unlabeled data points into clusters, revealing hidden patterns, simplifying complex data, and enabling insights without predefined categories.”

The purpose of this workshop is to demonstrate cluster analyses as applied to X-ray powder diffraction and materials research. Examples will be given using leading XRD commercial software to reveal hidden patterns, simplify complex data, and enable insights. In materials research, the researcher can also add valuable knowledge to work “more efficiently” and make the analyses more insightful.

Pair Distribution Function (PDF) Analysis: Principles, Instrumentation, and Applications

Lilac C

Organizer & Instructors:

Yuya Shinohara, Oak Ridge National Laboratory, USA, shinoharay@ornl.gov

Leighanne C. Gallington, Argonne National Laboratory, USA, gallington@anl.gov

Yuji Shiramata, Rigaku Corporation, Japan, siramata@rigaku.co.jp

As X-ray and Neutron diffraction continue to evolve, the importance of data-driven research has become increasingly evident. This workshop aims to bring together experts from various fields to discuss the latest developments and challenges in diffraction data informatics. The workshop will cover a broad range of topics related to diffraction data, including publishing and validation of data, storage, and collation of data in databases, and applications enabled by data. We will explore the current state of data storage and curation at user facilities and discuss best practices for ensuring the long-term accessibility and usability of data. Specialized topics will include the handling and analysis of magnetic and powder diffraction data, highlighting the unique challenges and opportunities in these areas.

Micro XRF & Trace Analysis

Lilac D

Organizer & Instructors:

Kouichi Tsuji, Osaka Metropolitan University, Japan, k-tsuji@omu.ac.jp

Ursula E.A. Fittschen, TU Clausthal, Clausthal-Zellerfeld, Germany, ursula.fittschen@tu-clausthal.de

Shohei Uemura, Rigaku, Japan, s-uemura@rigaku.co.jp

The phenomenon of total reflection of X-rays (TXRF) has been applied to improve the analytical sensitivity of X-ray fluorescence (XRF) analysis and to achieve surface-sensitive X-ray analysis. Furthermore, this phenomenon is also used in X-ray focusing technology. Therefore, in this workshop, after explaining the basics of total reflection of X-rays, we will explain the basics of TXRF analysis, instrument configuration, and

application examples. In particular, sample preparation is important for this method, and we will introduce the pico-droplet technique for sample preparation. We will then explain micro X-ray fluorescence (Micro-XRF) analysis using polycapillary X-ray focusing optics and confocal 3D X-ray fluorescence analysis equipment, and how they can be used. Finally, we will explain the principles and instrument configuration of wavelength-dispersive X-ray fluorescence (WDXRF) analysis. Applications of WDXRF to trace analysis and quality control of industrial materials will be shown.

Tuesday PM Workshops, 4 August

1:30pm – 4:30pm

Biomedical Imaging – Part 2

Magnolia

Organizer & Instructors:

Andrew Crawford, Michigan State University, USA, crawf472@msu.edu

Clinton Kidman, University of Saskatchewan, Canada, clinton.kidman@usask.ca

Sarah Gosling, Keele University, United Kingdom, s.b.gosling@keele.ac.uk

X-ray methods offer powerful tools for studying biological systems across multiple length scales, from nanoscale elemental distributions in cells to macroscale tissue structures. This workshop introduces key X-ray imaging techniques used in biomedical research, including absorption imaging, X-ray fluorescence (XRF) mapping, and scattering methods such as small- and wide-angle X-ray scattering (SAXS/WAXS). Emphasis will be placed on how laboratory and synchrotron-based systems can be used together to address complex biological questions. The workshop begins with an overview of biological motivations for X-ray imaging and the types of information each method provides. It then covers experimental design, instrumentation, and real-world applications.

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This workshop provides a practical introduction for researchers interested in applying modern X-ray imaging techniques to biomedical problems.

2D Detectors

Lilac C

Organizers & Instructors:

Tom Blanton, ICDD, USA, tblanton@icdd.com

Bob He, Bruker, Retired, USA, bob.he2020XRD@gmail.com

Joe Ferrara, Rigaku, USA, joseph.ferrara@rigaku.com

Takeyoshi Taguchi, Dectris, Japan, takeyoshi.taguchi@dectris.com

Two-dimensional diffraction data contain abundant information about the atomic arrangement, microstructure, and defects of a solid or liquid material. In recent years, the use of two-dimensional detectors has dramatically increased in academic, government and industrial laboratories. This workshop covers recent progress in two-dimensional X-ray diffraction in terms of detector technology, geometry and configuration of the two-dimensional diffractometer. Various applications such as phase ID, texture, stress, crystallinity, combinational screening and thin film analysis will be discussed.

Benchtop Micro XRF Fundamentals

Lilac D

Organizer & Instructors:

Tina Hill, Bruker, USA, tina.hill@bruker.com

Christian Hirschle, Bruker, USA, christian.hirschle@bruker.com

This 3-hour Benchtop Micro XRF Fundamentals Workshop is built for both new and experienced users who want a deeper understanding of how instrument choices and settings translate into better results. We'll start with a practical overview of micro XRF fundamentals and the components that most strongly impact data quality—X ray source and optics, detector performance, and primary filters, and vacuum/helium environments for improved sensitivity and lower detection limits.

Next, we'll transition from point analysis to elemental mapping, illustrating how dwell time and step/pixel size drive spatial resolution, data and image quality, and analysis time. You'll also learn how spectral features such as Compton scatter and Bragg diffraction can add context or hinder when interpreting complex samples.

Finally, we'll tie together qualitative, semi quantitative, and quantitative workflows, including when “relative” results are the right tool for non-ideal specimens (layered, wet, or non-flat) and how to improve quantitative confidence with reproducibility checks, method validation, and reference standards or fundamental parameter (FP) methods for robust standardless quantification.

XRD Poster Session – Monday Evening

3 August • 5:00PM - 7:00PM • Grand Ballroom

*Signifies presenting author

The Monday evening XRD poster session will be held 5:00pm – 7:00pm in the Grand Ballroom, in conjunction with a wine and cheese reception. “Best Poster” awards will be given at the end of the session, including “Best Student Poster”.

Chair: **Tom Watkins**, Oak Ridge National Laboratory, Retired, USA, trw11trw@gmail.com

Sponsored Awards:

Anton Paar Excellence in X-ray Analysis Poster Award - Recognizes an outstanding poster presentation that demonstrates excellence in the application of X-ray analytical techniques, including X-ray diffraction (XRD) and related methods. Selection Criteria can be found within the PheedLoop event app, under the XRD Poster Session. The recipient of the award will receive a pair of Ray-Ban Meta Wayfarer (Gen 1) glasses and an Anton Paar Recognition Plaque.

ICDD® XRD Poster Award - Presented for the student poster that best utilizes XRD for phase identification and materials characterization. The awardee will demonstrate how phase identification can be correlated with material properties, with an emphasis on data quality leading to accurate phase analysis results. Judging will focus on the clarity of the poster and the author’s presentation. The awardee will be provided with a one-year license for the ICDD PDF-5+ database.

- D-2 Crystal Structures of Large-Volume Commercial Pharmaceuticals – 2026
James Kaduk*, **N. Boaz**, **R. Hodge**, **J. Salazar**, **J. Ducreux**, North Central College, USA
A. Dosen, **T. Blanton**, ICDD, USA
- D-11 ICDD® Polymer Diffraction Raw Data Project – Polymers, and Grease
Thomas Blanton*, **D. Bohnenberger**, **M. Rost**, International Centre for Diffraction Data, USA
S. Zyzieszynski, **S. Misture**, Alfred University, USA
- D-12 Pristine Amorphous Silica Xerogel Inclusion in Limestone Calcined Clay Cement (LC3) Production STUDENT
Mandela Toku*, Kwame Nkrumah University of Science and Technology, Ghana
- D-35 Grow, Characterize & Discover: PLD & XRD Core Facilities at Northwestern University
Supriyo Majumder*, **S. Kewalramani**, **D.B. Buchholz**, **M.J. Bedzyk**, Northwestern University, USA
- D-36 In situ Oxidation of the Nickel-based Superalloy Diamalloy 1005
Benjamin Hulbert*, **J. Stokes**, NASA Glenn Research Center, USA
- D-37 Preparation and Structural Characterization of Au/Pd Thin Films
Qiyin Lin*, University of California, Irvine, USA
- D-40 PtPdFe Intermetallic Superlattices for Fuel Cell Electrocatalysis: X-ray Structural Analysis
Jong-Sung Yu*, **M.I. Maulana**, DGIST, Republic of Korea
- D-55 Comparative XRD Study of Compositions from Low-Entropy to High-Entropy STUDENT
Sudarshan Luitel*, **C. Segre**, Illinois Institute of Technology, USA
- D-60 Structure–Property Characteristics in Lithiated X-Type Zeolite–Based Composite Polymer Electrolytes for Solid-State Lithium Batteries STUDENT
Ishani Senevirathna*, **C. Segre**, Illinois Institute of Technology, USA
- D-66 Quantitative Analysis of Bone Phantom Mineral Phase Composition using Quantitative Powder X-ray Diffraction Spectrometry STUDENT
Bobby Tang*, **E. Da Silva**, Toronto Metropolitan University, Canada
- D-87 Composition and Thickness Measurement of Si_{1-x}Ge_x Epitaxial Layer with Uncertainty Evaluation Using High-Resolution X-ray Diffraction (HR-XRD)
Chiu-Hun Su*, **T.-K. Chen**, **F.-H. Lin**, **C.-Y. Liu**, **W.-E. Fu**, Industrial Technology Research Institute, Taiwan
- D-91 Accelerate Your Research: Automated Mail-in XRD at SSRL BL 2-1
Sikhumbuzo Masina*, SLAC/SSRL, USA
M. Cosby, **N. Strange**, **V. Thampy**, **C. Troxell Jr**, **K. Stone**, SLAC National Accelerator Lab/SSRL, USA
- D-99 Challenges in PXRD Analysis of Shear Structure Wadsley-Roth Phases for Battery Anodes STUDENT
Jessica Lyza*, **I. Milisavljevic**, **R. Santiago**, **R. Kavanagh**, Alfred University, USA
M.A.A. Muhit, **H.-C. zur Loye**, **M. Stefik**, University of South Carolina, USA
- D-102 Using Energy Dispersive X-ray Diffraction and Tomography to Characterize 2032 Coin Cell Batteries in Operando
John Okasinski*, **A. Chuang**, Argonne National Laboratory, USA
- D-113 Investigation on X-ray Photoelectron Spectroscopy, Structural, Electronic, Photocatalytic, and Photoelectric Performance of Au/TiO₂/CNTs Nanostructure
Abdel Khaleq Alsmadi*, **B. Salameh**, **A. Bumajdad**, Kuwait University, Kuwait
M. Madkour, Arish University, Egypt
- D-116 Mounting Method for Slurry-Type Samples for Quantitative Analysis by Powder X-ray Diffractometry STUDENT
Hibiki Shirata*, **R. Nakamura**, **Y. Koike**, Meiji University, Japan
- D-119 Calibration of the Illite and Smectite Interstratification Geothermometer, I/Sm (%), for the Borinquen Geothermal Field, Costa Rica
Edward Hakanson*, Instituto Costarricense de Electricidad, Costa Rica

- D-120 Successful Implementation of Cation Saturation in Clays for XRD Analysis at the Fuentes Geotérmicas Petrography and Diffraction Laboratory
Edward Hakanson*, Instituto Costarricense de Electricidad, Costa Rica
- D-121 The Use of Zinc Oxide as an Internal Standard for Estimating the Clay Fraction present in Bulk Samples Representing Different Deposit Types
Edward Hakanson*, Instituto Costarricense de Electricidad, Costa Rica
- D-124 Quantifying Dislocation Density and Structure with X-ray Diffraction and Small Angle Scattering **STUDENT**
Quinton Geller*, **D. Brown**, **B. Clausen**, **D. Savage**, **T. Carver**, **M. Bull**, Los Alamos National Laboratory, USA
J.S. Park, **P. Kenesei**, Argonne National Laboratory, USA
- D-136 A Pre-processing Pipeline to Assess Tissue Heterogeneity in X-ray Scattering-Based Cancer Classification **STUDENT**
Kyriacos Kyriacou*, **L. Adams**, **A. Ajeer**, **S. Gosling**, **B. Herrington**, **C. Greenwood**, Keele University, United Kingdom
E. Arnold, **T. Snow**, Diamond Light Source, United Kingdom
P. Cool, The Robert Jones and Agnes Hunt Orthopaedic School, United Kingdom
M. Kitchen, Keele University and University Hospitals of North Midlands, United Kingdom
I. Lyburn, Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom
K. Rogers, Cranfield University, United Kingdom
N. Stone, University of Exeter, United Kingdom
- D-144 Impact of Organic Cation Architecture on Crystal Structure and Charge Carrier Separation in BiI₃- and SbI₃-Based Hybrids **STUDENT**
Rawan Hirzalla*, **J. Dehnell**, **I. Ilevine**, **I. Hadar**, The Hebrew University of Jerusalem, Israel
- D-150 Tailoring Structure and Morphology of Zinc Hexacyanoferrate via Acid Assisted Synthesis for High Performance Sodium-ion Batteries **STUDENT**
Wajahat Khan*, Politecnico di Torino and Sapienza University of Rome, Italy
L. Buccini, **A. Proietti**, **M. Agostini**, Sapienza University of Rome, Italy
F. Mura, **M. Rossi**, Sapienza University of Rome and Research Center for Nanotechnology Applied to Engineering of Sapienza University of Rome (CNIS), Italy
- D-151 Polymorph Generation by Solid State Dehydration: 4-Hydroxycoumarin **STUDENT**
Lindsey K. Foote*, **J.E. Mann**, **V.B. Nicely**, **J.A. Swift**, Georgetown University, USA
- D-164 Group I Urate Salts **STUDENT**
Shae S. London*, **M. Zhu**, **J.A. Swift**, Georgetown University, USA
- D-168 Chemical Preparation, Crystal Structure, Raman, Infrared, and Vibrational Studies of New Zirconium Monophosphates Na_{0.5}M_{0.25}Zr₂(PO₄)₃ (M = Mn, Ni, Co) **STUDENT**
Hamza Marouani*, **S. Belaaouad**, **S. Zerraf**, **E. Mehdi Majdi**, Université Hassan II de Casablanca, Morocco
- D-169 Using X-ray to Understand Prostate Tissue heterogeneity: A Multimodal Study **STUDENT**
Beau Herrington*, **S. Gosling**, **L. Adams**, **K. Kyriacou**, **C. Greenwood**, Keele University, United Kingdom
A. Ajeer, University College London, United Kingdom
E. Arnold, **A. Smith**, **T. Snow**, Diamond Light Source, United Kingdom
P. Cool, The Robert Jones and Agnes Hunt Orthopaedic School, United Kingdom
J. Greenberg, Quadridox Inc, USA
M. Kitchen, Keele University and University Hospitals of North Midlands, United Kingdom
I. Lyburn, Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom
K. Rodgers, Cranfield University, United Kingdom
N. Stone, University of Exeter, United Kingdom
- D-171 The Effect of Dopants on Thymine Hydrate Dehydration **STUDENT**
Meghan Brandt*, **E. Miehl**, **J. Swift**, Georgetown University, USA
- D-179 Structure-Function Insights into Xyloglucan-Utilizing Enzymes of *Ruminococcus Birculans* **STUDENT**
Bradley Small*, **W. Stewart**, **F. Van Petegem**, **H. Brumer**, University of British Columbia, Canada
- D-180 Mineral Classifications in the Powder Diffraction File™
Soorya Kabekkodu*, **D. Sagnella**, **V. Bosnic**, **T. Blanton**, ICDD, USA

XRF Poster Session – Tuesday Evening

4 August • 5:00PM - 7:00PM • Grand Ballroom

*Signifies presenting author

The Tuesday evening XRF poster session will be held 5:00pm – 7:00pm in the Grand Ballroom, in conjunction with a wine and cheese reception. DXC “Best Poster” awards will be given at the end of the session, including “Best Student Poster”.

Chair: **Martina Schmeling**, Loyola University Chicago, USA, mschmel@luc.edu

Sponsored Awards:

Amptek Award for Best Student XRF Poster - Best Student Poster during the XRF Poster Session. Amptek will award the winner with an Apple iPad. This award is separate from the DXC Best Student Poster Award.

XOS Innovation Award™ - Recognizes the Best Poster Presentation at the Denver X-ray Conference characterized by the spirit of innovation, excellence in research, and scientific and/ or community impact. Selection Criteria can be found within the PheedLoop event app, under the XRF Poster Session. Grand prize awardee will receive GoPro MAX2 Waterproof 360+ Traditional Action Camera with Touch Screen. Runner up will receive Bose QuietComfort Headphones – Wireless Bluetooth Headphones, Active Over Ear Noise Cancelling and Mic, USB C Charging.

F-10 Determination of Sulfur Content in Petrochemical Products by Using Wavelength Dispersive Fluorescence Spectroscopy with S6 Jaguar Wd -XRF with Regarding to ASTM D2622-16

Mohammed Abdelbarie*, GOEIC, Egypt

F-15 Modernizing Micro-XRF Data Visualization Through Python-Based Post Processing of Elemental Maps and 3D Topographical Correlation

Oscar Duarte*, Los Alamos National Laboratory, USA

F-21 Reconstructing Multi-Photon Interactions in Silicon Based Energy Dispersive Area Detectors to Restore Photon Statistics

Andrew Fram*, **M. Huth**, **B. Eckert**, **P. Makewski**, **S. Aschauer**, **H. Soltau**, PNDetector GmbH, Germany
L. Strüder, PNSensor GmbH and University of Siegen, Germany

F-26 High Voltage Stability Over Temperature for Moxtek's Miniture X-ray Sources

Steven Morris*, **S. Cornaby**, **V. Jones**, **D. Paas**, Moxtek Inc, USA

F-27 X-ray Fluorescence Analysis of Ground Coffee from Commercial Pods

Javier Miranda*, **D.L. Serrano-Juárez**, **J.C. Pineda-Sanatamaría**, **S. Reynoso-Cruces**, Universidad Nacional Autónoma de México, Mexico

F-29 Temperature-related Changes in Picoliter Assisted Film-like Morphology Formation STUDENT

Franziska Sand*, **A. Stark**, **U.E.A. Fittschen**, Clausthal University of Technology, Germany

F-34 L X-ray Production Cross Sections of Rh and Pd Induced by the Impact of 12C3+ and 13C3+ Ions

Javier Miranda*, **D.L. Serrano-Juárez**, **J.C. Pineda-Santamaría**, **S. Reynoso-Cruces**, **D.J. Marín-Lámbarri**, Universidad Nacional Autónoma de México, Mexico

F-45 BORA: Boundary-Optimized ROI Acquisition from Hybrid AI Segmentation for Automated XRF Fine Scanning

Hoon Seo*, **S. Chen**, **A. Glowacki**, **N. Schwarz**, Argonne National Laboratory, USA

F-49 Electrochemical Reduction of CO₂ Using CuO and CuO@ZnO Catalysts: Synthesis, Characterization, and Performance Evaluation STUDENT

Chelsy Gonzalez*, **K. Castañeda**, **C. Segre**, Illinois Institute of Technology, USA

F-50 High-Resolution, Quantitative, In Vivo Drug Tracking with X-ray Fluorescence Imaging for Preclinical Applications

Linda Dalipi*, **C. Fedosejevs**, **M.M. Bidhendi**, **M. Roßbach**, Axiom Insights GmbH, Germany

F-62 Latest Developments in Next Generation Large Area Silicon Drift Detector Readout Systems

Thomas Ganka*, **C. Luckey**, **C. Langer**, **A. Pahlke**, **J. Knobloch**, KETEK GmbH, Germany

F-78 A Novel Substrate-Assisted X-ray Leakage Method for Sub-Nanometer Film Thickness Characterization

Wei-En Fu*, **Y.-H. Wu**, **S.-J. Shen**, **C.-Y. Liu**, **F.-H. Lin**, Institute of Industrial Technology Research, Taiwan

F-85 Development of Laser Surface Cleaning for Genesis and Other Space Relevant Samples

Martina Schmeling*, **M. Frilot**, Loyola University Chicago, USA
I. Veryovkin, Steam Instruments, USA

F-96 Statistical Comparison of Chemical Data Obtained by XRF, EDS, and XRD Methods

Jessica Grealy*, **L. Hernandez**, **J. Ramirez**, Owens Corning, USA

F-104 Operando XAS Investigation of Pd-Decorated Ni(OH)₂ and Ni_{0.9}Co_{0.1}(OH)₂ as Bifunctional Electrocatalysts for Metal–Air Battery Applications STUDENT

Benard Lawer*, Illinois Institute of Technology, USA
C. Segre, Illinois Institute of Technology and Influid Energy, USA

F-108 Synthesis and Characterization of Copper Nano Layers on Poly Electrolyte Membranes

Steffen Witzleben*, Bonn-Rhein-Sieg University, Germany

F-112 Analysis of Foreign Substance in Battery Materials Using Confocal Micro XRF

Hitomi Nakano*, **T. Shimizu**, **T. Yamada**, **S. Komatani**, Horiba Techno Service Co., Ltd, Japan
K. Tsuji, Osaka Metropolitan University, Japan

F-115 Application of X-ray Microanalysis for Fluorine Determination in PFAS-Related Samples

Ngee Chong*, **E. Zhu**, **B. Ooi**, Middle Tennessee State University, USA
A. Ramesh, Meharry Medical College, USA

- F-131 Tracking Migration of Heavy Metals in The Little Sacramento Creek Basin, Pike National Forest, Colorado
Debbie Siples*, Malvern Panalytical, USA
- F-132 Copper Stress in Edible Crops: Growth Inhibition and Elemental Redistribution Revealed by X-ray Fluorescence Imaging
Eleni Tsahiridis*, **M. Fedko**, **A. Fritsch**, **M. Graciova**, **S. Knutte**, **R. McManus**, **N. Persak**, **L. Rupert**, **K. Szaflarski**, **J. Wesoly**, **E. Horan**, Lemont High School, USA
O. Antipova, **K. Sturner**, **W. Cha**, Argonne National Laboratory, USA
- F-134 Exploring the Elemental Composition of Ovarian and Fallopian Tube Tissue
Sarah Gosling*, **B. Herrington**, **K. Kyriacou**, **C. Greenwood**, Keele University, United Kingdom
E. Arnold, **T. Snow**, Diamond Light Source, United Kingdom
J. Greenberg, Quadriox Inc, USA
I. Lyburn, Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom
K. Rogers, Cranfield University, United Kingdom
S. Soo Hoo, University Hospitals of North Midlands, United Kingdom
N. Stone, University of Exeter, United Kingdom
- F-139 Heavy Metal X-ray Fluorescence Imaging of Plants Grown in Contaminated Soil STUDENT
San Nguyen*, **A. Tovar**, **M. Schmeling**, Loyola University Chicago, USA
O. Antipova, Argonne National Laboratory, USA
- F-142 X-ray Spectroscopy Probes of a New Anionic Redox Path in Li-Rich Layered Cathodes
Carlo Segre*, **H. Lin**, Illinois Tech, USA
- F-149 Upgrade of the MRCAT Bending Magnet Beamline at the Advanced Photon Source
Yujia Ding*, **J. Wright**, **N. Su**, **A. Khounsary**, **C. Segre**, Illinois Institute of Technology, USA
J. Kropf, Argonne National Laboratory, USA
- F-155 Automated Data Quality Assessment and Intelligent Analysis for X-ray Absorption Spectroscopy
Peter Ufondu*, Canadian Light Source Inc., Canada
- F-162 Low Dilution Borate Fusion for Whole Rock XRF using PXRF and EDX Equipment
Alexander Seyfarth*, SGS North America, USA
B. Langsdorf, Hamilton College, USA
- F-163 How Accurate Can μ -XRF Be? Quantification of a Binary SiO_2 - TiO_2 Glass System
Michael Lara*, **J. Vargesson**, Corning, USA
- F-172 Biomedical Investigation of Trace Element Analysis in Hard Biological Matter by Suspension-assisted TXRF STUDENT
Sebastian Hauser*, **K. Leopold**, Ulm University, Germany
- F-173 A Frameless, Event-Driven Detector for Full-Field X-ray Fluorescence Imaging Charge-Sharing Compensation
Piotr Maj*, **G. Deptuch**, **D. Gorni**, **A. Rumaiz**, **D. Siddons**, Brookhaven National Laboratory, USA
- F-176 Achieving ICP-MS-Comparable Sensitivity in TXRF via VPD-VPT Processing: Impact of Contamination Morphology
Ahae Cho*, **M. Choi**, **T. Park**, **D. Choi**, **J. Sim**, **Y. Jang**, **C. Song**, Lam Research Korea Technology Center, Republic of Korea
- F-177 An XRF Classification Framework for High-Throughput Industrial Aluminum Alloy Recycling
Hoang Triet Giang Le*, **Y. Joshi**, **J. Berry**, **L. Chellapan**, **S.K. Saripalle**, Sortera Technologies, USA



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Plenary Session

Wednesday AM, 5 August

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75 Years of Brilliance: Honoring Our Past, Shaping DXC's Future

Lilac C & D

Chairs: **Andy Drews**, Ford Motor Company, USA, adrews@ford.com

Scott Misture, Alfred University, USA, misture@alfred.edu

Brian Toby, Argonne National Laboratory, USA, brian.toby@anl.gov

Tom Watkins, Oak Ridge National Laboratory, USA, watkinstr@ornl.gov

- 8:30 Welcoming Remarks and Awards
Scott Misture, Chair of the Denver X-ray Conference Organizing Committee, Alfred University, USA
 2026 Birks Award presented to **Burkhard Beckhoff**, Physikalisch-Technische Bundesanstalt, Germany. Presented by **Scott Misture**, Chair of the Denver X-ray Conference Organizing Committee, Alfred University, USA.
 2026 Robert L. Snyder Student Awards to be announced by **Tom Blanton**, Executive Director, ICDD, USA.
 Remarks by the Plenary Session Chairs.
- 9:00 P-105 75 Years of Learning, Growth and Continuous Development in Materials Analysis with the Denver X-ray Conference
Timothy Fawcett*, ICDD, USA
- 9:45 P-158 X-ray Based Microanalysis and Materials Characterization
Ursula E.A. Fittschen*, Clausthal University of Technology, Germany
S. Hampel, Deutsches Elektronen Synchrotron, Germany
- 10:30 Break
- 11:00 P-56 X-rays Coming into Focus: Past and Future Journeys Towards Nanoimaging
Chris Jacobsen*, Northwestern University, USA

Oral Sessions

Wednesday PM, 5 August

*Signifies presenting author

New Developments in XRD & XRF Instrumentation

Magnolia

Chairs: **Andy Drews**, Ford Motor Company, USA, adrews@ford.com

Tim Fawcett, ICDD, USA, dxcfawcett@outlook.com

- 1:30 S-181 Advancing Laboratory High-Energy XRD with the LYNXEYE HE Detector
Nick Rodesney*, **B. Jones**, Bruker AXS, USA
M. Evans, Bruker AXS, Germany
- 1:45 S-67 Latest Developments in Silicon Drift Detectors and Readout Electronics
Christian Luckey*, **T. Ganka**, **C. Langer**, **A. Pahlke**, **J. Knobloch**, KETEK GmbH, Germany
- 2:00 S-73 Event-Based Characterization of Agricultural Fugitive Dust using TXRF Analysis
Noah Davisson*, Bruker, USA
- 2:15 S-118 Extending Micro-XRF to Light Elements: Carbon and Oxygen Detection and Quantification Using a Si_3N_4 -Window Detector
Shangshang Mu*, **A. Moy**, **G. Weppelman**, **E. James**, **J. Wilbrink**, **S. Coyle**, Gatan Inc, USA
- 2:30 S-152 Smarter Than Hardware: Signal Processing Innovations in Modern WD-XRF
Julia Sedlmair*, **K. Behrens**, Bruker AXS, USA
- 2:45 S-71 Diffraction Analysis with Nanometer-Resolution in the Home Lab – On the Use of Electrons Instead of X-rays
Martijn Fransen*, **A. Galanis**, **A. Gomez-Perez**, **J. Portillo**, **E. Grivas**, **P.P. Das**, **S. Nicolopoulos**, NanoMEGAS SRL, Belgium
- 3:00 Break
- 3:30 S-25 MOXTEK's Developments in Compact X-ray Sources: 500 μA X-ray Source for Handheld XRF
Sterling Cornaby*, **V. Jones**, **D. Paas**, Moxtek Inc, USA
- 3:45 S-83 X-ray Absorption Spectroscopy Implementation on a Laboratory X-ray Powder Diffractometer
Detlef Beckers*, **M. Gateshki**, **C. Zarkadas**, **L. Ding**, **H. Hussain**, Malvern Panalytical B.V., Netherlands
- 4:00 S-123 Thin Film RGTMs for the X-ray Community
Donald Windover*, **J. Gorham**, **C. Yung**, National Institute of Standards and Technology, USA
- 4:15 S-153 Latest Developments in PDF Measurements: 5 Years of Innovation with XRDynamic 500
Tom Faske*, **P. Vir**, **B. Schrode**, Anton Paar GmbH, Austria
- 4:30 S-138 TITAN - Power Over the Elements
Gifty Acquah*, **T. Heek**, **K. Schneider**, **P. Fischer**, Bruker AXS, USA

State of the Art X-ray Approaches for Cultural Heritage

Cypress

Chair: **Tina Hill**, Bruker, USA, tina.hill@bruker.com

1:30	S-6	Prospecting for Collagen in Old Bison Bones Stuart Stock* , Northwestern University, USA V. Cooley, J.-S. Park , Argonne National Laboratory, USA H. Lutz , Denver Museum of Nature and Science, USA
1:50	S-17	Portable Analytical Methods for Ivory: Combined Handheld-XRF and Raman Studies of Elephant and Mammoth Ivory Nina Scheffel* , S. Witzleben , Bonn-Rhein-Sieg University of Applied Sciences, Germany
2:10	S-24	Application of Spatially Resolved Micro X-ray Fluorescence Imaging to Identification of Potentially Hazardous Pigments in Historic 19 th and 20 th Century Books Analicia Robbins* , A. DeHoyos, B. Southwell, D. Wright , Lake Superior State University, USA N. Gordon , Sault Tribe of Chippewa Indians, USA S. Kolomyjec , University of Olivet, USA
2:30	S-130	Minerals Used in Painting at the Teotihuacan Neighborhoods of Xalla and Teopancazco Xim Bokhimi* , L. Manzanilla , Universidad Nacional Autonoma de Mexico, Mexico
2:50	S-178	Reliable Characterization of Advanced Materials by Traceable X-Ray Spectrometry Burkhard Beckhoff* , Physikalisch-Technische Bundesanstalt (PTB), Germany

SAXS & WAXS / Pair Distribution Function

Lilac C

Chair: **Tom Watkins**, Oak Ridge National Laboratory, Retired, USA, trw11trw@gmail.com

1:00	D-135	The APS 12-ID-E Station: A New High-Resolution Beamline for USAXS and Pinhole SAXS/WAXS INVITED Byeongdu Lee* , Argonne National Laboratory, USA
1:30	D-52	Bayesian Inference for Improved Resolution and Faster Data Acquisition of Lab-Based Small-Angle X-ray Scattering INVITED Yuya Shinohara* , C.-H. Tung, W.-R. Chen , Oak Ridge National Laboratory, USA
2:00	D-19	Colloidal Dispersions and Self-Assembly of Electrostatically Stabilized PbS Quantum Dots STUDENT Ahhyun Jeong* , D. Talapin , University of Chicago, USA
2:20	D-170	Realizing and Revealing Programmable 3D Nanomaterials INVITED Oleg Gang* , Columbia University and Brookhaven National Lab, USA
2:50		Break
3:15	D-51	Beyond Snap-Shot Structure: Dynamical Measurement using Pair-Distribution Function INVITED Yuya Shinohara* , Oak Ridge National Laboratory, USA
3:45	D-33	In Situ Characterization of Highly Disordered Systems via X-ray Total Scattering Measurements INVITED Leighanne Gallington* , Argonne National Laboratory, USA
4:15	D-82	From Atomic Structure to Application: A Bottom-Up Approach to Designing Compositionally Complex Multifunctional Spinel Oxides Sikhumbuzo Masina* , SLAC/SSRL, USA G. Nkala, M. Kiefer, K. Stone , SLAC National Accelerator Lab/SSRL, USA C. Cao, W. He , Stanford University, USA Y. Mhlana , Wits University, South Africa Y. Zhang , Oak Ridge National Lab, USA
4:35	D-122	Crystallization of Molecular Glass: From Amorphous State to New Polymorphic Forms in the API Sodium Naproxen Brad Losey* , Malvern Panalytical, USA G. Nénert, L. Ding , Malvern Panalytical, Netherlands

General XRF

Lilac D

Chair: **Ursula E.A. Fittschen**, TU Clausthal, Clausthal-Zellerfeld, Germany, ursula.fittschen@tu-clausthal.de

1:00	F-31	From Entrepreneurial Vision to Industry Standard: Continuous XRF in Mining and Exploration INVITED Annelie Lundström* , Veracio, Sweden
1:30	F-47	Grazing Incidence X-ray Fluorescence (GIXRF) Fluence Measurements of Sulfur in NASA Genesis Mission Collector Samples Martina Schmeling* , Loyola University Chicago, USA D. Ingerle, P. Wobrauschek , Technische Universität Wien, Austria C. Strelt , Technische Universität Wien and Atominstitut, Austria
1:50	F-28	Influences on Picoliter Derived Film Formation STUDENT Franziska Sand* , U.E.A. Fittschen , Clausthal University of Technology, Germany S. Hampel , Deutsches Elektronen-Synchrotron DESY, Germany

2:10	F-20	Scanning Micro-XRF Mapping Versus Full-Field Hyperspectral XRF Imaging Using an Energy-Dispersive Area Detector Andrew Fram* , H. Schmidt , B. Eckert , M. Huth , P. Majewski , M. Brunner , S. Aschauer , H. Soltau , PNDetector GmbH, Germany L. Strüder , PNSensor GmbH and University of Siegen, Germany
2:30	F-114	Using K α XES to Determine Oxidation States of 3D-Elements in Dilute High Absorbing Samples STUDENT Frithjof Mähler* , U.E.A. Fittschen , Clausthal University of Technology, Germany
2:50		Break
3:15	F-161	Going for Gold! INVITED Alexander Seyfarth* , SGS North America, USA
3:45	F-133	A Study of Arsenic Uptake by Rice Plants Grown in Waterlogged Environment Olga Antipova* , W. Cha , Argonne National Laboratory, USA D. Nead , L. Corral , E. Mata , B. Rios Rivera , East Aurora High School, USA O. Ponomarenko , University of Saskatchewan, Canada
4:05	F-84	From Cell Walls to Nano-Clusters: Investigating the Effects of Metals on Biomonitoring Mosses Using Synchrotron X-ray Experiments STUDENT Matthias Weinberger* , H. Lichtenegger , BOKU University, Austria L. Schillaci , I. Lang , University of Vienna, Austria S. Kalbfleisch , Max IV – NanoMAX, Sweden
4:25	F-18	Striving for Accuracy in the Analysis of Chalcophile Elements in Complex Lithologies: Pitfalls and Practical Solutions Using Portable ED-XRF Harry Rowe* , G. Zanoni , A. Morrell , E. Sivil , Rohmtek, USA

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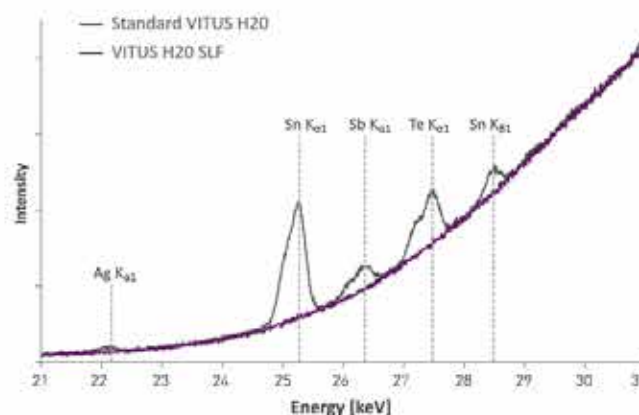


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Oral Sessions

Thursday AM, 6 August

Agentic AI and Foundation Models for X-ray Science – Part 1

Magnolia

Chairs: **Mathew Cherukara**, Argonne National Laboratory, USA, mcherukara@anl.gov

Esther Tsai, Brookhaven National Laboratory, USA, etsai@bnl.gov

9:00	S-9	Equivariant Diffusion Solution for Inorganic Crystal Structure Determination from Powder X-ray Diffraction Data Yizhou Zhu* , Westlake University, China
9:20	S-13	Automated XRD Solutions for AI-Driven Materials Research: From Miniflex XPC to SmartLab with Rigaku Lablink Akhilesh Tripathi* , K. Saito , E. Kagami , J. Sanchez , Rigaku Americas Corporation, USA
9:40	S-141	A Transformer-Based Model for XRF Data Lee Drake* , Decision Tree LLC, USA
10:00		Break
10:30	S-48	AI-Guided Materials Discovery: Rigaku's Role in the Genesis Mission Simon Bates* , Rigaku Americas, USA
10:50	S-57	EAA: Vision Language Model Agents for Accessible and Automated Beamline Operations Ming Du* , Y. Luo , S. Banerjee , M. Wojcik , M. Cherukara , Argonne National Laboratory, USA J. Popovic , Northwestern University, USA
11:10	S-69	Towards Generalizable Deep Ptychography Neural Networks Albert Vong* , S. Henke , H. Ruth , J. Deng , N. Schwarz , Argonne National Laboratory, USA O. Hoidn , A. Gleason , L. Hancock , A. Mehta , SLAC National Accelerator Laboratory, USA A. Hexemer , Lawrence Berkeley National Laboratory, USA
11:30	S-175	PtychoFM: A Foundation Model for Ptychographic Imaging Aileen Luo* , Argonne National Laboratory, USA

Synergy of Computational Materials and Process Engineer Modeling with Materials Characterization

Cypress

Chairs: **Michael Fischlschweiger**, Clausthal University of Technology, Germany, michael.fischlschweiger@tu-clausthal.de

Ursula E.A. Fittschen, TU Clausthal, Clausthal-Zellerfeld, Germany, ursula.fittschen@tu-clausthal.de

9:00	S-117	Advances in Structural Analysis of Complex Materials Using Diffraction, Materials Modeling and AI INVITED Thomas Proffen* , Oak Ridge National Laboratory, USA
9:30	S-41	Advances in High-Resolution Powder Diffraction for Applications in Materials Science INVITED Catherine Dejoie* , A. Fitch , ESRF, France
10:00	S-54	Modeling the Phase Behavior of Triblock Copolymers Using SAXS-Based Interaction Parameters STUDENT Thore Pohl* , M. Fischlschweiger , Karlsruhe Institute of Technology (KIT), Germany V. Hirschberg , Clausthal University of Technology, Germany
10:20		Break
10:40	S-65	Thermodynamic Modeling of Swelling and Diffusion in Highly Cross-Linked Polymers with Experimental Analysis INVITED Tim Zeiner* , W. Stefan , M. Fischlschweiger , KIT, Germany U.E.A Fittschen , Clausthal University of Technology, Germany
11:10	S-30	In situ XAS Study of CuO-Based Catalysts during Pulsed Electrochemical CO ₂ Reduction Reaction STUDENT Karen Castaneda* , C. Gonzalez , M. Asadi , C. Segre , Illinois Institute of Technology, USA
11:30	S-93	Sinpol: Unified Single-Crystal-to-Polycrystal Forward Modeling of Neutron Bragg-Edge Transmission and Detector-Resolved Diffraction at VULCAN and HIDRA Luc Dessieux* , Oak Ridge National Laboratory, USA
11:50	S-1	X-ray Diffraction Study of Macrocyclic Complex–Graphene for Solar Cells Kirandeep Kaur* , N. Gupta , Punjabi University Patiala, India

General XRD

Lilac C

Chair: **John Okasinski**, Argonne National Laboratory, USA, okasinski@anl.gov

8:30	D-81	Revealing Li Alloying/Dealloying Dynamics in Anode-Free Batteries via Operando Synchrotron X-ray Energy-Dispersive Diffraction (EDD) INVITED Yuting Luo* , F. Hu , Johns Hopkins University, USA J. Okasinski , Argonne National Laboratory, USA
9:00	D-77	In situ X-ray Probing into the Calcination of Layered Cathodes for Sodium-Ion Batteries STUDENT Joseph John Myers* , H. Lin , C. Segre , Illinois Institute of Technology, USA F. Wang , Argonne National Laboratory, USA
9:20	D-88	Probing Metal Additive Manufacturing with High-Speed Synchrotron X-ray Diffraction: A General Approach to Non-Equilibrium Materials INVITED Andrew Chuang* , P. Kenesei , H. Sharma , J. Almer , Argonne National Laboratory, USA
9:50	D-80	Algorithm-Based Segmentation of 2D Diffraction Features Wenqian Xu* , A. Merritt , M. Chu , B. Toby , O. Borkiewicz , N. Schwarz , Argonne National Laboratory, USA
10:10		Break
10:30	D-75	<i>In Situ</i> High-Temperature X-ray Diffraction of Strain Evolution in AlGaIn/GaN Heterostructures Bobby Duersch* , B. Li , K. Fu , University of Utah, USA
10:50	D-145	Tuning Metal Halide Perovskite Dimensionality by Varying Iodo-Substituent Positions STUDENT Rawan Hirzalla* , I. Hadar , The Hebrew University of Jerusalem, Israel
11:10	D-5	XRD–XRF Integrated Evaluation of Glauconite Maturation and Elemental Evolution in Sands from New Jersey, USA STUDENT Md Ashikuzzaman* , W. Sun , Z. Westgate , D. DeGroot , G. Zhang , University of Massachusetts Amherst, USA
11:30	D-106	Mineralogy of Coastal Sands and Dunes at Indiana Dunes National and State Parks Tim Fawcett* , M. Rost , ICDD, USA J. Lyza , Alfred University, USA

Early Career Researchers: Spotlight on the Next Generation

Lilac D

Chair: **Sarah Gosling**, Keele University, United Kingdom, s.b.gosling@keele.ac.uk

9:00	S-95	Evolution of Nanoparticle Doping in Sustainable Carbon Materials: An XRD Study STUDENT Arictan Tulga Coskun* , M. Reitmajer , B. Mishra , C. Segre , A. Hock , Illinois Institute of Technology, USA
9:20	S-101	Defect Engineering in Wadsley-Roth Anode Materials Using In-Situ XRD STUDENT Roque Santiago* , R. Kavanagh , I. Milisavljevic , S. Misture , Alfred University, USA C.J. Sturgill , M. Stefik , University of South Carolina, USA
9:40	S-126	In Situ XRD and DSC of Polymers for Additive Manufacturing STUDENT Clayton Hearn* , D. Jack , Baylor University, USA
10:00	S-103	Shock Compression Driven Phase Transformations in Complex Oxide Ceramics Daniel Lowry* , T. Douglas , C. McCoy , S. Bishop , Sandia National Laboratories, USA
10:20		Break
10:50	S-90	Nanomaterials Doped Sustainable Biopolymer Hydrogels for Contaminant Immobilization STUDENT Sandra Greco* , B. Mishra , Illinois Institute of Technology, USA
11:10	S-89	Anisotropic Thermal Expansion and Structural Trends in Wadsley-Roth Crystallographic Shear-Block Oxides STUDENT Jessica Lyza* , I. Milisavljevic , S. Misture , Alfred University, USA M. Abdullah Al Muhit , H.-C. zur Loye , M. Stefik , University of South Carolina, USA
11:30	S-68	Use of Unconventional Solid-State Precursors to Prepare (1-x)BiFeO ₃ -xBaTiO ₃ Gabrielle Kamm* , D. Lowry , A. Marotta , E. Neuman , S. Bishop , Sandia National Laboratories, USA J. Pirez , J. Jones , North Carolina State University, USA

Oral Sessions

Thursday PM, 6 August

Agentic AI and Foundation Models for X-ray Science – Part 2

Magnolia

Chairs: **Mathew Cherukara**, Argonne National Laboratory, USA, mcherukara@anl.gov

Aileen Luo, Argonne National Laboratory, USA, aileenluo@anl.gov

2:00	S-110	MapsPINN: Toward Fully Automated XRF Analysis with Joint Prediction of Element Presence and Fitting Parameters Xiangyu Yin* , Y. Luo , L. Li , B. Lai , Argonne National Laboratory, USA
2:20	S-129	Encoder-Decoder Artificial Intelligence Models for Analyzing Experimental X-ray Powder Diffraction Patterns Xim Bokhimi* , A. Amaro-Colin , K. Cruz-Hernandez , Universidad Nacional Autonoma de Mexico, Mexico J.-I. Gomez-Peralta , CINVESTAV-IPN, Mexico
2:40	S-137	Machine Learning Cancer Classification from X-ray Scattering of Prostate and Breast Tissue Across Clinical Grades STUDENT Kyriacos Kyriacou* , L. Adams , A. Ajeer , S. Gosling , B. Herrington , C. Greenwood , Keele University, United Kingdom E. Arnold , T. Snow , Diamond Light Source, United Kingdom P. Cool , The Robert Jones and Agnes Hunt Orthopaedic School, United Kingdom M. Kitchen , Keele University and University Hospitals of North Midlands, United Kingdom I. Lyburn , Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom K. Rogers , Cranfield University, United Kingdom N. Stone , University of Exeter, United Kingdom
3:00		Break
3:30	S-143	Analysis of in situ EXAFS of Batteries Using the EXAFS-Neo Machine Learning Package Carlo Segre* , J. Terry , Illinois Tech, USA
3:50	S-166	The Role of Image Quality in Machine Learning for X-ray Security Screening Gina Leow* , Home Team Science and Technology Agency, Singapore

Mining, Recycling, and Sustainable Materials

Cypress

Chair: **Kouichi Tsuji**, Osaka Metropolitan University (OMU), Japan, k-tsuji@omu.ac.jp

1:00	S-8	Practical Challenges in Resource Circulation and Practical Use of X-ray Analysis INVITED Chiharu Tokoro* , Waseda University and The University of Tokyo, Japan
1:30	S-74	Practical Applications of X-ray Analytical Techniques in Mining and Resource Sustainability INVITED Julia Sedlmair* , Bruker AXS, USA
2:00	S-72	Field-Portable EDXRF Analysis of Rare Earth Elements Brendan Connors* , H. Tomita , SciAps, Inc., USA
2:20	S-147	A High-Energy In-Line System for Detecting K-Line Emissions for Rare Earth Elements Helen Lindsey* , M. Case , B. Kaiser , R. Shannon , Veracio, USA M. Ravella , Rigaku, USA S. Krneta , RSC Consulting, Australia L. Drake , Decision Tree LLC, USA
2:40	S-167	High-Resolution 3D Synchrotron X-ray Micro-CT Resolves Talc Quartz Phases and Morphologies in Mixed-Mineral Flotation Concentrates STUDENT Daniel Dodoo* , The University of Melbourne and ARC Centre of Excellence for Eco-Efficient Beneficiation of Minerals and CSIRO Mineral Resources, Australia A. Stevenson , E. Arhatari , ANSTO, Australia N.A.S. Webster , ARC Centre of Excellence for Eco-Efficient Beneficiation of Minerals and CSIRO Mineral Resources, Australia C. Xiao , N.D. Owen , CSIRO Mineral Resources, Australia S.P. Usher , P.J. Scales , A.D. Stickland , W. Sung Ng , The University of Melbourne and ARC Centre of Excellence for Eco-Efficient Beneficiation of Minerals, Australia L. Forbes , ARC Centre of Excellence for Eco-Efficient Beneficiation of Minerals and The University of Queensland, Australia
3:00		Break
3:20	S-111	Screening Analysis for Rare-Metal Recycling in Urban Mine Samples Using X-ray Fluorescence Spectrometry INVITED Hitomi Nakano* , T. Ampo , S. Komatani , Horiba Techno Service Co., Ltd, Japan
3:50	S-14	Mechanistic Insights into Valuable and Hazardous Metal Uptake by Microalgae and Plants Using X-ray Analysis INVITED Akiko Hokura* , Tokyo Denki University, Japan
4:20	S-79	Sustainable Carbon Materials for Resource Recovery and Contaminant Immobilization: Combining X-ray Techniques for Multiscale Characterization

Bhoopesh Mishra*, Illinois Institute of Technology, USA

4:40 S-94 XRD, XRF, and XAFS Characterization of Sustainable Carbon-based Composites for Designing High Performance Supercapacitors from Agricultural Waste Residues **STUDENT**

Matthew Reitmajer*, **A.T. Coskun**, **A. Hock**, **C. Segre**, **B. Mishra**, Illinois Institute of Technology, USA

5:00 S-128 Toward Structure-Property Understanding of Biomass-Derived Carbon Electrodes Via Electrochemical and EXAFS Studies **STUDENT**

Chinonso Ogbodo*, **C. Segre**, **B. Mishra**, **A. Hock**, **R. Shams-Eldin**, **M. Reitmajer**, **A.T. Coskun**, Illinois Institute of Technology, USA

Industrial Applications and Quantitative Analysis of XRF

Lilac C

Chair: **Poulami Dutta**, ExxonMobil, USA, poulami.dutta1804@gmail.com

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- 1:00 F-46 Urban Mining: Overcoming Heterogeneity in XRF Analysis of Electronic Waste **INVITED**
Glenn Williams*, **Thanh Nguyen***, VPrep Corp, USA
- 1:30 F-76 Assessing Elemental Measurements of Atmospheric Particulate Matter Over the Last 35 Years **INVITED**
Nicole Hyslop*, **J. Wang**, **X. Zhang**, **W. White**, University of California Davis, USA
- 2:00 F-58 An XRF Method to Quantify Water Loss in Fe–Cr Redox Flow Batteries **INVITED**
Ying Shi*, **K. Wilson**, **J. Wu**, **A. Hassan**, **J. Gonzalez**, **S. Miller**, Materials Discovery Research Institute - Underwriters Laboratories, USA
- 2:30 F-43 Analysis of Corrosion Products by a Combination of Micro-XRF and Micro-Raman Spectroscopy
Sergey Mamedov*, HII, USA
- 2:50 F-107 Exploring the Paradigm Between Sensitivity and Versatility of Industrial Based Energy Dispersive X-ray Fluorescence Spectroscopy
Joel Langford*, **H. Chen**, Shimadzu Scientific Instruments, USA
- 3:10 Break
- 3:30 F-38 Challenges and Solutions for Reliable XRF Analysis of Mining Slurries
Jack Webster*, **B. Ganly**, **B.P.E. Tee**, **M. Kirkpatrick**, CSIRO, Australia
- 3:50 F-127 High-Precision Micro-XRF for Forensic Glass Comparison: Assessing Cross-Generation Consistency and Efficiency
Shangshang Mu*, **G. Weppelman**, **A. Moy**, **E. James**, **J. Wilbrink**, **S. Coyle**, Gatan Inc, USA
- 4:10 F-100 Predictive Maintenance and Performance Stability of Reflection-Target Side-Window XRF Tubes: Target Material, Filament Aging, and Calibration Considerations
Tianqing He*, Bowman Analytics, Inc., USA
- 4:30 F-32 Moxtek's Ap3-Ht Vacuum Encapsulated Silicon Drift Detector for Light and Heavy Element Characterization
Alison Davis*, **P. Moran**, **D. Hullinger**, **C. Carter**, Moxtek Inc, USA

Stress and Texture Analysis

Lilac D

Chair: **Tom Watkins**, Oak Ridge National Laboratory, Retired, USA, trw11trw@gmail.com

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- 2:00 D-109 Characterization of Strain Within Nickel-Platinum Thin Films and Its Correlation to Film Hardness
Mark Rodriguez*, **K. Dorman**, **F. Haines**, **S. Addamane**, **D. Adams**, Sandia National Laboratories, USA
- 2:20 D-59 In Situ High-Speed Synchrotron X-ray Diffraction of Phase Kinetics, Strain, and Texture Evolution in Laser-Additively Manufactured Steels
Jiayun Shao*, **M. Haines**, **M.-C. Chuang**, **B. DeCost**, **H. Joreess**, **A. McDannald**, **F. Zhang**, National Institute of Standards and Technology, USA
A. Chuang, Argonne National Laboratory, USA
- 2:40 D-70 Residual Stress Analysis of Textured Coatings -- CVD α Al_2O_3 Coatings on Metal Cutting Tools
Tomohiro Shibata*, Kennametal Inc, USA
- 3:00 Break
- 3:30 D-7 When Strain Is Applied to the Cartilaginous Shark Vertebral Centrum, Does the Bioapatite Mineral Phase Carry Load?
Stuart Stock*, **A. Tashjian**, Northwestern University, USA
V. Cooley, **J.-S. Park**, Argonne National Laboratory, USA
- 3:50 D-53 Accurate Lattice Parameter Measurements in a Welded Steel T-Sample
William Boyer*, **J. Pineault**, Proto Manufacturing, Inc., USA

Oral Sessions

Friday AM, 7 August

*Signifies presenting author

Tomography and X-ray Microscopy

Magnolia

Chair: **Martina Schmeling**, Loyola University Chicago, USA, mschmel@luc.edu

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|-------|-------|---|
| 8:30 | S-156 | Elemental Landscapes Illuminated: Synchrotron X-ray Fluorescence Microscopy in Biological and Environmental Research INVITED
Malgorzata Korbas* , X. Liu, Q. Jin, J. O'Sullivan, D. Meira, K. Michalska, Argonne National Laboratory, USA |
| 9:00 | S-125 | Probing Soil Structure Across Scales Using Small- and Wide-Angle X-ray Scattering Tomography and X-ray Computed Tomography
James O'Sullivan* , K.K. Sturner, K.M. Kemner, J.D. Jastrow, Argonne National Laboratory, USA
L. Yang , Brookhaven National Laboratory, USA
S.L. O'Brien , Argonne National Laboratory and University of Illinois Chicago, USA
M.I. Boyanov , Argonne National Laboratory, USA and Bulgarian Academy of Sciences, Bulgaria |
| 9:20 | S-97 | Three-Dimensional Micro-CT Characterization of Glass Contact Corrosion in Chrome–Alumina Refractories
Jessica Grealy* , E. Larabee, Owens Corning, USA |
| 9:40 | S-86 | Characterization of Pharmaceutical Products Using X-ray Computed Tomography
Angela Criswell* , Rigaku Americas Holding, USA |
| 10:00 | | Break |
| 10:20 | S-148 | Exploring Advanced Tomography Techniques in Low Contrast Conditions
Kristy Schepker* , G. Scheffele, N. Cuevas Yaraure, University of Florida, USA |
| 10:40 | S-154 | Modular Robotics for Remote and Autonomous Beamline Operations
Alex Lavens* , X. Liu, A. Kastengren, K. Michalska, Argonne National Laboratory, USA
J. Brunzelle, S. Anderson , Life Sciences Collaborative Access Team, USA |
| 11:00 | S-44 | Meeting Next Generation 2.5/3D Integration Needs with Next Gen X-ray Imaging Solutions
Anasuya Adibhatla* , J. Gelb, S. Lau, S. Gul, Sigray, USA |

Biomedical Imaging

Cypress

Chairs: **Andrew Crawford**, Michigan State University, USA, crawf472@msu.edu
Clinton Kidman, University of Saskatchewan, Canada, clinton.kidman@usask.ca

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|-------|-------|--|
| 8:30 | S-160 | Metalloyme Analysis of Candida albicans infection in the Kidney using Synchrotron- Based X-ray Fluorescence: The Effects of Metal Sequestration on Nutritional Immunity INVITED
Keith MacRenaris* , S.H. Ahn, N. Sinha, A. Crawford, T. O'Halloran, Michigan State University, USA
A. Wildeman, V. Culotta , Johns Hopkins University, USA
Q. Jin , Northwestern University and Argonne National Laboratory, USA |
| 9:00 | S-165 | Enabling Correlative Elemental Imaging Workflows Between Synchrotron X-ray Fluorescence Microscopy and LA-ICP-TOF-MS Through Substrate Optimization
David Zee* , S.H. Ahn, A. Crawford, N. Sinha, K. MacRenaris, T. O'Halloran, Michigan State University, USA
Q. Jin, C. Jacobsen , Northwestern University, USA |
| 9:20 | S-61 | PCA-based Channel Assessment to Improve SIFT for Multi-scale XRF Image Registration
Xiaozhi Zhang* , Z. Di, J. Han, Y. Luo, Z. Cai, S. Chen, Argonne National Laboratory, USA
R. Pourzal , Rush University Medical Center, USA |
| 9:40 | S-16 | Atomic-Scale Quantum Engineering of Ti-Gd/Er Doped Graphene for Dual MRI/X-ray Theranostics and 1.55 µm Silicon Photonics
Salah Oudjertli* , Research Center in Industrial Technologies, Algeria |
| 10:00 | | Break |
| 10:20 | S-159 | Gd Lα1 HERFD-XAS Imaging of Human Brain Tissue Following Exposure to Gadolinium-Based MRI Contrast Agents INVITED
Graham George* , M. Weng, L. Vogt, A. James, C. Kidman, I. Pickering, University of Saskatchewan, Canada
N. Edwards, S. Webb , Stanford Synchrotron Radiation Lightsource, USA
J. Abraham , SUNY Upstate Medical University, USA
S. George , Simon Scientific, USA |
| 10:50 | S-182 | Correcting Vitreous Ice Attenuation in Quantitative Cryogenic X-ray Fluorescence Microscopy
Andrew M. Crawford* , K. Ok, T.V. O'Halloran, Michigan State University, USA
Q. Jin , Northwestern University and Argonne National Laboratory, USA |

11:20	S-42	Collagen and Calcifications – Novel Biomarkers in Ovarian Cancer Sarah Gosling* , B. Herrington , K. Kyriacou , C. Greenwood , Keele University, United Kingdom E. Arnold , K. Geraki , T. Snow , Diamond Light Source, United Kingdom J. Greenberg , Quadridox Inc, USA I. Lyburn , Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom K. Rogers , Cranfield University, United Kingdom S.S. Hoo , University Hospitals of North Midlands, United Kingdom N. Stone , University of Exeter, United Kingdom
11:40	S-140	Collagen Microstructure in Prostate Cancer: An X-ray Scattering Study STUDENT Beau Herrington* , S. Gosling , L. Adams , H. Gilbert , K. Kyriacou , C. Greenwood , Keele University, United Kingdom A. Ajeer , University College London, United Kingdom E. Arnold , A. Smith , T. Snow , Diamond Light Source, United Kingdom P. Cool , The Robert Jones and Agnes Hunt Orthopaedic School, United Kingdom J. Greenberg , Quadridox Inc, USA M. Kitchen , Keele University and University Hospitals of North Midlands, United Kingdom I. Lyburn , Gloucestershire Hospitals NHS Foundation Trust and Cobalt Medical Charity and Cranfield University, United Kingdom K. Rogers , Cranfield University, United Kingdom N. Stone , University of Exeter, United Kingdom

Industrial Applications of XRD

Lilac C

Chair: **Tim Fawcett**, ICDD, USA, dxcfawcett@outlook.com

9:00	D-3	Boron Site Substitution in B-MFI Borosilicate Molecular Sieve by in situ Neutron Powder Diffraction INVITED James Kaduk* , North Central College, USA
9:30	D-23	Advanced X-ray Characterization of PdO Nanoparticles-Based Catalysts on Reducible Metal Oxide Supports for Automotive Applications Ivan Rodriguez Duran* , Malvern Panalytical, Canada B. Losey , Malvern Panalytical, USA N. Dadivanyan , Malvern Panalytical, Germany
9:50		Break
10:10	D-12	Pristine Amorphous Silica Xerogel Inclusion in Limestone Calcined Clay Cement (LC3) Production STUDENT Mandela Toku* , Kwame Nkrumah University of Science and Technology, Ghana
10:30	D-102	Using Energy Dispersive X-ray Diffraction and Tomography to Characterize 2032 Coin Cell Batteries in Operando John Okasinski* , A. Chuang , Argonne National Laboratory, USA
10:50	D-157	Challenges in Phase ID and Rietveld Analysis of Wadsley-Roth Shear Structures for Battery Anodes STUDENT Jessica Lyza* , I. Milisavljevic , R. Santiago , R. Kavanagh , S. Misture , Alfred University, USA M.A.A. Muhit , H.-C. zur Loye , M. Stefik , University of South Carolina, USA

Spatially-Resolved Benchtop Micro-XRF

Lilac D

Chair: **Tina Hill**, Bruker, USA, tina.hill@bruker.com

9:00	F-92	Optimization of X-ray Backscatter Imaging In a Laboratory Micro X-ray Fluorescence Spectrometer: Applications in Structural Characterization in Engineered and Natural Materials INVITED Derek Wright* , B. Southwell , Lake Superior State University, USA N. Gordon , Sault Tribe of Chippewa Indians, USA
9:30	F-22	Micro-XRF Imaging for Spatial Accumulation of Nanoparticles in Plant Leaves STUDENT Abu Sayed Mohammed Sayam* , C. Fretz , K. Ristroph , A. Specht , Purdue University, USA

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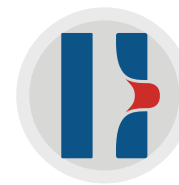
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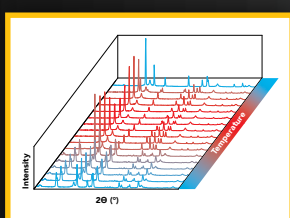
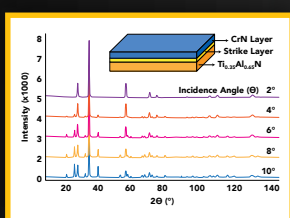
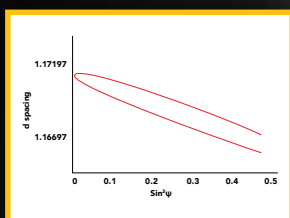
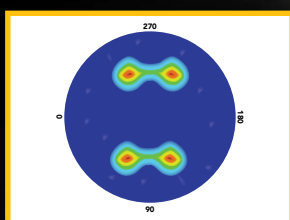
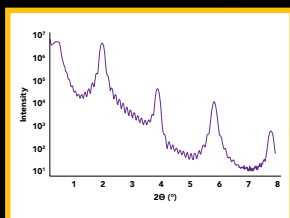


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2026 Denver X-ray Conference | Program-at-a-Glance | Monday – Friday | 3 – 7 August

Color Legend:

Special Topics	XRD	XRF	Plenary	Exhibit Hours	Evening
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Meeting Rooms:

Magnolia	Cypress	Lilac C	Lilac D
Monday Morning Workshops 9:00am – 12:00pm			
Capabilities at the Upgraded APS — Feature Beamlines and New Imaging Frontiers – Part 1 (Vogt)		Introduction to XRD (Blanton/Misture/Rodriguez)	Basic XRF (Drews)
Monday Afternoon Workshops 1:30pm – 4:30pm			
Capabilities at the Upgraded APS — Feature Beamlines and New Imaging Frontiers – Part 2 (Vogt)	Environmental Analysis (Schmeling/Antipova)	Sample Preparation for XRD (Fawcett)	Quantitative Analysis of XRF (Quevy/Seyfarth)
Monday Exhibit Hours: 4:30pm – 7:00pm Grand Ballroom			
Monday Evening XRD Poster Session & Reception 5:00pm – 7:00pm (Watkins) Grand Ballroom			
Tuesday Morning Workshops 9:00am – 12:00pm			
Biomedical Imaging – Part 1 (Crawford)	Applied Cluster Analysis (Fawcett)	PDF Analysis: Principles, Instrumentation, and Applications (Shinohara)	Micro XRF & Trace Analysis (Tsuji)
Tuesday Afternoon Workshops 1:30pm – 4:30pm			
Biomedical Imaging – Part 2 (Crawford)		2D Detectors (Blanton/He)	Benchtop Micro XRF Fundamentals (Hill)
Tuesday Exhibit Hours: 12:00pm – 7:00pm Grand Ballroom			
Tuesday Evening XRF Poster Session & Reception 5:00pm – 7:00pm (Schmeling/Eichert) Grand Ballroom			
Wednesday Morning Plenary Session 8:30am – 11:45am			
		75 Years of Brilliance: Honoring Our Past, Shaping DXC’s Future (Misture, Toby, Drews, Watkins)	
Wednesday Afternoon Sessions			
New Developments in XRD & XRF Instrumentation (Fawcett/Drews)	State of the Art X-ray Approaches for Cultural Heritage (Hill)	SAXS & WAXS / Pair Distribution Function (Watkins)	General XRF (Fittschen)
Wednesday Exhibit Hours: 12:00pm – 7:00pm Grand Ballroom			
Wednesday Evening DXC 75 th Anniversary Celebration 5:00pm – 7:00pm Grand Ballroom			
Thursday Morning Sessions			
Agentic AI and Foundation Models for X-ray Science – Part 1 (Cherukara)	Synergy of Computational Materials and Process Engineer Modeling with Materials Characterization (Fischlschweiger/Fittschen)	General XRD (Okasinski)	Early Career Researchers: Spotlight on the Next Generation (Gosling)
Thursday Afternoon Sessions			
Agentic AI and Foundation Models for X-ray Science – Part 2 (Cherukara)	Mining, Recycling, and Sustainable Materials (Tsuji)	Industrial Applications and Quantitative Analysis of XRF (Dutta)	Stress & Texture Analysis (Watkins)
Thursday Exhibit Hours: 10:00am – 1:00pm Grand Ballroom			
Friday Morning Sessions			
Tomography and X-ray Microscopy (Schmeling)	Biomedical Imaging (Crawford/Kidman)	Industrial Applications of XRD (Fawcett)	Spatially-Resolved Benchtop Micro-XRF (Hill)

Session times vary. Please consult Program Book.

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