

CUMULATIVE AUTHOR INDEX

All authors published so far in the current volume are listed alphabetically with the issue and page numbers following the dash. A cumulative author and subject index covering each volume is published annually. An (E) after the page number indicates Erratum.

- Afsari, Ahmad – (2) 93
 Afsari, Ahmad – (2) 157E
 Aksenov, Sergey – (3) 175
 AlHamdan, K. – (4) 237
 Amaro-Luis, Juan M. – (3) 200
 Anike, J. – (4) 237
 Aparicio, Andrea P. – (4) 290
 Aytaç, Sevim Peri – (4) 271, 279
- Babor, M. – (4) 265
 Bai, Yu-lan – (3) 168
 Behruz Khakan – (2) 157E
 Billing, D. – (1) 23
 Blanco, Laura A. – (1) 35
 Blanton, J. – (2) 107
 Blanton, J. R. – (2) 63
 Blanton, T. – (2) 107
 Blanton, T. N. – (2) 63
 Blanton, Thomas N. – (1) 31;
 (4) 222
 Bruno-Colmenárez, Julia – (3) 200
- Cai, Gemei – (2) 97
 Carvalho, A. M. G. – (1) 10
 Chatterjee, Paramita – (2) 86
 Chen, X. L. – (2) 72
 Coelho, A. A. – (1) 10
- Díaz de Delgado, Graciela – (3) 200
 Das, Uday – (2) 86
 Delgado, José Miguel – (1) 2;
 (3) 200
 Dey, Tanusri – (2) 86
 Deyneko, Dina – (3) 175
 Dmitrienko, Artem O. – (4) 222
 Dorholt, Ole – (2) 133
 Drábek, M. – (4) 244
 Du, Qiao Hong – (1) 49; (3) 203
- Enos, David G. – (2) 124
- Faber, J. – (2) 107; (4) 228
 Fawcett, T. – (2) 107
 Fawcett, T. G. – (2) 63
 Ferg, E. E. – (1) 23
- Gündoğdu, Gülsüm – (4) 271, 279
 Gindhart, Amy M. – (1) 31; (4) 222
- Goszczycki, Piotr – (3) 187
 Griego, James J. M. – (2) 124
 Grzesiak-Nowak, Marta – (3) 187
 Gu, Jianming – (2) 78
 Guan, W. J. – (2) 72
 Guo, Y. Q. – (4) 249
- Han, J. P. – (4) 249
 Hanajiri, Ruri – (2) 112
 Hashimoto, Takashi – (2) 112
 Hayakawa, Shinjiro – (2) 112
 He, Bing – (1) 40
 Henao, J. A. – (1) 35; (4) 290
 Himl, M. – (4) 265
 Honda, Sadao – (2) 112
 Hosseini, Seyed Reza – (2) 93
 Hou, Quan – (1) 46; (3) 206
 Hu, Lei – (1) 40
 Hu, Xiurong – (2) 78
- Jin, Zhanpeng – (2) 97
 Ju, Weicai – (1) 15
 Jurásek, B. – (3) 193; (4) 265
- Kačer, P. – (3) 193, 196; (4) 268
 Kabekkodu, S. – (2) 107
 Kabekkodu, S. N. – (2) 63
 Kaduk, J. A. – (4) 237
 Kaduk, James A. – (1) 31; (2) 140;
 (4) 222
 Kaynak, Filiz Betül – (4) 271, 279
 Khaikina, Elena G. – (4) 255
 Khakan, Behruz – (2) 93
 Kimura, Shigeru – (2) 112
 Kindl, M. – (3) 196
 Kohout, M. – (3) 193
 Kotova, Irina Yu. – (4) 255
 Kuchař, M. – (3) 193; (4) 265
 Kui Zhang, Yong – (1) 46
- Łasocha, Wiesław – (3) 187
- Laufek, F. – (4) 244
 Lazoryak, Bogdan – (3) 175
 Lee, Seungyeol – (2) 118
 Li Suo, Zi – (1) 46
 Li, Degui – (1) 40
 Li, He – (2) 156E
- Li, Hui – (1) 46, 49; (3) 203, 206
 Liang, Liuqing – (1) 40
 Liang, Shu-ting – (3) 168
 Lin, Xiang – (3) 203
 Liu, Jianming – (2) 156E
 Liu, Shanke – (2) 156E
 Luo, Kun – (1) 40
 Luo, Min-ting – (3) 168
- Müller, Melanie – (4) 271, 279
 Maixner, J. – (3) 193, 196; (4) 265,
 268
 Maki, Ryosuke S. S. – (3) 210
 Malakhov, Nail – (2) 133
 Mizuno, Nobuhiro – (2) 112
 Mohamud, S. – (3) 179
 Morgan, Peter E. D. – (3) 210
 Mowry, Curtis D. – (2) 124
 Mukherjee, Alok K. – (2) 86
- Nagano, Terumasa – (2) 133
 Nakamura, Yuki – (2) 112
 Nishiwaki, Yoshinori – (2) 112
 Nunes, R. S. – (1) 10
 Nygård, Einar – (2) 133
- Olson, Jeremy A. – (2) 140
 Ostrowska, Katarzyna – (3) 187
- Pagola, S. – (3) 179
 Pan, Zhigang – (1) 15
 Peng, Xi Lin – (3) 203
 Petrova, Daria – (3) 175
- Qin, Ming – (1) 40
 Qiu, Simin – (1) 15
 Quintana Mendoza, Jose H. – (1) 35;
 (4) 290
- Røhne, Ole M. – (2) 133
 Rafalska-Łasocha, Alicja – (3) 187
 Reid, Joel W. – (1) 43; (2) 140
 Rodriguez, Mark A. – (2) 124
 Romero Bohorquez, Arnold R. – (4)
 290
- Savina, Aleksandra A. – (4) 255
 Seyed Reza Hosseini – (2) 157E

- Shahroozi, Abbas – (2) 93, 157E
Shen, Xiaodong – (1) 15
Snyders, C. D. – (1) 23
Stefanovich, Sergey – (3) 175
Sun, Mengying – (2) 78
Suo, Zi Li – (3) 206
Susan, Donald F. – (2) 124
- Tao, Xiaoma – (2) 97
Tao, Yaqiu – (1) 15
Toro, R. A. – (1) 35
Tozkoparan, Birsan – (4) 271, 279
- Van Benthem, Mark H. – (2) 124
Vymazalová, A. – (4) 244
- Wang, D. P. – (2) 72
Wang, Qing – (1) 46, 49; (3) 206
Wang, X. L. – (2) 72
Weilhammer, Peter – (2) 133
Wills, Andrew S. – (2) 148
Wong-Ng, W. – (4) 237
Wu, Tao – (4) 261
- Xiong, Xin Nuo – (1) 49
Xu, Hong-bin – (3) 168
Xu, Huifang – (2) 118
- Yamamoto, Koei – (2) 133
Yang, Pin – (2) 124
Yasuda, Nobuhiro – (2) 112
- Zachariah, Michael R. – (4) 261
Zavalij, Peter Y. – (4) 261
Zeng, Xia – (1) 49
Zhang, Hong-ling – (3) 168
Zhang, Jing – (2) 97
Zhang, Y. Z. – (2) 72
Zhang, Yi – (3) 168
Zhang, Yong Kui – (3) 206
Zhou, Xinbo – (2) 78
Zhuo, Wei Ling – (3) 203



**UNITED STATES
POSTAL SERVICE®**

**Statement of Ownership, Management, and Circulation
(All Periodicals Publications Except Requester Publications)**

1. Publication Title Powder Diffraction	2. Publication Number 010 – 071	3. Filing Date 10/1/2017
4. Issue Frequency Quarterly March, June, Sept, December	5. Number of Issues Published Annually 4	6. Annual Subscription Price \$273.00
7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4®) Cambridge University Press 1 Liberty Plaza New York, NY 10006		Contact Person Nina Iammatteo Telephone (Include area code) 2123375000

8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer)
Cambridge University Press
Edinburgh Building, Cambridge CB2 2RU, England

9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank)

Publisher (Name and complete mailing address)
Cambridge University Press
1 Liberty Plaza
New York, NY 10006

Editor (Name and complete mailing address)
Thomas Blanton, International Centre for Diffraction Data, 12 Campus Blvd, Newtown Square, PA 19073-3273 USA

Managing Editor (Name and complete mailing address)

10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)

Full Name	Complete Mailing Address
The International Centre for Diffraction Data	12 Campus Blvd. Newtown Square, PA 19073-3273 USA

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box None

Full Name	Complete Mailing Address

12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one)
The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes:
 Has Not Changed During Preceding 12 Months
 Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)

13. Publication Title Powder Diffraction		14. Issue Date for Circulation Data Below JUNE 2017	
15. Extent and Nature of Circulation		Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (<i>Net press run</i>)		351	459
b. Paid Circulation (<i>By Mail and Outside the Mail</i>)	(1) Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	42	40
	(2) Mailed In-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	0	0
	(3) Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS®	187	349
	(4) Paid Distribution by Other Classes of Mail Through the USPS (e.g., First-Class Mail®)	0	0
c. Total Paid Distribution [Sum of 15b (1), (2), (3), and (4)]		229	389
d. Free or Nominal Rate Distribution (<i>By Mail and Outside the Mail</i>)	(1) Free or Nominal Rate Outside-County Copies included on PS Form 3541	0	0
	(2) Free or Nominal Rate In-County Copies Included on PS Form 3541	0	0
	(3) Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g., First-Class Mail)	0	0
	(4) Free or Nominal Rate Distribution Outside the Mail (<i>Carriers or other means</i>)	2	2
e. Total Free or Nominal Rate Distribution (Sum of 15d (1), (2), (3) and (4))		2	2
f. Total Distribution (Sum of 15c and 15e)		231	391
g. Copies not Distributed (See <i>Instructions to Publishers #4 (page #3)</i>)		120	68
h. Total (Sum of 15f and g)		351	459
i. Percent Paid (15c divided by 15f times 100)		99.13%	99.49%
16. Electronic Copy Circulation		Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Paid Electronic Copies		0	0
b. Total Paid Print Copies (Line 15c) + Paid Electronic Copies (Line 16a)		229	389
c. Total Print Distribution (Line 15f) + Paid Electronic Copies (Line 16a)		231	391
d. Percent Paid (Both Print & Electronic Copies) (16b divided by 16c × 100)		99.13%	99.49%

I certify that 50% of all my distributed copies (electronic and print) are paid above a nominal price.

17. Publication of Statement of Ownership

If the publication is a general publication, publication of this statement is required. Will be printed

Publication not required.

in the Dec issue of this publication.

18. Signature and Title of Editor, Publisher, Business Manager, or Owner

Date



10/1/2017

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

Diffraction Data You Can Trust

ICDD databases are the only crystallographic databases in the world with quality marks and quality review processes that are ISO certified.

PDF-4/Minerals



Standardized Data

More Coverage

All Data Sets Evaluated For Quality

Reviewed, Edited and Corrected Prior To Publication

Targeted For Material Identification and Characterization

www.icdd.com/products/pdf4-minerals.htm



www.icdd.com | marketing@icdd.com

ICDD, the ICDD logo and PDF are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of JCPDS - International Centre for Diffraction Data ©2017 JCPDS-International Centre for Diffraction Data - 6/17

ICDD GRANT-IN-AID PROGRAM

Join ICDD's Elite Group of Scientists! Contribute to ICDD's World Renowned Database The Powder Diffraction File™

For over 60 years ICDD has supported researchers around the world with our Grant-in-Aid program. As one of the world leaders in producing material phase identification software, we are constantly looking to enhance our database with reference data of high-quality diffraction patterns.

Join the team of scientists advancing the PDF™ and in return receive Grant-in-Aid funds to further your research. Here are some of the many benefits:

- Price reduction of 50% of a ICDD PDF-4+ or PDF-4 Organic product for your University or Institute
- First-time grantees receive a complimentary one-year subscription to the *Powder Diffraction Journal*
- Publication of your pattern in the Powder Diffraction File™

DON'T DELAY! GATHER UP YOUR DIFFRACTION DATA TODAY!

Your time is valuable, so we offer two Grant-in-Aid cycles consecutively over a eleven month period. There are two submission deadlines per year, **January 31st** and **July 31st**.

All grant proposals are submitted on-line. More information can be found at:

WWW.ICDD.COM/GRANTS/INDEX.HTM

To register for proposal submissions contact Denise DelCasale, Grant-in-Aid Coordinator at DelCasale@ICDD.com



ICDD, the ICDD logo and PDF are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of JCPDS - International Centre for Diffraction Data ©2017 JCPDS-International Centre for Diffraction Data - 10/17

Tuition Waiver Opportunities for ICDD XRF & XRD Educational Events

2017/2018



Educational Events

In continuing its commitment to education throughout the scientific community, the International Centre for Diffraction Data sponsors clinics and workshops in X-ray powder diffractometry and X-ray fluorescence spectrometry. These courses offer training in both theoretical and practical applications.

To promote these clinics and workshops, particularly in the academic sector, the ICDD offers a limited number of tuition waivers. The XRF, XRD I & II, and Rietveld Refinement tuition waivers are named in honor of world-renown scientists Dr. Eugene P. Bertin, Dr. Ron Jenkins, Dr. Deane K. Smith and William Frank McClune.

Who Should Apply

Faculty members and graduate students are encouraged to apply. If you are currently developing a program in X-ray fluorescence (XRF), X-ray powder diffraction (XRD), or Rietveld Analysis, or are interested in incorporating the topic into an established course, a tuition waiver can provide you the opportunity to learn the principles and practices of this discipline from some of the experts in the field.

Restrictions

Tuition waivers cover tuition only; travel and lodging are the responsibility of the attendee and are not included in the tuition waiver.

How to Apply

Submit a one-page written request stating your objectives in attending the clinic or workshop, and/or how you will incorporate the respective topic into the curriculum at your learning institute.

Tuition waiver applications must be accompanied by a clinic/workshop registration form and received at the ICDD by the application and registration deadline. All applications will be reviewed on a competitive basis, and recipients will be notified no later than four weeks prior to the start of the clinic/workshop session.

2017/2018 Applicable Events

Rietveld Refinement & Indexing 1 & 2

25-29 September 2017

Application Deadline: 14 August 2017

Practical XRF

30 April - 4 May 2018

Application Deadline: 18 March 2018

Fundamentals of XRD

4-8 June 2018

Application Deadline: 22 April 2018

Advanced Methods in XRD

11-15 June 2018

Application Deadline: 22 April 2018

Please return a completed [registration form](#) and your tuition waiver request to:

ICDD Clinics

12 Campus Boulevard,
Newtown Square, PA 19073

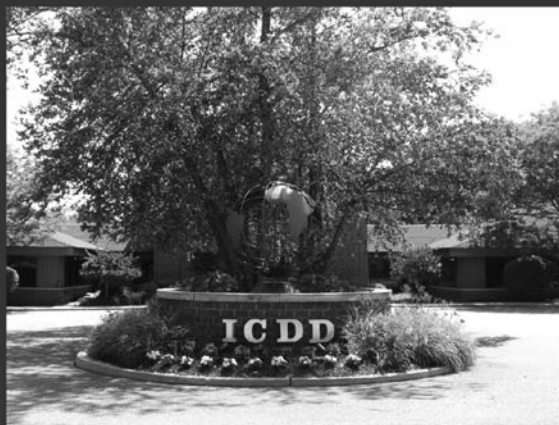
Attention: Eileen Jennings

Email: clinics@icdd.com

www.icdd.com/education

ICDD, the ICDD logo and PDF are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of JCPDS—International Centre for Diffraction Data ©2017 JCPDS—International Centre for Diffraction Data - 7/17





ICDD's Vision

The International Centre for Diffraction Data will continue to develop tools and support the education required for materials analyses of tomorrow.

ICDD's Mission

The International Centre for Diffraction Data will continue to be the world center for quality diffraction and related data to meet the needs of the technical community. ICDD promotes the application of materials characterization methods in science and technology by providing forums for the exchange of ideas and information.

ICDD Products:

- PDF-2
- PDF-4+
- WebPDF-4+
- PDF-4/Minerals
- PDF-4/Organics
- Sleeve/Sleeve+

Education:

- Clinics:
 - XRD
 - XRF
- Specialized Workshops

Conferences:

- Denver X-ray Conference (DXC)
- Pharmaceutical Powder X-ray Diffraction Symposium (PPXRD)

Publications:

- *Powder Diffraction*
- *Advances in X-ray Analysis*

Grant-in-Aid Program

ICDD databases are the only crystallographic databases in the world with quality marks and quality review processes that are ISO certified.



Online Resources

Visit our website at www.icdd.com

Our goal at ICDD is to help you solve your materials problems. We provide online publications, technical bulletins, tutorials, and videos. Many tutorials focus on capabilities of the database, but there are also general tutorials that describe methods used to analyze drugs, polymers, and minerals. The tutorial page has links to free download publications, as well as instructional videos. Our website also contains over 1,000 full publications for free download from *Advances in X-ray Analysis*. Our website, tutorial page, and publication pages are there to help you!

www.icdd.com/resources/tutorials

www.icdd.com/products/technicalbulletins.htm

www.icdd.com/resources/axasearch/search_based_on_vol.asp

ICDD, the ICDD logo, PDF and Denver X-ray Conference and design are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of the JCPDS—International Centre for Diffraction Data. ©2016 JCPDS—International Centre for Diffraction Data



DXC DENVER X-RAY CONFERENCE

67th Annual Conference on Applications of X-ray Analysis
6 – 10 August 2018 ■ The Westin, Westminster, Colorado, USA



SAVE THE DATE!

67th Annual Denver X-ray Conference
6 – 10 August 2018
The Westin, Westminster, Colorado, USA

PLENARY SESSION: MINERALS AND GEMS

WORKSHOP TOPICS:

- Imaging
- Characterization of Thin Films
- Non-Ambient XRD
- Two-Dimensional Detectors
- Phase Identification
- Line Profile Analysis
- Quantitative Phase Analysis
- Rietveld
- Quantitative Analysis of XRF
- Basic XRF
- Energy Dispersive XRF
- Sample Preparation of XRF
- Micro XRF
- Trace Analysis
- Handheld XRF

SESSIONS TOPICS*:

- New Developments in Instrumentation
- Energy Materials
- Imaging
- Microcalorimeter Detectors & Applications
- General XRD
- Non-Ambient XRD
- Stress
- Industrial Applications of XRD
- Rietveld
- Texture
- Neutron Facilities
- General XRF
- Quantitative Analysis of XRF
- Industrial Applications of XRF
- Cultural Heritage
- Trace Analysis including TXRF
- XRF in Recycling
- Advanced Fundamental Parameters

*Subject to change depending on submitted abstracts.

CALL FOR PAPERS WILL OPEN IN JANUARY.

Prepare an abstract for oral or poster presentation.

Find more information at www.dxcicdd.com | Register Online Today



www.icdd.com | dxc@icdd.com

ICDD, the ICDD logo and PDF are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of JCPDS - International Centre for Diffraction Data ©2017 JCPDS-International Centre for Diffraction Data - 11/17

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

**Practical X-ray Fluorescence:****30 April – 4 May 2018**

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.

**Fundamentals of X-ray Powder Diffraction:****4 – 8 June 2018**

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

The clinic covers instrumentation, specimen preparation, data acquisition and qualitative phase analysis through live demonstrations. It also covers hands-on use of personal computers for demonstration of 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:****11 – 15 June 2018**

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 collection and interpretation, both for qualitative and quantitative phase analysis.

The advanced clinic covers factors affecting d-spacings of crystals, as well as factors affecting diffraction-line intensities; structure-sensitive properties (atomic scattering and structure factors), polarization effects, and multiplicity. Additionally, the clinic covers specimen-sensitive effects (orientation, particle size), measurement-sensitive effects (use of peak heights and peak areas), and choice of scanning conditions will also be addressed.

**Rietveld Refinement & Indexing Workshop:****Rietveld Refinement & Indexing Workshop I & II: 24 – 28 September 2018****Basic (I) Workshop: 24 – 26 September 2018*****Advanced (II) Workshop: 26 – 28 September 2018**

Powder pattern indexing and Rietveld structural refinement techniques are complementary and are often used to completely describe 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 workshop introduces the theory and formalisms of various indexing methods and structural refinement techniques along with quantitative analysis. One unique aspect of this workshop is the extensive use of computer laboratory problem solving and exercises that teach method development in a hands-on environment.

Take the three-day basic workshop, the three-day advanced workshop or attend both for a full week of hands-on training.



*See the ICDD web site for prerequisites for the advanced Rietveld course.

Register today at WWW.ICDD.COM/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**Eileen Jennings, Education Coordinator****Tel:** 610.325.9814 **Fax:** 610.325.9823**Email:** clinics@icdd.com**Location**

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



©2017 JCPDS-International Centre for Diffraction Data

ICDD 11/17

Cambridge Core

Access
leading
journals in
your subject

Explore today at [cambridge.org/core](https://www.cambridge.org/core)

Cambridge Core



CAMBRIDGE
UNIVERSITY PRESS



Cambridge Core

The new home of
Cambridge Journals
cambridge.org/core

Cambridge Core

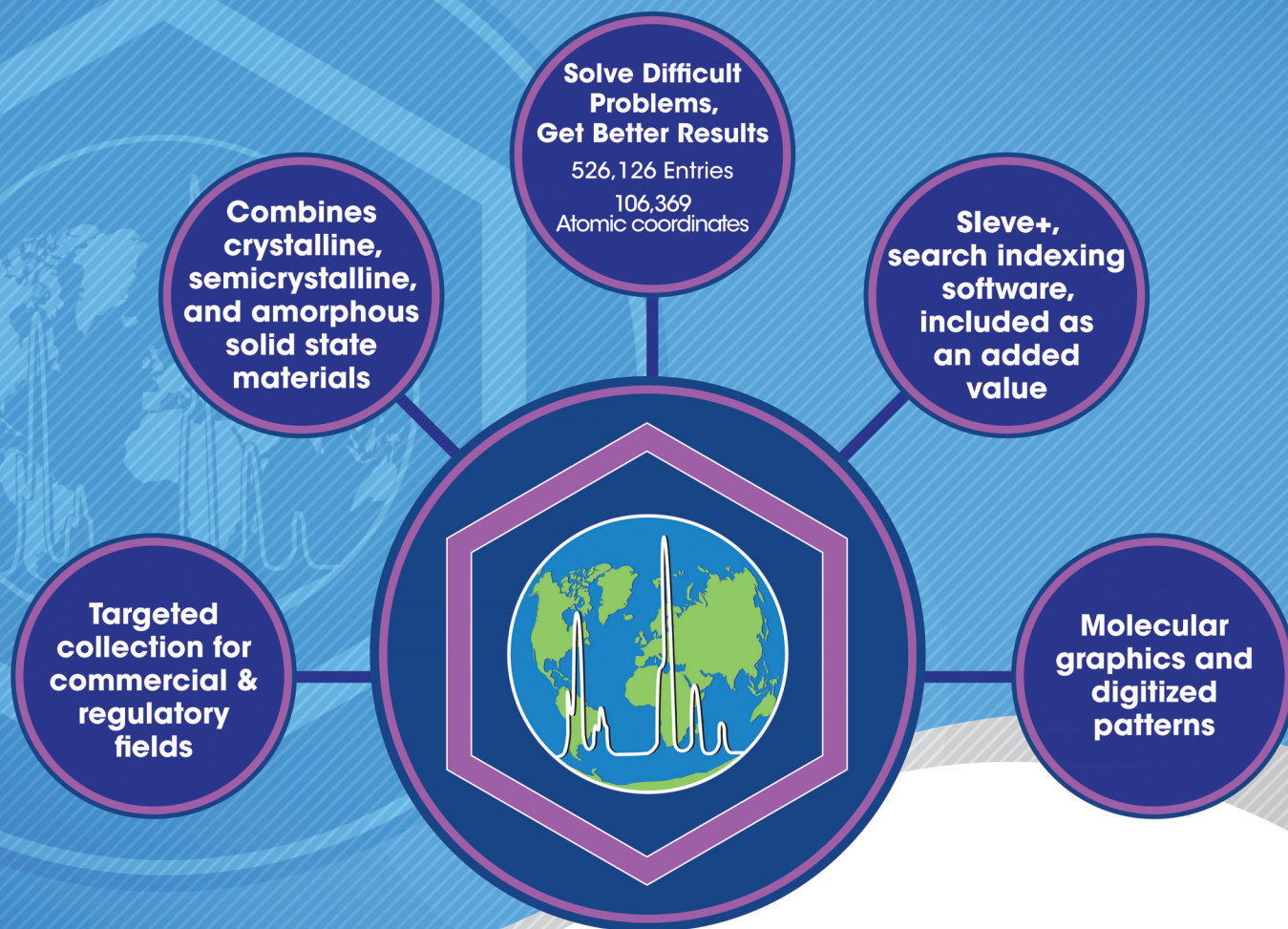


Diffraction Data You Can Trust

ICDD databases are the only crystallographic databases in the world with quality marks and quality review processes that are ISO certified.

PDF-4/Organics

Now eligible for a combination site license with PDF-4+



Standardized Data

More Coverage

All Data Sets Evaluated For Quality

Reviewed, Edited and Corrected Prior To Publication

Targeted For Material Identification and Characterization

www.icdd.com/products/pdf4-organics.htm



www.icdd.com | marketing@icdd.com

ICDD, the ICDD logo and PDF are registered in the U.S. Patent and Trademark Office. Powder Diffraction File is a trademark of JCPDS – International Centre for Diffraction Data ©2017 JCPDS-International Centre for Diffraction Data – 11/17

improve your science

with the AXRD Benchtop Powder Diffractometer

FIND OUT WHY SO MANY SCIENTISTS ARE CHOOSING PROTO.

www.protoxrd.com/powder



PROTO

x-ray diffraction systems & services

For more information and to
download our product catalog.



1-734-946-0974 powder@proxrd.com