



e-newsletter

Australian X-Ray Analytical Association

Issue 2010/02

June 2010

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CONTENTS

1. [Message from the National President](#)
2. [Editorial](#)
3. [AXAA 2011 Conference Update](#)
4. [AXAA Awards for Excellence in X-Ray Analysis: Call For Nominations](#)
5. [Lachlan Cranswick](#)
6. [Upcoming Events](#)
 - NSW Student Seminar Day: Scattering Matters
 - NSW Techo Arvo
 - XRD in the WORKplace
 - National XRD Course
 - Internet XRF Course
7. [Company News](#)
8. [Calendar of Events](#)
9. [Website and Contacts](#)
10. [Company Advertising](#)
 - Bruker AXS
 - PANalytical
 - Diffraction Technology
 - AXT

1. Message from the National President

Dear AXAA Community,

The worst fears of the scientific community were realized when Lachlan Cranswick, a prominent Australian crystallographer living in Canada, missing since January, was found dead on June 15th. Lachlan was an outstanding contributor to the crystallographic community and he will be greatly missed. Please see further on in the newsletter for more information.

The first of our AXAA-2011 lead up events is fast approaching - the NSW student seminar day and Techo Arvo, to be combined with an XRD in the workplace course. This year has seen the most abstracts received in the history of the NSW SSD, with high standards and fierce competition. Our commitment to support students is extended during the NSW SSD with student bursaries to attend AXAA-2011 to be awarded. Read on for further details. Bursaries in VIC and WA will be awarded at their respective SSD events, and bursaries have also been allocated for SA, TAS, and QLD. Keep an eye out for more details on these.

Kind Regards,
Vanessa

Vanessa Peterson
AXAA President
[Back to CONTENTS](#)

2. Editorial

CAN YOU BELIEVE THAT WE ARE ONLY 7 MONTHS AWAY FROM AXAA 2011???

The June newsletter is a bumper addition – given that everyone is gearing up for AXAA 2011, the number of contributions seems to be pushing the limits! The **closing date for Issue 2010/03 is September 10th 2010**. I am happy to send an email reminder a fortnight before this deadline to anyone who wishes to be on the reminder list (let me know if you have not already done so: catherine.kealley@uts.edu.au). As editor, I would greatly appreciate short reports on general topics and techniques, short articles or technical notes (1-2 pages of text, or less), news items from vendors, Technical Program Committee reports on activities held, upcoming events information, meeting and conference dates, and so on. Any photographs/graphs/diagrams are especially welcomed (a picture is worth 1000 words!). Feel free to contact me with any submissions, questions or suggestions you have: catherine.kealley@uts.edu.au.

Catherine Kealley
AXAA Vice-President/Newsletter Editor
[Back to CONTENTS](#)

3. AXAA 2011 – Conference Announcements



PLATINUM SPONSORS



PANalytical

The Australian X-ray Analytical Association cordially invites you to attend the 2011 Workshops, Conference, and Exhibition (AXAA 2011) to be held 6 to 11 February, 2011, in Sydney, Australia, at Star City.

The meeting will showcase recent scientific results and exciting new developments in related instrumentation, software, and techniques of analysis. The focus will be on advances in both industrial and fundamental research, particularly those achieved through new developments in techniques. We welcome attendees from across academia and industry, with a special invitation (including financial support) to students.

The conference will consist of two days for workshops designed for novice users of scattering techniques of analysis, three days of conference presentations and plenary lectures, and an optional tour of the new OPAL neutron scattering facility on the final day.

VANESSA PETERSON, Conference Chair & AXAA President

Who should attend?

Academics, industrial lab professional staff, engineers, researchers, educators and leading professionals in other fields of X-ray technology will all benefit from attending.

Also, newcomers to the field (senior undergraduate and postgraduate students, and those working in an X-ray analysis laboratory for the first time) will gain much from both the Schools and Conference sections of AXAA 2011.

Further information

Website www.axaaconference.info

Email axaa@pco.com.au

Phone [02] 4984 2554

TOPICS

We are offering XRD and XRF basics and advanced workshops with lectures on the following topics:

- Fluorescence in the workplace
- Standards and quality assurance
- Quantitative phase analysis
- Industrial applications of neutrons
- Complementary analytical methods (Both diffraction and spectroscopy)
- Stress/Strain

We invite you to submit Conference abstracts for presentations on:

- Studies using the following techniques and methods:
- In-situ diffraction
- Diffraction analysis including the Rietveld method
- Remote access instrument operation
- Micro XRD, CT, and XRF
- High-throughput techniques
- Online analysis
- Small angle scattering
- Single crystal studies
- Emerging capabilities in fluorescence
- Surface analysis

Materials and research areas:

- New materials
- Cultural heritage
- Environmental applications of XRF
- Biomineralisation
- Criminal Forensics, including border security and diffraction techniques
- Nanotechnology
- Materials for energy systems
- Mineralogy
- Iron Ore
- Alumina
- Uranium
- Metals
- Coal
- Cement and concrete

KEY DATES

- Abstracts Open – Now!
- Earlybird registration opens – 23 July
- Abstracts close – 10 September
- Presenters notified – 10 November
- Earlybird registration closes – 26 November

To register your interest, submit an abstract, and for further information please visit

www.axaaconference.info

Vanessa Peterson
AXAA President
[Back to CONTENTS](#)

WE ARE OFFERING:

XRD and XRF basics workshops and advanced workshops with lectures on the following topics:

- **Fluorescence in the workplace**
- **Standards and quality assurance**
- **Quantitative phase analysis**
- **Industrial applications of neutrons**
- **Complementary analytical methods (Both diffraction and spectroscopy)**
- **Stress/Strain**

CALL FOR ABSTRACTS: <http://www.pco.com.au/axaa2011/>

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Studies using the following techniques and methods:

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- **Micro XRD, CT, and XRF**
- **High-throughput techniques**
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Materials and research areas:

- **New materials**
- **Cultural heritage**
- **Environmental applications of XRF**
- **Biom mineralisation**
- **Criminal Forensics, including border security and diffraction techniques**
- **Nanotechnology**
- **Materials for energy systems**
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- **Cement and concrete**

[*Back to CONTENTS*](#)

4. AXAA Awards for Excellence in X-Ray Analysis: Call For Nominations

Closing Date for Submission of Nominations: 22 October 2010

The Awards

Two awards have been established, one for XRF and one for XRD. These will be for “significant long term contributions” to x-ray analysis rather than say a single paper, and will perpetuate the contribution of the person after whom the award is named.

XRF – Keith Norrish AXAA Award for Excellence in X-ray Fluorescence Analysis

XRD – Bob Cheary AXAA Award for Excellence in X-ray Diffraction Analysis

Form of Awards: Each award will comprise an engraved medal.

Selection Criteria

1. The principal criterion will be the excellence of the applicant’s development of high-impact, innovative x-ray analysis methods and their take-up by the x-ray analysis community. Work in which XRF or XRD has been a peripheral tool will not be considered.
2. The period over which the contribution is to be considered will be at least 5 years.
3. All or most of the cited work will have been conducted in Australia.
4. The recipient will have been a member of AXAA for at least 5 years prior to the application being submitted.
5. It is desirable, but not essential, that the applicant has contributed to AXAA in a substantial way, for example through quality presentations at AXAA national conferences and/or administrative service for AXAA.
6. Past recipients of an AXAA XRF or XRD award will not be considered for a second award in the same category.

Applications

Applications will be submitted by a nominator on behalf of the applicant. The documentation will comprise:

- CV
- Publication list. This may include items protected by confidentiality if the applicant can pre-arrange an appropriate confidentiality agreement.
- Advocacy statement highlighting the application's alignment with the selection criteria.
- Names and contacts for three technical referees, one being the nominator.
- Applications are to be submitted in electronic form to the AXAA President – Vanessa Peterson. Please send to Vanessa as an attachment: vanessa.peterson@ansto.gov.au

Closing Date for Submission of Nominations: 22 October 2010

Selection Process

1. The National Council has appointed a selection panel of three persons for each award. The selection panels will be allowed approximately two months to review the applications and make recommendations.
2. The recommended recipients will be considered by the AXAA Council which will then make a formal decision on the recommendations. Decisions by the Council will be final, and there will be no appeal process.
3. The Council reserves the right not to make an award if the standard of applications is deemed to fall below the expected standard.

Vanessa Peterson
AXAA President

[Back to CONTENTS](#)

5. Lachlan Cranswick



Lachlan at the top of the Eiffel Tower in 1998.

Prominent Australian crystallographer Lachlan Cranswick went missing from his home in Canada in January. Lachlan's body has been found: <http://www.ottawacitizen.com/news/Scientist>

A tribute written earlier this year, when it became clear that Lachlan was lost to us, follows:

It is already one month now that Lachlan Cranswick has been listed as a missing person by the police of Deep River, Ontario, Canada, and we have, unfortunately, to consider the possibility that he may never come back. As a friend of us, we have to tell you two or three things about him, since he was one of the creators and maintainers of this SDPD mailing list, among so many other activities.

Lachlan M.D. Cranswick was astonishingly hyperactive in the fields of the methods and computer programs for crystallography, both powder and single crystal, organizing all kinds of events such as

satellite workshops during international congresses and independent events; round robins about the Rietveld method, SDPD, search-match; Internet stuff like Newsgroups (sci.techniques.xtallography), mailing lists; (Rietveld, SDPD); editor of many IUCr Newsletters (Crystallography Computing, Powder diffraction and Teaching Commissions); etc. The CCP14 (from 1998 to 2003) - <http://www.ccp14.ac.uk/> - gave him an opportunity to extend his activities of cataloguing the most efficient computer programs. He was not himself a developer but was constantly arguing with them in order to obtain algorithm improvements, texts to publish in newsletters explaining more about their software, etc. Thousands of his emails are out there that concern these topics.

He was concerned about the difficulties to do science in developing countries and distributed his NEXUS CD Rom where Internet access was not possible or difficult (Cuba, etc). That regularly updated CD contains a huge list of open software and documentation about crystallography, and more. He was also interested in so many things that it is difficult to summarize: philosophy, history, literature, poetry, etc. Flavours of his life from Australia to Canada passing by the United Kingdom are still available at his personal homepage in Melbourne: <http://lachlan.bluehaze.com.au/>, a mixture of humorous and serious things. Moreover, quality of life was important to him: he preferred finally Chalk River in a wonderful nature, Canada to another job opportunity at Berkeley. He was involved in many social and sporting activities: he was the vice-president of the Deep River Curling and Squash Club, an avid dinghy sailor on the Ottawa River in the summer, and enjoyed walking and cross-country skiing in the winter.

Two citations from him reveal his professional concerns. The first citation is from a paper about the future of crystallography: "Research institutes and departments that are not willing to reinvest in expert staff, as well as invest in the time and effort it takes to develop scientific leadership in supporting fields such as crystallography, may suffer a precipitous decline in their abilities to perform leading-edge research." (Z. Kristallogr. 217, 2002, 293-4). The second citation is from an Acta Crystallographica paper (A64, 2008, 65-87): "Unless a sufficient body of people continues to dismantle and re-build programs, the knowledge encoded in the old programs will become as inaccessible as the knowledge of how to build the Great Pyramid at Giza." Lachlan co-authored or authored at least 53 papers listed in the Web of Science, one of them entitled "Superconductivity in LaFe(1-x)CoxAsO" (Phys. Rev. B78, 2008, 104505) appears to be destined to attract a large number of citations (already 60 by 2009). He had written chapters in the most recent books about powder diffraction. His career was just beginning, he was aged only 41.

Lachlan has worked for the NRC's Canadian Neutron Beam Centre for seven years. "His collaborators from universities across Canada praise his effectiveness in supporting their research," said Daniel Banks, a spokesman for the centre. "He was a driving force in developing our scientific tools to the leading edge." Indeed, he was a driving force not only for the NRC but for the world!

Those of us who know him well miss him as a good friend. But the entire community of crystallographers will also miss him professionally, probably finding much less information on the Web about the tools they may use in order to solve their problems. Forgive us the joke, but we prefer to believe that he was captured by aliens wanting to improve the level of crystallography on their planet, rather than to imagine something worse.

Armel Le Bail and Ian Swainson

[Back to CONTENTS](#)

6. Upcoming Events



Introducing the 2010 NSW Student Seminar day:

Scattering Matters

In conjunction with:



Wednesday 7th July, 2010
5:00 pm - 8:00 pm

**** Pizza and Drinks will be provided ****

Room G37, Chemical Sciences Building F10
The Mark Wainwright Analytical Centre, UNSW,
Sydney

Money and AXAA-2011 bursaries for best presentations

For more information contact: vanessa.peterson@ansto.gov.au

[Back to CONTENTS](#)



Come and show us your latest and greatest at the NSW..

Techo Arvo

In conjunction with:



**** Tea, coffee, and nibbles in the break ****

Chemical Sciences Building F10
The Mark Wainwright Analytical Centre,
UNSW, Sydney

Friday 9th July, 2010 2:00 - 5:00 pm

BBQ Dinner

provided after the presentations

For more information contact Vanessa Peterson
vanessa.peterson@ansto.gov.au

[Back to CONTENTS](#)



XR6 Training Course, 5th July – 9th July 2010 University of New South Wales, Sydney

This five-day course will focus on most basic and essential facets of XRD. It is coordinated and trained by several highly respected professionals, Dr Ken Turner (Consultant), Dr Colin Ward(UNSW), Dr Yu Wang(UNSW), Dr David French (CSIRO), Hari Bhaskar (PANalytical). *This course is suitable for all users of XRD – it's not brand specific!*

- Venue:** University of New South Wales. The course is in the Analytical Centre
<http://www.analytical.unsw.edu.au>
- Dates:** Monday 5th of July to Friday 9th July 2010 (inclusive)
Hours 0900 – 1700 with a Monday evening BBQ and Introductory XRD session
- Price:** AUD \$4,000 plus GST
- Early Bird Discount:** Receive a discount of AUD\$500 by paying before 15th June 2010.
Prices exclude travel, GST, accommodation, evening meals and other costs associated with living in Sydney during the course.
- Inclusions:** Course Notes (soft and hard copy)
Certificate of Achievement
Refreshments and Lunches (Monday to Friday)
Monday night's informal BBQ
Course Dinner
- Benefits:** Opportunity to refresh your XRD knowledge
Professional training for operators
The course is not Brand Specific and/or Type Specific
Theory will be supported by practical exercises
Opportunity to network with peers and industry professionals
- Accommodation:** An Option for accommodation is in Coogee (not within walking distance).
Internet <http://www.crowneplaza.com>
- Should you require further information please do not hesitate to contact me on +61 (0) 417 695 636

Yours sincerely
Scott Gilroy

Phone: 0415 324 449. Email: scott.gilroy@panalytical.com



COURSE OUTLINE

- **Introduction to X-ray Diffraction**
- **Introduction to Crystallography and Crystalline Phases**

- **Introduction to the hardware of the diffraction instrument**
- **Optics and their role in diffraction**
- **Line focus and point focus and when to use.**

- **XRD Patterns – what are they??**
- **Pattern Identification theory**
- **Pattern identification– computer based methods**

- **Sample Preparation (theory and practical)**

- **Introduction to Quantitative XRD Methods**
- **XRD and required services - User maintenance**
- **Quality Control for XRD**

- **Other Techniques and applications**



Confirmation of Booking / Expression of Interest

Organisation:

Billing Address:

Phone:

Fax:

Email:

Order Number:

Please book the following people into the XRF & XRD in the Workplace, Course

Participant Name:

Phone:

Email

Participant Name:

Phone:

Email

Participant Name:

Phone:

Email

RETURN TO FAX:

PANalytical
FX: +61 (0) 2 8700 2710 (Attn: Grace Perrone)
PH: +61 (0) 2 8700 2701
Email: grace.perrone@panalytical.com

QUESTIONS

Scott Gilroy
PH: +61 (0) 415 324 449
Email: scott.gilroy@panalytical.com

[Back to CONTENTS](#)

National XRD Course X-ray Powder Diffraction Analytical Methods, Curtin University, Perth

****Dates for next course to be advised****

Venue: Department of Imaging and Applied Physics, Curtin University of Technology, Bentley (Perth), Western Australia. Note: Client-specific version of the course can be presented at the customer's site

Duration: 4 days

Dates: 2010 and 2011 courses to be advised

Course Presenters: Professor Brian O'Connor and Dr Robert Hart

Enquiries and further information: B.O'Connor@curtin.edu.au

Cost: \$2,320 including GST

Availability of places strictly limited.

Overview: The course has been designed to give participants a theoretical and practical grounding in the principal characterisation methods which make use of x-ray powder diffractometry data. Approximately 60% of the course involves hands-on instruction. Students personally collect diffractometry data sets and then process these, both manually and with PC computers, in exercises on various analytical methods, including Rietveld analysis. Public domain software will be used, including WINPLOTR and Rietica. The course also includes overviews and demonstrations of the commercial software packages X'Pert HighScore Plus and Diffracplus Topas. While the course is relevant to the analysis of all classes of crystalline materials, attention will be devoted mainly to materials relevant to the mining and mineral processing sector.

Brian O'Connor
Curtin University of Technology
[Back to CONTENTS](#)

Internet XRF Course: Series 3, 2010

The course provides XRF analysts, particularly those new to the field, with on-site instruction in the practical principles of wavelength dispersive XRF. Features of course include -

- Start at any time, subject to the availability of places in the course
- Self-paced instruction to accommodate the needs of busy people
- Study materials transmitted as e-mail attachments in the form of 11 modules; with an assignment being set for each module.
- Feedback on the assignments provides excellent mentoring.

Course availability: Starting date by arrangement. Limited number of places available for Series 3 (2010) of the internet course.

Course director: Professor Brian O'Connor

Course fee: \$2,420 including GST

Further information and enrolment: brian_oconnor@iprimus.com.au (Tel 08 9291 7067)

Brian O'Connor
[Back to CONTENTS](#)

7. Company News



PANalytical X-ray Training courses are just around the corner. The XRD course begins in just over a month's time. Enrol now by contacting Scott.Gilroy@panalytical.com



2010 Training Dates

5th July 2010 – 9th July 2010 – X-ray Diffraction in the Workplace - Venue: University of NSW

16th August – 20th August – Super Q User Training Course – Venue: TBA

6th September – 10th September – XRF in the Workplace – Venue: University of NSW

New Engineer

PANalytical Australia has recently employed (full-time) an additional Service Engineer to boost customer support and application expertise in Queensland. Mrs Heather Lanthois has worked with PANalytical instrumentation for many years during her tenure at AMDEL. She has a high level of knowledge of SuperQ and WDXRF instrumentation.

She will be a great asset and support to the Queensland Customers and will assist you with SuperQ software enquiries

Her Email address is Heather.Lanthois@PANalytical.com



[Back to CONTENTS](#)

8. Calendar of Events

Date	Event	Location	Further Information
Start at any time	XRF I-Course	Internet delivery	brian_oconnor@iprimus.com.au
2010 and 2011 dates to be advised	National XRD Course	Curtin University of Technology, Perth	B.O'Connor@curtin.edu.au
5-9 July 2010	XRD in the WORKplace	University of NSW, Sydney	Scott.Gilroy@panalytical.com
5-9 July 2010	AOFSRR 2010	Pohang, Korea	http://pal.postech.ac.kr/AOF2010/
11-14 July 2010	SRMS / MEDSI 2010	Oxford, UK	http://www.srmsmedsi2010.org/srmsmedsi.html
11-16 July 2010	VUVX2010	University of British Columbia Vancouver, Canada	http://www.vuvx2010.ca/
12-15 July 2010	Australian Synchrotron- ANZAAS Winter School	Melbourne	http://www.synchrotron.org.au/index.php/news/events/australian-events/event/56-australian-synchrotron-winter-school
14-17 July 2010	11th SXNS Conference	Northwestern University, Evanston (nr Chicago), Illinois, US	http://www.sxns11.northwestern.edu
2-6 August 2010	59th Annual Denver X-ray Conference	Denver Marriott Tech Center Hotel, Denver, Colorado, U.S.A.	http://www.dxcicdd.com/
15-20 August 2010	XRM-2010	Chicago, USA	http://xrm2010.aps.anl.gov/
11-14 October 2010	IXS2010	World Trade Center, Grenoble, France	http://www.esrf.fr/events/conferences/ixs2010
5-9 December 2010	AIP 2010	Melbourne Convention and Exhibition Centre	http://www.aip2010.org.au/
6-11 February 2011	AXAA Conference	Star City, Darling Harbour, Sydney, Australia	vanessa.peterson@ansto.gov.au

[Back to CONTENTS](#)

9. AXAA Website and Contacts

WEBSITE <http://www.axaa.org>

NATIONAL COUNCIL PRESIDENT

Vanessa Peterson, Bragg Institute, ANSTO, PMB 1, Menai, NSW 2234
Telephone: (02) 9717 9401, e-mail: vanessa.peterson@ansto.gov.au

NATIONAL COUNCIL VICE-PRESIDENT

Catherine Kealley, Mintech Chemical Industries
Telephone (08) 9419 5300, e-mail: catherine.kealley@uts.edu.au

NATIONAL COUNCIL SECRETARY

Ned Blagojevic, ANSTO, PMB 1, Menai NSW 2234
Telephone: (02) 9717 3660, e-mail: ned.blagojevic@ansto.gov.au

NATIONAL COUNCIL TREASURER

Rob Hart, Department of Imaging and Applied Physics, Curtin University of Technology, GPO Box U1987, Perth, WA 6845.
Telephone: (08) 9266 2643, e-mail: r.d.hart@exchange.curtin.edu.au

[Back to CONTENTS](#)

10. Company Advertising



Bruker Biosciences Pty Ltd News

Bruker AXS

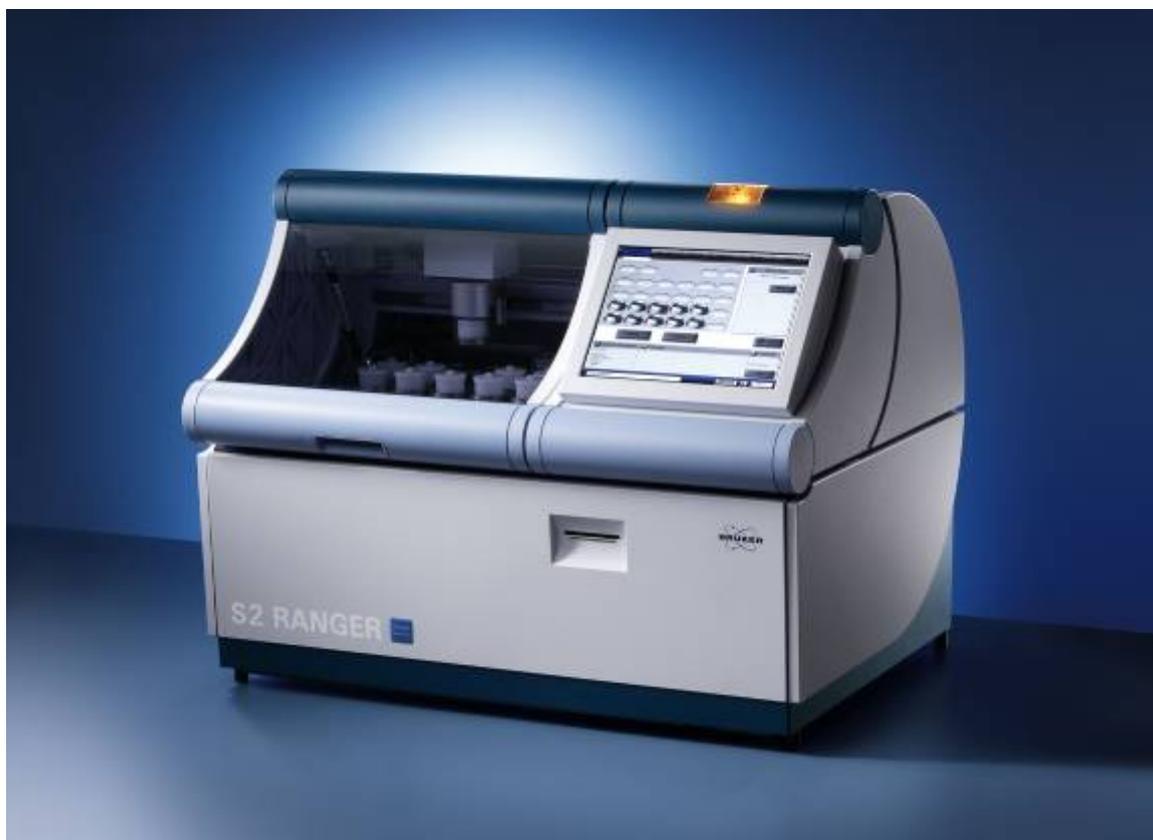
Bruker AXS Unveils Enhanced S2 RANGER EDXRF Spectrometer with Best-in-Class Light Element Analysis for the Food, Minerals & Mining and Cement Industries

At Analytica 2010, Bruker AXS launched its significantly enhanced S2 RANGER™ energy dispersive X-ray fluorescence (EDXRF) spectrometer with the new, maintenance-free 4th-generation XFlash® LE silicon drift detector (SDD). The combination of the XFlash LE SDD with 50 W excitation power eliminates conventional limitations of benchtop EDXRF systems for light elements, such as sodium and magnesium.

This increase in performance extends the applications range of the S2 RANGER further into the food, minerals and mining, and cement industries. The S2 RANGER is now in full compliance with international standards such as ISO 29581 and EN 196-2 for cement, delivering results with better precision in shorter measurement times compared to conventional EDXRF and low-power wavelength-dispersive X-ray fluorescence (WDXRF) systems. The CEMENT-QUANT turn-key software solution for the S2 RANGER with XFlash LE SDD is offering powerful performance for cement and raw materials quantification.

The rugged and compact all-in-one design with built-in vacuum pump makes the new S2 RANGER an ideal system for industrial process and quality control. It is now even suitable as a backup analyzer for large, high-power WDXRF systems.

The popular, proven features of the S2 RANGER include true multi-element analysis using the standardless method EQUA ALL™ for material identification and element quantification. Also included is a touch-screen interface for simple operation, now in several languages including English, Spanish, Chinese, Russian and Portuguese.



S2 RANGERTM energy-dispersive X-ray fluorescence spectrometer with XFlash® LE detector and 28 position XY-autosampler.

Dr. Kai Behrens, XRF Product Manager of Bruker AXS, stated: “The new S2 RANGER with XFlash LE is pushing the limits of EDXRF to a higher level. Convincing elemental quantifications in products as diverse as milk powder, feldspar, limestone and cement materials are the perfect proof of the new S2 RANGER’s superior light element performance. Indeed, the S2 RANGER has become a very attractive and powerful alternative to all low-power wavelength-dispersive XRF systems in the market for fast and precise element quantification.”

For more information on S2 Ranger, please contact Bruker Biosciences Pty Ltd:
baxs@bruker-axs.com.au

Chris Kelaart
Bruker Biosciences Pty Ltd
[Back to CONTENTS](#)



Eagon 2 : New PANalytical system for fully automated fused bead preparation

PANalytical introduces Eagon 2, an innovative, cost-effective system that brings the ultimate benefits of a high performance, fully automated fusion instrument for fused bead sample preparation to all XRF users.

Unique, cost saving design

Its innovative (patent-pending) design cleverly combines all the advantages of gas burner and muffle furnace technology into a system that does not require costly gas supplies, cooling water or compressed air. Eagon 2 needs just a simple electrical connection. This makes it an economical investment, with low operating costs.

Fully automated, unparalleled safety and ease of use

Eagon 2's automated functions ensure perfect repetition of the fusion cycle. Preparation conditions are optimized for all sample materials, and a pre-defined method library is provided. A 'cold-to-cold' operation cycle protects users from hot materials and surfaces at all times. In addition, the instrument's outer doors are safety interlocked throughout the fusion cycle to shield operators from moving parts.

Sample preparation is an essential stage in the analysis process. Methodology is highly dependent upon sample type: rocks and ore, cement, clinker or slag for example. Eagon 2 delivers push-button optimization of temperature setting, duration, oxidation steps, mixing and cooling - preparing the perfect fused bead sample, every time.

By delivering high performance furnace technology in a system that is inherently safe and simple to use, PANalytical is paving the way to accurate fusion-based sample preparation, even for non-specialists. Importantly, expert consultancy and training, from sample to result, is available from PANalytical in more than 60 countries worldwide.

For more information on Eagon 2 and the full range of associated consumables, please visit <http://www.panalytical.com/omnian> or contact your local PANalytical specialist.



Eagon 2 – Perfect fused beads for XRF

[Back to CONTENTS](#)



PANalytical pushes value to the mAX with upgrades to the popular Axios family of XRF spectrometers

PANalytical's popular Axios range of wavelength dispersive X-ray fluorescence (XRF) spectrometers has been upgraded to Axios^{mAX} with the incorporation of the SST-mAX X-ray tube in its standard configuration. This enhancement reflects the company's commitment to bringing cutting-edge technology and tangible, cost-effective benefits to its customers.

AXIOS SPECTROMETERS

Designed to perform

It's not just about the technology - it's about the benefits



Fastest throughput

- Air-lock design enables continuous full power operation
- Versatile, automatable high capacity sample changer
- Continuous loading
- Highest dynamic range detectors and multi-channel electronics

SST-mAX



- SST-mAX - with ZETA Technology - performance that doesn't diminish with time
- SST-mAX⁵⁰ - high sensitivity, increased speed for light-element analysis
- CHI-BLUE Coating - excellent corrosion resistance, cleanable - protecting the heart of your spectrometer



Revolutionary SST-mAX tube for zero drift and maximum uptime

At the heart of the new instruments is the SST-mAX X-ray tube, incorporating PANalytical's unique ZETA Technology. By eliminating the largest source of instrument drift common to all XRF systems, SST-mAX delivers a dramatic reduction in the frequency of drift correction and re-calibration measurements, thereby improving the system uptime.

Axios^{mAX}-Advanced - for ultimate top notch performance

The pinnacle of the range is the Axios^{mAX}-Advanced. It has a high-performance configuration, including the SST-mAX⁵⁰ X-ray tube with CHI-BLUE coating, the Hi-Per Scint detector with a linear count rate range up to 3.5 Mcps and Omnic standardless software. Axios^{mAX} is the basis for PANalytical's dedicated industry versions too. Application-tailored configurations are available for: cement, petrochemicals, industrial minerals, mining, metals and polymers and plastics.

Axios(1 kW) - for applications with lower throughput requirements

In addition, the lineup now includes a new, internally cooled, low-power Axios (1 kW) system. This is ideal for applications with lower throughput requirements, but where accuracy and repeatability remain critical parameters.

For more information on how the new Axios^{mAX} family can work for you, visit: www.panalytical.com or contact your local PANalytical representative.

[Back to CONTENTS](#)

Diffraction Technology Pty. Ltd. introduces a new X-ray Microradiography System.

Diffraction Technology Pty. Ltd. is an Australian company, of which Mr. Rod Clapp is CEO. The company represents a number of manufacturers of X-ray analytical instruments and accessories in Australia, and develops and manufactures special or dedicated systems. One such system is the "XMR" high power microradiography system, ideal for microradiography of dense or highly absorbing samples. It was initially developed for The University of Melbourne, School of Dental Science. They use it for mineralisation studies on human teeth.



The XMR uses X-ray diffraction components manufactured by GBC Scientific Equipment® of Melbourne, together with a fine focus X-ray diffraction tube in point focus mode. It can be used with any suitable X-ray generator, such as the Spellman® XLF1200 pictured.

The system can be used with film where very high resolution is required, or with a flat plate imager for fluoroscopy where less resolution is required. Entry to the analysis chamber has a double safety interlock, and a key lock.

Ideal-contrast exposures of high density samples can be made in 2 – 4 minutes when operating at 700W of tube power with Cu radiation.

For more information on the XMR or other products represented by Diffraction Technology, please visit our website www.diffraction.com.au or contact Rod Clapp at diffraction@bigpond.com or on 03 9787 3801.

Rod Clapp
Diffraction Technology Pty. Ltd.
[Back to CONTENTS](#)

AXT

3635 X-Press

AXT is pleased to announce new products for 2010

3635 X-Press Sample Press Features:

- Unique automated laboratory press
- Ideal for repetitive pressing of samples
- New programmable LCD touch screen interface
- Programmable parameters include: pressure, dwell time, and release time
- New safety interlock holds sample chamber door in locked position during operation
- Automatic pump shut-off safety valve



Quick Specs

Type of Press	Automated, Hydraulic
Force	0 - 35 tons ram pressure
Dwell Time	0 - 10 minutes
Release Time	0 - 10 minutes
Platen Movement	1 in. (25 mm)
Platen Size	3.25 in. (8 cm) diameter
Daylight	2.0 - 6.0 in. (5 - 15 cm)
Screw Adjustment	3.5 in. (9 cm)
Dimensions	20.0 in. (50.8 cm) high x 13.0 in. (33.0 cm) wide x 22.5 in. (57.2 cm) deep
Weight	Approx 160 lbs (73 kg)

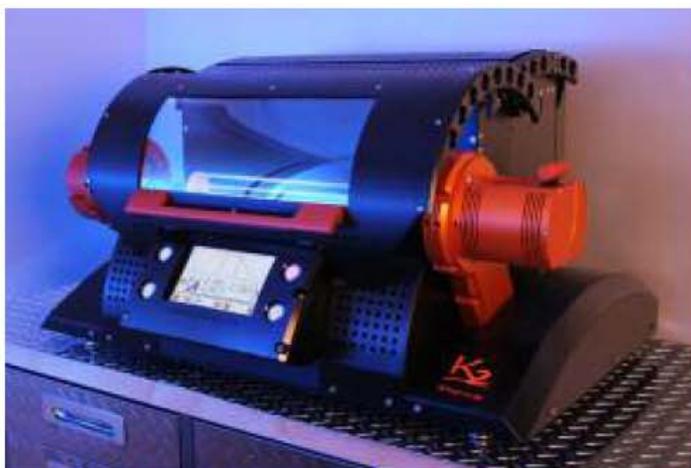
SPEX SamplePrep. 

AXT

Katanax K2 Prime

Cold to cold electric fusion

The K2 Prime brings the ultimate in fusion accuracy together with all the advantages of electric power: controlled heating, energy efficiency and ease of installation - now with a sleek touch-screen interface, a safety shield and even more robust components than the original K2.



Katanax K2 Prime New features:

- Color LCD touch-screen interface
- "Manager" and "User" modes
- Improved temperature control
- Quieter running
- USB connectivity
- Stronger motors, sturdier electronics
- Integrated safety shield



Accuracy

Entirely automated
Perfect reproducibility using a closed electric furnace: all crucibles and molds are exactly at the same temperature

Safety

No gases used, so no post-combustion toxic products released
Minimal heat dissipation; no need for a powerful vent hood

Versatility

Ready to fuse with built-in methods for oxides, minerals, metals, alloys, sulfides, fluorides and more
Can perform solid oxidations
Fully customizable fusion methods

Productivity

Simultaneous processing of up to five (5) samples
Throughput of 20 to 25 samples/hour
Productivity is improved by a user-adjustable holding temperature. Therefore, the temperature between fusions can be maintained to minimize initial ramping time

Simplicity

A simple, intelligent, high-performance furnace
Easy installation
Intuitive graphical interface
Easy icon and menu navigation
Virtually maintenance-free; easy component access
1-year limited warranty



AXT

Perform XRD measurements inexpensively

MiniFlex™ II diffraction system

Benchtop X-ray diffraction system

Fast, flexible, functional

- D/teX Ultra high speed position sensitive detector collects data up to 100X faster than conventional detection systems
- Graphite monochromator offers the highest quality data, optimizing peak-to-background measurements for trace phase analysis
- 6-position sample changer for high throughput and ultimate ease of use



D/teX Ultra



Graphite monochromator



6-position sample changer

