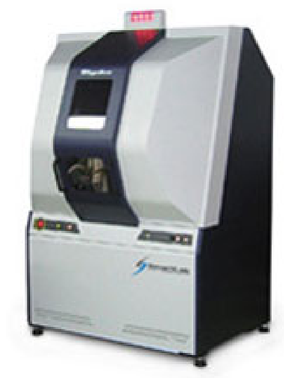
Rigaku
Applied Rigaku Technologies, Inc.

X-ray Diffraction & Elemental Analysis

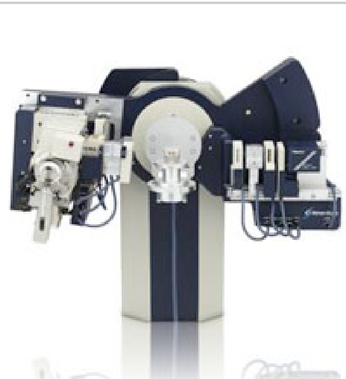
Upcoming SmartLab® Workshop



SmartLab users and potential users are welcome to attend

Rigaku is holding a two-day SmartLab workshop at the Rutherford Appleton Laboratories, Oxford, UK on September 17th and 18th 2013. **Read more >**

D/teX Ultra 250



New ultra fast 1D detector for the SmartLab

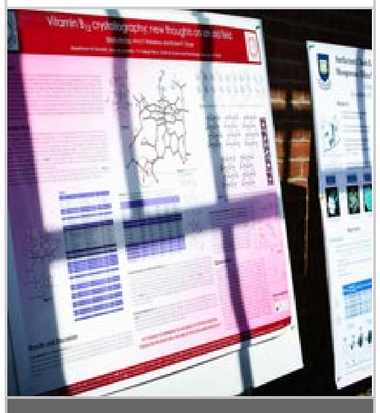
The SmartLab is the most novel high-resolution diffractometer available today. Now it is even better as it can be equipped with the fastest Si strip detector in the industry. **Read more >**

Micro-Z ULS

New WDXRF Ultra Low Sulfur Analyzer

Designed for ultra-low level sulfur analysis of diesel, petrol (gasoline) and other fuels, the Rigaku Micro-Z ULS wavelength dispersive X-ray fluorescence (WDXRF) instrument features a novel design that measures both the sulfur peak and the background intensity.
Read more >

Upcoming Events



Join Rigaku

Rigaku will be sponsoring, attending or exhibiting at the following conferences and trade shows:

American Crystallographic Association (ACA)
Honolulu, Hawaii, USA
July 20 – 24

Denver X-ray Conference (DXC)
Westminster, CO, USA
August 5 – 9

European Crystallographic Meeting (ECM)
Warwick, UK
August 25 – 29

See more >

Welcome

Thank you for joining us for the first issue of The Bridge, Rigaku's eNewsletter focused on materials analysis through the use of X-ray diffraction and X-ray fluorescence. A bridge is often used to symbolize a connection or link between two places, and thus we felt The Bridge would be the perfect name for our new eNewsletter, as we hope that it will act as a vehicle for the transmission of ideas and information between Rigaku and interested readers around the world. And a bridge is a two-way structure, a concept that we will keep in mind as we not only provide information about Rigaku, but also report on interesting research and the associated laboratories around the world, publish technical book reviews that might help our readers in their work, and highlight general news topics that are of interest to many people involved in materials analysis.

Customer in the Spotlight

Dr. Jozef Keckes
Associate Professor, Montanuniversität , Leoben, Austria

Professor Keckes is a scientist with many interests. He uses XRD, SAXS, WAXS, and GISAXS to study in-situ X-ray scattering on micro- and nano-scaled materials, structure and mechanical properties of thin films, structure-property relationships in biological materials, and for applications of synchrotron radiation. **Read more >**

Customer Testimonial

Matsubara Laboratory Group – Kyoto University
The XtaLAB mini – benchtop single crystal analysis

In February 2013, two XtaLAB minis were installed as specialized laboratory instruments for a materials chemistry course, located in Prof. Matsubara's laboratory, and as shared equipment for the chemical systems and materials engineering courses. **Read more >**

Featured Application Note

Trace Elements in Aqueous Solution with UltraCarry®

Elemental analysis of aqueous solutions into the low ppm and sub-ppm concentration ranges was demonstrated, using the advanced Cartesian geometry NEX CG Energy Dispersive X-ray Fluorescence (EDXRF) spectrometer in conjunction with the UltraCarry sample preparation technique. **Read more >**

Material Analysis in the News

Nanotechnology in the News

Each month we highlight an area of material analysis and how it is being portrayed in the news. In this issue we highlight nanotechnology.
Read more >

Scientific Book Review

R in a Nutshell, A Desktop Quick Reference

R is a programming language for graphics and statistics. It provides for interactive graphing and analysis. It is much more powerful than wgnuplot but with that comes more structure and perhaps pitfalls. **Read more >**

Recent Scientific Papers of Interest

Honouring the two Braggs: the first X-ray crystal structure and the first X-ray spectrometer. Helliwell, John R. Crystallography Reviews. Jul–Sep2013, Vol. 19 Issue 3, p108–116. 9p. DOI: 10.1080/0889311X.2013.797410.

Pt and Pt-Ru catalysts for polymer electrolyte fuel cells deposited onto carbide derived carbon supports. Lust, E.; Härk, E.; Nerut, J.; Vaarmets, K. Electrochimica Acta. Jul2013, Vol. 101, p130–141. 12p. DOI: 10.1016/j.electacta.2012.10.024.

A new compound in kidney stones? Powder X-ray diffraction study of calcium glycinate trihydrate. Le Bail, Armel; Daudon, Michel; Bazin, Dominique. Acta Crystallographica: Section C (International Union of Crystallography – IUCr). Jul2013, Vol. 69 Issue 7, p734–737. 4p. DOI: 10.1107/S0108270113015709.

Structural and Magnetic Properties of Ln_2CoMnO_6(Ln=Dy and La) Produced by Combustion Synthesis. C. Filho, Pedro; Barrozo, Petrucio; Landinez-Tellez, D.; Jardim, R.; Azevedo, W.; Albino Aguiar, J. Journal of Superconductivity & Novel Magnetism. Jul2013, Vol. 26 Issue 7, p2521–2524. 4p. 1 Chart, 3 Graphs. DOI: 10.1007/s10948-012-1689-8.

Inferring planar disorder in close-packed structures *via* ε–machine spectral reconstruction theory: examples from simulated diffraction patterns.: Varn, D. P.; Canright, G. S.; Crutchfield, J. P. Acta Crystallographica: Section A (International Union of Crystallography – IUCr). Jul2013, Vol. 69 Issue 4, p413–426. 14p. DOI: 10.1107/S0108767313008738.

X-ray diffraction, atomic force microscopy and raman spectroscopy studies of microstructure of $BiFeO_3$ thin films on Pt/Ti/SiO_2/Si (111) substrates. Fan, Fei; Luo, Bingcheng; Duan, Mengmeng; Chen, Changle. Journal of Applied Spectroscopy. Jul2013, Vol. 80 Issue 3, p378–383. 6p. DOI: 10.1007/s10812-013-9777-5.