Rigaku Exhibits its Latest X-ray Analytical Instrumentation at JASIS 2018

Leading With Innovation

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Rigaku showcases latest technology at the 2018 Japan Analytical & Scientific Instruments Show

September 7, 2018 – Tokyo, Japan. X-ray scientific, analytical and industrial instrumentation manufacturer Rigaku Corporation is presenting its diverse lines of X-ray analytical products at the 2018 Japan Analytical & Scientific Instruments Show (JASIS). Taking place September 5 – 9 at the Makuhari Messe International Exhibition Hall in Chiba City, Japan, JASIS is among the largest expositions in Asia for scientific and instruments.

X-ray diffraction (XRD), X-ray fluorescence (XRF), X-ray imaging, thermal analysis (TA) and Raman spectroscopy instruments from Rigaku are presented at Booth #7A-101, in HALL 7. Rigaku will be conducting several demonstrations, seminars and presentations during the event.

Among the instruments featured is the new sixth generation Rigaku MiniFlex benchtop XRD. The MiniFlex is a general purpose X-ray diffractometer that can perform qualitative and quantitative analysis of polycrystalline materials. It is designed to deliver speed and sensitivity through innovative technology enhancements, such as the HyPix-400 MF 2D hybrid pixel array detector (HPAD) coupled with a 600 W X-ray source and new 8-position automatic sample changer.

New 6th generation Rigaku MiniFlex benchtop XRD spectrometer

Rigaku NANOPIX mini benchtop SAXS instrument

The Rigaku NANOPIX mini, on display at the event, is the first benchtop small angle X-ray scattering (SAXS) system dedicated to the characterization of nanoparticles in both research and production environments. With a revolutionarily small footprint and performance superior to traditional “big iron” systems, this compact instrument offers enhanced angular resolution through its line-focus X-ray source and superior combination of high figure-of-merit optics. Nanoparticle size, size distribution, and particle shape are the key pieces of information obtained from SAXS. Samples may range from solutions, suspensions or slurries to solid plastics, rubbers or polymers.

New Rigaku SmartLab intelligent multipurpose X-ray diffractometer

Also featured at the exhibition is the next-generation Rigaku SmartLab intelligent multipurpose X-ray diffractometer with SAXS and in-plane capabilities. It features the brand new PhotonMax high-flux 9 kW rotating anode X-ray source coupled with a Rigaku HyPix-3000 high-energy-resolution 2D multidimensional semiconductor detector that supports 0D, 1D and 2D measurement modes. The system incorporates a high-resolution θ/θ closed loop goniometer drive system with an available in-plane diffraction arm.

Rigaku ZSX Primus IV sequential WDXRF spectrometer with advanced Guidance system

Wavelength dispersive X-ray fluorescence (WDXRF) instrumentation featured at the event includes the Rigaku ZSX Primus IV tube-above sequential wavelength dispersive X-ray fluorescence spectrometer. The system is designed for non-destructive trace element analysis with high detection sensitivity and spectral resolution. The ZSX Primus IV spectrometer delivers rapid quantitative determination of major and minor atomic elements, with mapping and multi-point analysis, in a wide variety of sample types.

Rigaku Supermini200 wavelength dispersive X-ray fluorescence spectrometer

The Rigaku Supermini200 benchtop WDXRF spectrometer is also on display. Featuring newly designed and simplified software and an improved footprint, it combines all the advantages of traditional WDXRF elemental analysis systems in a smaller, more economical package.

X-ray microscopy (XRM) and computed tomography (CT) systems from Rigaku include the Rigaku nano3DX X-ray microscope and the new Rigaku CT Lab GX series of industrial 3D X-ray micro-CT imagers. The nano3DX is a true X-ray microscope, with the ability to measure relatively large samples at high resolution. It images the entire sample from multiple angles, enabling reconstruction of a 3D image at 0.27 µm resolution. The computer model allows the user to view sections at any point on any plane, providing valuable insights into the structure of the sample. The CT Lab GX series offers ultra-high-speed, high-resolution 3D CT suited for measurements of pharmaceuticals, medical devices, bones, ores, electronic devices, batteries, aluminum castings, and printed circuit boards.

Single crystal X-ray diffraction systems from the Rigaku Oxford Diffraction (ROD) division are also featured. The Rigaku XtaLAB mini II benchtop X-ray crystallography system is a research grade, compact single crystal X-ray diffractometer designed to produce ready-to-publish 3D structures with exceptional quality, exceeding IUCr publication standards.

Rigaku *XtaLAB mini II* benchtop chemical crystallography system

The Rigaku XtaLAB Synergy-i single crystal X-ray diffractometer is an upgradeable system for structural analysis of small molecule samples. It includes a high-flux, low maintenance microfocus sealed tube X-ray instrument with a high precision 4-circle kappa goniometer and Rigaku's own HyPix Bantam Hybrid Photon Counting (HPC) X-ray detector.

Rigaku NEX DE - energy dispersive X-ray fluorescence spectrometer

Elemental analysis by energy dispersive X-ray fluorescence (EDXRF) offers non-destructive measurement of sodium (Na) through uranium (U). EDXRF analyzers from Applied Rigaku Technologies, Inc. include the Rigaku NEX DE premium high-performance benchtop direct excitation EDXRF elemental analyzer, developed for heavy industrial applications and engineered to maximize flexibility and ease of use. It is equipped with a 60 kV, 12 W X-ray tube to deliver significant gains in elemental peak resolution and counting statistics, resulting in superior calibrations and precision for the most challenging measurements.

Debuting at the conference is the new Rigaku ResQ CQL 1064 nm handheld Raman analyzer. It is the newest addition to the portfolio of handheld spectroscopic analyzers from Rigaku Analytical Devices and is designed for chemical threat identification. The unit's improved ergonomics, analytical performance and sample presentation enable easier performance of chemical analysis of powders, liquids, gels and mixtures.

Rigaku ResQ CQL 1064 nm handheld Raman analyzer

Thermal analysis instrumentation is also available from Rigaku, enabling the properties of materials to be studied as they change with temperature. Among the featured products is the Rigaku TG-DTA differential thermogravimetric analyzer. The instrument performs simultaneous thermal analysis (STA) applying thermogravimetry (TG) and differential thermal analysis (DTA) to the same sample with a single instrument.

Over the course of the conference, Rigaku will host a number of seminars covering advances in analysis techniques and instrumentation, including an oral session discussing "Flavor and Odor" on September 6th in Hall no, 4 entitled, "*3D structure determination of aromatic molecules.*" The speaker is Takashi Kikuchi, PhD. of Rigaku Corporation.

About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on general-purpose analytical instrumentation and the life sciences. With hundreds of major innovations to their credit, Rigaku companies are world leaders in X-ray spectrometry, diffraction, and optics, as well as small molecule and protein crystallography and semiconductor metrology. Today, Rigaku employs over 1,400 people in the manufacturing and support of its analytical equipment, which is used in more than 70 countries around the world supporting research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial communities.

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