

Rigaku Exhibits its Latest X-ray Analytical Instrumentation at JASIS 2019

Rigaku showcases latest technology at the 2019 Japan Analytical & Scientific Instruments Show

September 4, 2019 – Tokyo, Japan. X-ray scientific, analytical and industrial instrumentation manufacturer [Rigaku Corporation](#) is presenting its diverse lines of X-ray analytical products at the 2019 Japan Analytical & Scientific Instruments Show ([JASIS](#)). Taking place Wednesday, September 4 through Friday, September 6, 2019 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 No.4A-101, in HALL 4. Over the course of the conference, Rigaku will be conducting several demonstrations, seminars and presentations covering advances in analysis techniques and instrumentation, including ten in-booth seminars and presentations for special oral sessions for the event's *Open Solution Forum* and *New Technology Presentation Program*.

Among the instrumentation on display 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 SmartLab intelligent multipurpose X-ray diffractometer with Guidance software



**New 6th generation
Rigaku MiniFlex benchtop
XRD spectrometer**

Also among the featured instruments is the new sixth generation [Rigaku MiniFlex](#) benchtop XRD system. The MiniFlex system 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.

Wavelength dispersive X-ray fluorescence (WDXRF) instrumentation featured at the exhibition includes the Rigaku ZSX Primus series of analyzers. The latest addition is the [Rigaku ZSX Primus IV](#) tube-above sequential WDXRF 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 ZSX Primus IV sequential WDXRF
spectrometer with advanced Guidance system**



**Rigaku Supermini200
wavelength dispersive X-ray
fluorescence spectrometer**

The [Rigaku Supermini200](#) analyzer, also among the analytical instrumentation being presented, is the world's only high-power (200 W) benchtop sequential WDXRF spectrometer for elemental analysis of oxygen (O) through uranium (U) of almost any material. It uniquely delivers low cost-of-ownership with high resolution and lower limits of detection (LLD), combining the advantages of traditional WDXRF elemental analysis systems in a smaller, more economical package.

For 3D and 4D imaging of micro-scale morphologies, Rigaku offers the [Rigaku CT Lab HX](#) high-performance benchtop X-ray micro CT system, a compact yet powerful micro CT system that can provide three-dimensional X-ray images of a wide variety of samples. The CT Lab HX system features the largest field of view (FOV) and most powerful X-ray source in its class (130 kV, 39W).



The Rigaku CT Lab HX benchtop X-ray micro CT system

Recently, Rigaku and [Merck](#) (Darmstadt, Germany) announced their [collaboration](#) on new technologies for exploiting the crystalline sponge method, enabling the use of X-ray crystal structure determination on new targets including liquids, gases, low availability compounds or those that are simply difficult to crystallize. Rigaku is showcasing its high-performance diffractometers and detectors that enable the crystalline sponge method to be performed successfully. With high-flux sources and ultra-sensitive detectors able to count X-ray photons across the whole range, the [Rigaku XtaLAB Synergy](#) line of diffractometers ensures the highest data quality possible, allowing subtle features to be distinguished, as the crystalline sponge method demands.



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.



Rigaku KT-100S handheld
LIBS analyzer for metal alloy
analysis

Handheld spectroscopic analyzers from [Rigaku Analytical Devices](#) are also being exhibited. Rugged handheld spectrometers include the 1064 nm Raman Rigaku [Progeny](#), [Progeny ResQ](#) and [ResQ CQL](#) analyzers for examination of narcotics, explosives and hazardous chemicals. With its unique 1064 nm excitation laser, the Progeny ResQ analyzers can measure colored solids and liquids as well as substances through containers, overcoming issues of fluorescence interference that affect other handheld Raman devices.

The handheld [KT-100S](#) analyzer utilizes LIBS to perform metal alloy analysis on the most difficult grades. All of these handheld options have been certified rugged with MIL STD 810-G certification, empowering customers to achieve rapid lab-quality results any time or place.

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.

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 90 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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