# Press Release

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## The June edition of *The Bridge*, the Materials Science newsletter from Rigaku, is now online

*Issue 84 of* The Bridge *newsletter from Rigaku focuses on materials science and is available from the company's website*

**June 25, 2020 – The Woodlands, Texas.** The June 2020 edition of *The Bridge* newsletter from Rigaku Corporation is now available on the company's global website. *The Bridge* focuses on materials analysis and features the latest news, techniques and instrumentation related to X-ray based materials science, and includes informative articles and scientific papers.

The current newsletter features a preview of upcoming webinar events, including access to the next episode of the webinar series X-ray Computed Tomography for Materials and Life Science: Geology Applications. The series covers the basics of X-ray Computed Tomography (CT) and various materials and life science applications. The next episode will explore geological applications.

The new issue also introduces the next installment of the new TOPIQ series of webinars from Rigaku. *Investigating Crystalline Defects of Semiconductors Using X-ray Topography* will present applications for different materials and demonstrate how the Rigaku XRTmicron system is used to get highest-quality 2D and 3D topograms of semiconductor material.


***The Rigaku XRTmicron advanced X-ray topography tool***

A featured technical article for June covers free lime quantification in clinker using simultaneous wavelength dispersive X-ray fluorescence spectrometry. Clinker is an intermediate material for cement, which is produced by mixing and calcinating raw materials such as limestone, clay and silica in a rotary kiln at a high temperature. When calcination is insufficient, limestone, the main raw material, does not react sufficiently with the other materials and the amount of free lime increases, resulting in the cement not meeting the expected composition.

Another article details the identification of hazardous compounds and illicit drugs with handheld Raman spectrometers. Historically, infrared absorption spectroscopy was the common method for such analyses, but use has gradually shifted to Raman spectroscopy, due to certain advantages over infrared spectrometry for onsite rapid analysis.

Featured application notes covering X-ray diffraction (XRD) include a report describing the analysis of fuel cell materials, as well as a method for the quantitative analysis of polymorphic impurities in a drug substance.

The energy dispersive X-ray fluorescence (EDXRF) application report from Applied Rigaku Technologies, Inc. (ART) describes the analysis of chlorine, lead and metals in refuse derived fuel (RDF). RDF is made from non-hazardous industrial and packaging waste that cannot be recycled. It can safely be used as an alternative to fossil fuels in rotary kilns at lime works and cement plants.

The wavelength dispersive X-ray fluorescence (WDXRF) application note for June describes the quantitative analysis of soda-lime glass. The addition of different elements or compounds can change the physical and chemical properties of glass, such as melting point, moisture resistance and thermal expansion. Some trace elements can color glass. X-ray fluorescence (XRF) analysis quickly and easily offers precise elemental analysis results allowing control of glass composition in the production process.

As always, a collection of news reports, a featured video, and links useful resources related to materials science are also included.

Readers can subscribe to the newsletter or view the current issue online at https://www.rigaku.com/subscribe

**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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