Press Release

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Issue 88 of *The Bridge*, the Materials Science newsletter from Rigaku, is now online

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

October 29, 2020 – The Woodlands, Texas. The October 2020 edition of *The Bridge* newsletter from Rigaku Corporation is now available online 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 latest newsletter offers details for a number of events for the coming month. On Nov. 9–10, the Product Quality Research Institute (PQRI) will host the live virtual 4th PQRI Workshop on ICH Q3D Elemental Impurities Requirements.

Other highlighted events include an upcoming webinar on the use of energy dispersive X-ray fluorescence (EDXRF) analyzers in the petroleum industry, as well as the latest installment of the series, *X-ray Computed Tomography for Materials & Life Sciences*, the next covering metrology applications.

A featured technical article explores defect structure analysis in single crystal substrates using X-ray topography (XRT). The technique has been an indispensable industrial and research tool for crystal growth of functional materials for more than 50 years, enabling crystalline defects to be detected non-destructively.

The Rigaku XRTmicron advanced X-ray topography tool

Featured application notes include a report describing the analysis of lead in gasoline—still used in the form of alkyl lead as an additive in aviation gasoline—by wavelength dispersive X-ray fluorescence (WDXRF).

The EDXRF application report from Applied Rigaku Technologies, Inc. (ART) describes the analysis of organic chlorides in crude oil. Chlorides contribute to corrosion in piping at refineries during cracking, as well as mid-stream in pipelines.

An application report from Rigaku Analytical Devices describes the monitoring of polymorphs with a 1064 nm handheld Raman analyzer. Polymorphs are chemicals with the same atomic components but different physical arrangements of the molecules. It is important to differentiate polymorph types in any pharmaceutical formulation because a change in the polymorph will affect the physical properties and impact on bioavailability of the drug.

Materials Analysis in the News presents several news reports related to materials science, including a story about the successful demonstration by a Hokkaido University research group that carbon-carbon (C-C) covalent bonds expand and contract in response to light and heat. The bond length between two particular carbon atoms was examined using X-ray analysis and Raman spectroscopy.

Another news item reports that materials scientists at Imperial College have contributed to two Henry Royce Institute-led roadmaps detailing how to reach net-zero carbon emissions by 2050.

As always, profiles of featured analytical instrumentation, and links to useful resources and a featured video 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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