Press Release

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The October 2019 edition of *The Bridge*, the Materials Science newsletter from Rigaku, is now online

Issue 76 of The Bridge *newsletter from Rigaku focuses on materials science and is available from the company's website*

October 30, 2019 – The Woodlands, Texas. The October 2019 edition of *The Bridge*, the materials science newsletter from Rigaku Corporation, is now available online on the company's global website. *The Bridge* presents current news and analysis techniques related to X-ray based materials science and includes articles, scientific papers and news reports.

To commemorate the 2019 Nobel Prize in Chemistry, awarded for research focused on improving battery technology, culminating in the development of lithium-ion batteries, two X-ray diffraction (XRD) application reports on Li-ion batteries are featured in the latest edition. Another XRD application note presents local structure analysis of non-crystalline materials based on Pair Distribution Function (PDF) analysis.

The wavelength dispersive X-ray fluorescence (WDXRF) application note for the month describes chlorine analysis of aluminosilicate for fluid catalytic cracking (FCC) catalyst, and documents the performance of a Rigaku ZSX Primus series spectrometer. Controlling the chlorine content of FCC catalyst helps guard against the formation of hazardous organo-chloride compounds such as dioxins, and helps prevent degradation of catalytic activity.

Rigaku ZSX Primus IV Sequential WDXRF spectrometer with advanced Guidance system

An energy dispersive X-ray fluorescence (EDXRF) application note from Applied Rigaku Technologies, Inc. (ART) details the analysis of palladium (Pd) in cellulose powder. Palladium is a common catalyst in the manufacturing of pharmaceuticals and cellulose is a typical medium for pharmaceuticals. For quality control and manufacturing purposes, the Rigaku NEX DE EDXRF analyzer is shown to be a capable tool for the measurement of trace heavy elements and other elements of interest in pharmaceutical products.

Two book reviews cover *The Physics of Everyday Things: The Extraordinary Science Behind an Ordinary Day* by James Kakalios and *How To: Absurd Scientific Advice for Common Real-World Problems* by Randall Munroe. Each book offers practical, and sometimes humorous, explorations of the physics of everyday life.

A featured video from a BBC science documentary on the secrets of light and energy highlights the formation, transference and storage of energy as well as how light is reflected and "created."

Also included in the October edition of *The Bridge* is a collection of news items related to materials science, along with 23 recently published scientific papers

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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