Press Release

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Issue 66 of *The Bridge*, the Materials Science newsletter from Rigaku, is online

The December 2018 edition of The Bridge *newsletter from Rigaku focuses on materials science and is now available from the company's website*

December 27, 2018 – The Woodlands, Texas. The December 2018 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, including articles, scientific papers and news reports.

The featured article this month, contributed by AXT, covers the examination of bauxite dehydroxylation using *in situ* X-ray diffraction (XRD). Bauxite is the primary raw materials used in the manufacture of aluminum. *In situ* XRD carried out on a Rigaku SmartLab X-ray diffractometer was able to demonstrate that different bauxite samples behave differently, while the hydroxide phases also transform at different temperatures compared to their pure analogues.

Application reports for XRD, energy dispersive X-ray fluorescence (EDXRF) and wavelength dispersive X-ray fluorescence (WDXRF) are also featured. This month's featured XRD technical note discusses high-speed *in situ* measurement of the aluminum metal melting process. The WDXRF application note discusses the measurement of trace elements in water using the "Ultra Carry" method, while the EDXRF note covers the quantification of cobalt (Co), bromine (Br) and manganese (Mn) in terephthalic acid (TPA) and purified terephthalic acid (PTA).

The book review for the month features *The Tangled Tree: A Radical New History of Life* by David Quammen. The book explores how recent discoveries in molecular biology can change our understanding of evolution and life's history.

A roundup of the latest global news stories related to materials analysis is also presented, including a report about a research team at Osaka University creating a material that could improve the safety of rechargeable batteries while lowering their manufacturing costs, and a story about the development of scanners that will utilize a hybrid system combining the commonly used X-ray technology with X-ray diffraction tomography that could soon become the standard in airports around the globe.

A new “advantage series video” presents a high performance small spot benchtop EDXRF elemental analyzer. The Rigaku NEX DE VS spectrometer delivers wide elemental coverage, able to perform small spot analysis, from sodium (Na) through uranium (U), of almost any matrix - from solids, thin films and alloys to powders, liquids and slurries.

“Recent Scientific Papers of Interest” - a monthly compilation of material analysis papers appearing in recently released journals and publications - features 17 recently published papers on research relating to materials science.

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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