# Press Release

**Rigaku Corporation**
Michael Nelson
Global Marketing Coordinator
michael.nelson@rigaku.com

# Issue 79 of *The Bridge*, the Materials Science newsletter from Rigaku, is now online

*The January 2020 edition of* The Bridge *newsletter from Rigaku focuses on materials science and is available from the company's website*

**February 3, 2020 – The Woodlands, Texas.** The first edition of *The Bridge*, the materials science newsletter from Rigaku Corporation, for 2020 is now available 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.  This issue debuts a new look and updated format optimized for use on mobile devices.

The newsletter includes an article on the principles and operation of the direct derivation method, a quantitative phase analysis technique using X-ray diffraction, employed to find weight ratios of individual component phases in a mixture.

A report covering last month's Asian Crystallographic Association Conference, held at the National University of Singapore, is also featured.  The conference focused on three main topics: macromolecular crystallography, chemical crystallography, and materials and applications, with parallel sessions for each. Over 450 scientists attended the conference.



A featured application note describes the analysis of the crystal structure and crystallization temperature of chocolate obtained under several tempering speeds by simultaneous X-ray diffraction and differential and scanning calorimetry (XRD-DSC). Chocolate gets its flavor and texture through tempering. The tempering process deliberately changes the crystallization temperature, thereby controlling the crystal phase efficiently.

The wavelength dispersive X-ray fluorescence (WDXRF) application note for the month describes trace element analysis in geological samples by the pressed powder method. The method employs "GEO-TRACE-PAK," a pre-calibration package that provides a quantitative application set including calibration, measuring conditions and analysis parameters.

An energy dispersive X-ray fluorescence (EDXRF) application note from Applied Rigaku Technologies, Inc. (ART) details the analysis of air filters using indirect excitation with secondary targets and polarization in full Cartesian geometry. The method complies with instrument sensitivity requirements outlined by U.S. EPA method IO-3.3 (*Determination of Metals in Ambient Particulate Matter Using X-Ray Fluorescence Spectroscopy*).

A featured video shows a new method of 3D printing known as multimaterial multinozzle 3D printing or MM3D. A breakthrough for manufacturing, MM3D achieves fast and continuous switching among up to eight different printing materials.

Also included in the latest edition of *The Bridge* is a collection of news reports related to materials science, product features and a schedule of upcoming events.

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.

For further information, contact:

Michael Nelson
Global Marketing Coordinator
Rigaku Corporation
michael.nelson@rigaku.com

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