

Press Release

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

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Issue 72 of The Bridge newsletter from Rigaku focuses on materials science and is available from the company's website

June 28, 2019 – The Woodlands, Texas. The June 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.

The featured article explores the determination of the molecular structure of odor components. The report includes example analyses using the “crystalline sponge method” – a single crystal X-ray structure analysis method that does not require crystallization and can be applied to small amounts of target compounds.

This month's wavelength dispersive X-ray fluorescence ([WDXRF](#)) application note describes the analysis of hazardous heavy elements in soil and sediment. When soil is polluted it negatively impacts the ecosystem, affecting both human health and the environment. For analysis of such elements in soil and sediment, XRF spectrometry is used because of its simple sample preparation and short analysis time.

Another application report addresses hazardous metallic elements from the soil accumulating in tea leaves, a particular health concern for people in Japan and Europe, where a large amount of tea leaves are imported and consumed. In the total reflection X-ray fluorescence ([TXRF](#)) method presented, the analysis of hazardous elements such as arsenic, lead and cadmium eluted from tea leaves is described.

The energy dispersive X-ray fluorescence ([EDXRF](#)) application note details the analysis of alloy powders for metal 3D printing. When mixing various metal alloy powders, it is important to monitor the elemental compositions of the raw materials and powder mixtures to ensure proper alloy balances for the parts being produced. The [Rigaku NEX CG](#) EDXRF spectrometer is shown to offer a fast and simple analysis of these powders.

In addition to a schedule of upcoming conferences and workshops, a review of the recent X-ray Microscopy Seminar and Workshop, hosted by The Beckman Institute for Advanced Science and Technology at the University of Illinois at Urbana-Champaign is presented. The event was the latest in an X-ray computed tomography ([CT](#)) outreach to materials and life science researchers.



Rigaku NANOHUNTER II benchtop
total reflection X-ray fluorescence
(TXRF) spectrometer

Each month “Material Analysis in the News” presents a roundup of the latest global news stories related to materials analysis. One story features a report on researchers from IIT Madras discovering a way to enhance the photoluminescence in tungsten diselenide about 30 times by drop-casting gold nanoparticles onto a two-dimensional film.

Another news story reports that researchers at UC Santa Barbara have found a way to turn graphene into a topological insulator - a material that is an insulator in its interior but is highly conducting on its surface.

In addition, recently published scientific papers are presented, along with a book review, a featured video, and other information relating to the latest developments in 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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