Call for Papers

“Frontiers of Vibrational Spectroscopy in Analytical Chemistry”

We proudly announce a publication plan involving a special issue titled “Frontiers of Vibrational Spectroscopy in Analytical Chemistry” in January 2017.

The purpose of this special issue is to review the state of the art of vibrational spectroscopy in analytical chemistry. To do this we would like to collect many exciting papers from all over the world. This special issue will cover infrared (IR), Raman, near-infrared (NIR), Terahertz (THz)/far-infrared (FIR) and nonlinear vibrational spectroscopy. It will consider not only applications of vibrational spectroscopy in analytical chemistry, but also the development of instruments and spectral-analysis methods.

In 2007, Analytical Sciences published a similar special issue titled “Advanced Vibrational Spectroscopy—from Near-infrared to Terahertz”. This issue contained nearly 30 papers on a variety of applications involving vibrational spectroscopy in analytical chemistry. Since that time, vibrational spectroscopy in analytical chemistry has demonstrated marked progress concerning various aspects, such as instrumentation, spectral analysis, and applications. One example of recent progress is THz spectroscopy. It has opened up a new area in analytical vibrational spectroscopy.

Vibrational spectroscopy imaging is another novel and powerful technique involving a variety of application fields from nanomaterials to medicine. Remarkable advances have also come from vibrational spectroscopy in nanoscience and technology, e.g. tip-enhanced Raman scattering (TERS) and nano-IR spectroscopy. Quantum chemical calculations have been introduced very strongly into vibrational spectroscopy from NIR to Terahertz.

Another progress is found in “surface spectroscopy” involving both linear and nonlinear vibrational spectroscopy. Based on a deep understanding of surface spectroscopy involving electrodynamics coupled with chemometrics, new analytical techniques have been developed. P-polarized multiple-angle incidence resolution spectrometry (pMAIRS) equipped with FT-IR is now at a practical stage, especially for the analysis of organic thin-film semiconductor devices. The advancement of sum-frequency generation (SFG) is also of great importance, which is becoming more powerful not only for thin films, but also for surface structures of bulk liquid and polymeric materials.

To understand the above notable progress, it is important to collect many papers in one issue. Therefore, we strongly encourage all researchers to submit manuscripts to this special issue.

1. Deadline for the submission of the tentative title (to the Guest Editor): June 30, 2016
2. Deadline for the submission of the manuscript: August 31, 2016
3. Type of articles: Reviews, Original Papers, and Notes

We receive manuscripts electronically via the JSAC online submission system (http://db.jsac.or.jp/submitmanuscripts). In addition, please describe “Special Issue: Frontiers of Vibrational Spectroscopy in Analytical Chemistry” at the head of the manuscript.

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