

## Tutorial / Workshop session

### XRF: what can we do with them?

#### Part 1: XRF Published work

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X-ray spectroscopists have a wealth of instrumentation available, ranging from hand-held devices for *in-situ* investigations to automated laboratory systems linked to industrial processes for the manufacture of materials such as cement and steel. In this part of the Workshop, we will consider published work on XRF techniques and demonstrate how both established practitioners and those new to the technique can keep abreast of developments.

The Royal Society of Chemistry, Journal of Analytical Atomic Spectroscopy [www.rsc.org/jaas](http://www.rsc.org/jaas) publish a series of annual reviews, Atomic Spectrometry Updates [www.asureviews.org](http://www.asureviews.org), written by a community of established workers in their field. The aim is to provide six authoritative, critical and comprehensive reviews of the major fundamental and applied areas of analytical atomic spectrometry. Each year, the October issue of JAAS provides a review of developments in XRF, as assessed from the published literature, in

- instrumentation and detectors
- matrix correction and spectrum analysis procedures
- X-ray optics and micro-fluorescence
- synchrotron XRF
- TXRF
- portable XRF
- on-line applications

The review also surveys applications including

- sample preparation
- geological
- environmental
- archaeological
- forensic
- biological
- clinical
- thin films
- chemical state and speciation studies.

The trend set in recent years has continued with large numbers of papers published in the areas of environmental, industrial and biological/clinical applications, followed this year by a significant contribution in the area of archaeological science and cultural heritage.

Some papers are challenging to categorise, thereby demonstrating the ability of XRF to support fascinating analytical studies such as the difference in composition of sand between sound-producing and silent beaches.