

News Spectrum

Company News

PANalytical (Almelo, The Netherlands) PANalytical announces that it has obtained the rights to the Willis & Duncan course on advanced X-ray fluorescence (XRF) analysis. The course includes lectures and laboratory sessions covering wavelength dispersive and energy dispersive XRF.

➤ **Aspectrics, Inc.** (Pleasanton, CA) announces that it has entered into an exclusive agreement with **Thermo Fisher Scientific** (Waltham, MA) to integrate Thermo Scientific GRAMS spectroscopy software with Aspectrics' Encoded Photometric Near Infrared (EP-NIR) process analyzers.

Research

Aurora Design & Technology (Clearwater, FL) announces its involvement in the NASA Lunar Crater Observation and Sensing Satellite Mission (LCROSS). The goal of the LCROSS mission is the discovery of water and other lunar surface materials on the moon. NASA scientists believe that over thousands of years, water may have accumulated, perhaps molecule by molecule, within the moon's forever-shadowed south pole. The importance of the LCROSS mission is observed with NASA intending to utilize the moon as a staging point for further space exploration, such as the colonization of Mars and other neighboring planets.

The LCROSS mission will send a Centaur upper stage

rocket crashing into the moon at more than twice the speed of a bullet, causing a large impact at the floor of a permanently shadowed lunar crater and subsequently monitoring the ejecta (dust) cloud. The impact will throw tons of debris and potentially water, ice, and/or vapor above the lunar surface to be analyzed for the presence of hydrated minerals. The data will be collected and analyzed by the Shepherding Spacecraft (S-S/C), which will follow the Centaur Rocket into the dust plume. This analysis will tell researchers if water exists on the moon.

Aurora Design & Technology will design, develop, and deliver the optics responsible for viewing the light scattered and reflected by the ejecta cloud as it rises into the sunlight. Two telescopes will feed this light into spectrometers for a detailed analysis of the material in the ejecta cloud. Additionally, optics viewing will be delivered out the side of the Shepherding Spacecraft.

These optics will allow for the measurement of scattered light off the ejected plume or dust cloud that is produced in order to determine the size and shape of the particles. The analysis of these particles will determine the makeup of the impact site as well as the crater's spectral features. The spectral features will provide data on the chemical makeup of the impact site as well as the ejected dust cloud during the impact flash and as the reflected sunlight penetrates the dust plume.

Market Profile: Electron Transfer Dissociation (ETD)

Electron transfer dissociation, generally referred to as ETD, is a new fragmentation technique that is associated with ion trap LC-MS instrumentation. Despite being widely introduced less than two years ago, demand for the technique is increasing rapidly.

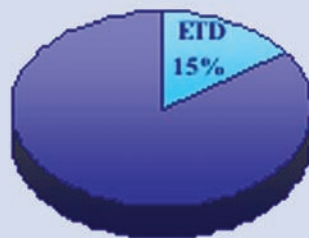
ETD is very similar in performance to electron capture dissociation (ECD) in that both fragmentation methods fragment parent ions in a fundamentally different way from all other widely used fragmentation methods, such as collision induced dissociation (CID). The result is that ETD (and ECD) preserves post-translational modifications (PTMs), such as phosphorylations, which other methods do not. Because ECD is not compatible with the RF fields associated with quadrupole and ion trap mass analyzers, a similar method, ETD, was developed for ion trap mass spectrometers.

Although first commercially introduced on ion trap

LC-MS systems in 2005, the worldwide market for ETD grew to more than \$30 million in 2006, including initial systems, ETD upgrades to previously installed systems, and related after-market and service. SDi estimates that nearly a quarter of the ion trap LC-MS market in 2007 will be related to ETD enabled systems. This subsegment of the ion trap LC-MS market is expected to see well over 20% annual growth over the next several years.

The foregoing data were extracted from SDi's market analysis and perspectives report entitled *Global Assessment Report, 9th Edition: The*

Laboratory Life Science and Analytical Instrument Industry, September 2006. For more information, contact Stuart Press, Senior Consultant, Strategic Directions International, Inc., 6242 Westchester Parkway, Suite 100, Los Angeles, CA 90045, (310) 641-4982, fax: (310) 641-8851, www.strategic-directions.com.



2006 Worldwide ion trap LC/MS market (\$208 million)