Vendor Session
Room Great Lakes B - Session VS-TuA

Vendor Session

2:00pm **VS-TuA-1 Physical Electronics Vendor Presentation: Innovation and Leadership in Chemical & Molecular Analysis Instrumentation***, **Gregory L. Fisher,*** Physical Electronics

ULVAC-PHI and Physical Electronics (PHI) have been designing and developing surface analysis instrumentation, including Auger electron spectroscopy (AES), x-ray photoelectron spectroscopy (XPS), time-of-flight secondary ion mass spectrometry (TOF-SIMS) and dynamic SIMS (D-SIMS), for over 40 years. A guiding philosophy has been that effective and informative characterization of surface chemistry requires analyzer and probe technologies which enable the collection of signal from all parts of the sample surface in a way that enables high fidelity chemical identification and mapping. Representative examples include the pioneering developments of the cylindrical mirror analyzer (CMA) employed in our scanning Auger nanoprobe instruments and the scanning x-ray microprobe (SXM) employed in our XPS instruments. At one time, a two-stage reflectron analyzer was employed in our TOF-SIMS instrument; however, the superior angular acceptance, depth-of-field, kinetic energy focusing and spectral background characteristics of the triple electrostatic sector-based design resulted in adoption of this analyzer technology for use in our TOF-SIMS instruments. More recently, we have incorporated a lossless tandem MS analyzer technology to enable accurate peak identifications in a way that does not limit the speed, sensitivity or resolution of TOF-SIMS but, rather, expands the TOF-SIMS application space. In summary, the technology developed and employed in ULVAC-PHI instruments facilitates the analysis and characterization of topographically rough, real-world samples.

ULVAC-PHI continues to lead the research market with innovative instruments and capabilities for chemical and molecular imaging related to discovery and problem-solving applications. These developments include new ion beam technologies, automation and ease-of-use as well as new methods for 2D and 3D characterization. This talk will highlight recent developments in photoelectron and mass spectrometry instrumentation.

2:30pm **VS-TuA-4 IONTOF Vendor Presentation: Latest News and Developments from IONTOF***, **Sven Kayser,** M. Kleine-Boymann,* IONTOF GmbH, Germany

This presentation will discuss the latest news and developments from IONTOF. An overview of the technology leading M6 instrument and its derivatives, the M6 Plus and M6 Hybrid SIMS will be given along with new software features that have been released since the last International SIMS conference. Examples of how these hardware and software developments can be used in daily work will also be presented.

3:00pm **VS-TuA-7 CAMECA Vendor Presentation: Continuous Improvements in SIMS Technologies***, **Adrien Vuillaume**, O. Dulac, A. Thomen, A. Robbes, S. Choi, P. Peres, N. Lahoutifard-Henry, L. Créon,* CAMECA

CAMECA is a world leading supplier of microanalytical and metrology instrumentation for research and process control. CAMECA secondary ion mass spectrometers (SIMS) equip government and university labs as well as high-tech industrial companies around the world, with applications in different fields such as microelectronics, materials science, geosciences, and biology.

CAMECA SIMS offer **superior performances for dynamic SIMSanalyses**: extreme sensitivity, high depth and lateral resolution together with high throughput. Both elemental and isotopic information can be obtained for all species in the periodic table, with detection limits down to ppb level for many elements. Different types of dynamic SIMS output can be obtained: depth profiles, isotope ratios, quantitative imaging…

CAMECA has developed **different high-end magnetic Sector SIMS instruments** to achieve the highest performance for different applications. Among them, the NanoSIMS offers the highest performance in lateral resolution and versatility in applications.

The NanoSIMS development was initiated by Professor SLODZIAN on an original idea: the coaxial lens. The coaxial lens focuses primary beam and collects sputtered secondary ions, later sent in a double focusing Mattach-Herzog mass spectrometer. Presented at the SIMS VI in 1987, the original NanoSIMS 50 demonstrated exceptional imaging capabilities with lateral resolution down to 50 nm and sequential acquisition of 5 mass-filtered images with a high mass resolving power. Thanks to those concomitant capabilities, the NanoSIMS 50 launched in 2000 was immediately adopted by cosmochemists to image unusual isotopic signatures in submicrometric presolar material. Following the need to characterize more complex materials, the NanoSIMS 50L, for large radius, was launched in 2005 with a multicollection totalizing 7 detectors. The RF source replace the deprecated Duoplasmatron in 2013 as a source of Oxygen negative primary ions, improving the sharpness of the positive secondary ions images by a factor 4.

We will discuss (soon-to-be launched) next developments towards smaller lateral resolution and imaging capabilities on sample no longer needed to be solid nor dry.

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