Wednesday Lunch, October 22, 2008

Exhibitor Workshops
Room: Exhibit Hall - Session EW-WeL

Exhibitor Workshops
Moderator: R.A. Childs, MIT

12:40pm **EW-WeL1 Characterization and Optimization of Polyatomic Ions for XPS Depth Profiling of Organic Materials**, ***C.J. Blomfield****, S.C. Page, D.J. Surman, S.J. Hutton, A.J. Roberts, S.J. Coultas*, Kratos Analytical Ltd, UK

X-ray Photoelectron Spectroscopy (XPS) depth profiling of inorganic materials has become a standard analytical technique. Results can be obtained relatively quickly with good interface resolution while maintaining chemical information. It has become desirable to achieve the same performance on organic materials however there are several well known problems associated with sputter depth profiling which has limited the application. In recent years there has been significant development in the TOF-SIMS community of the use is polyatomic ion sources and in particular C60 for the generation of molecular species from organic materials. This use of C60 has been extended to XPS depth profiling and for some materials has shown good promise. This paper discusses the characterization and optimization of other polyatomic species in addition to C60 that are also showing considerable promise for XPS depth profiling of organic materials.

1:00pm **EW-WeL2 State-Of-The-Art Software and Surface Analysis at Thermo Fisher Scientific**, *R.G. White,* ***P. Mack***, Thermo Fisher Scientific, UK

State-of-the-art XPS instruments require state-of-the-art software for system control and data processing. If the software is not easy to use whilst at the same time being powerful and flexible, then the high performance offered by the hardware may not be realised in everyday usage. Additionally, the increased sample throughput afforded by high sensitivity data acquisition can be compromised if time is then wasted during data processing or reporting. Thermo Scientific's Avantage software combines advanced XPS instrument control and data processing, creating an integrated workflow from data acquisition to data reporting. The high level of integration between instrument control and data processing offered by Avantage allows recipes to be created which automate both the acquisition and processing of XPS data. Avantage recipes can be programmed with the knowledge and experience of an expert user, allowing repetitive, but complex, tasks to be fully software controlled. Workflows with advanced data acquisition and peak fitting protocols, for example, can be created which automatically reduce vast XPS datasets to a set of pass-fail parameters. These expertly crafted recipes can be used by both novice and advanced users. Avantage features a wide variety of data processing tools which enable the user to move from raw XPS data to useful real-world parameters quickly and easily.

1:20pm **EW-WeL3 XPS Sputter Depth Profiling and Surface Cleaning with C60 Sputter Ion Beams**, ***J.F. Moulder****, S.N. Raman, J.S. Hammond*, Physical Electronics

C60 sputtering has emerged as a standard method for XPS depth profiling of polymer, organic, and biomaterial thin films. Several years of exploratory use of C60 ions for sputter cleaning and depth profiling has shown C60 sputter cleaning can be successfully applied to a very broad range of materials with good success and that C60 depth profiling, while not universally applicable, has been successfully used to study a number of important and commonly used materials systems. We will present an overview of our experience with C60 sputtering as it relates to XPS and highlight the strengths and limitations of this new surface characterization method. Experimental results from inorganic, polymer, and biomaterials will be presented to illustrate the application potential for XPS and C60 sputtering.

Authors Index

Bold page numbers indicate the presenter