AS-TuP11 Developing a Methodology for XPS Profiling of Biofilms and Biological Materials, ***R.G. White***, Thermo Fisher Scientific, UK, *D.Y. Petrovykh,* International Iberian Nanotechnology Laboratory, Portugal, *A.C. Areias, C. Sousa, G.P. Mendes*, University of Minho, Portugal

Films of cells on solid substrates are encountered in a variety of biological and biomedical environments, including cells in biofilms that spontaneously colonize medical devices and multilayers of cells filtered from suspensions for analysis. Understanding the chemical properties of cells in such films is important for providing clues about the behavior of the cells or about the effects of treatments that had been applied to the cells.

X-ray Photoelectron Spectroscopy (XPS), with its combination of chemical selectivity and surface specificity, is an ideal technique for analysing these biofilms and multilayers, but it needs to be combined with profiling to more fully characterise the samples. It is well known that profiling with traditionally used argon monomers results in a high degree of chemical modification for most organic materials. Recent studies have shown, however, that argon cluster beams may be used for depth profiling of organic materials while preserving the chemical information.

This poster will present data from cluster profiling studies of biofilms and biomaterials. The methodology required for optimum profiling of these samples will be discussed, including an evaluation of XPS data acquisition protocols, as well as sputtering conditions.