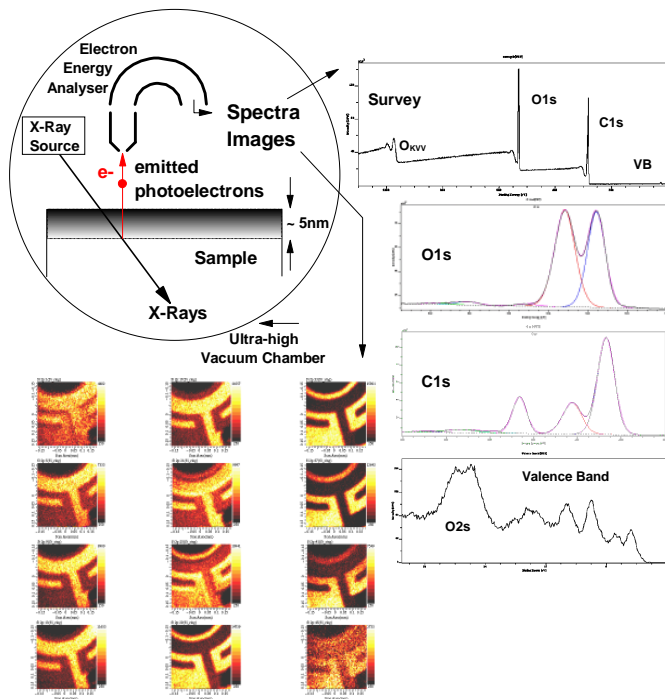


Surface Analysis

- The Surface Science Team in Measurement Science Group has over 50 years experience solving materials problems and has been associated with many of the significant developments in X-ray Photoelectron Spectroscopy (XPS) and Secondary Ion Mass Spectrometry (SIMS).
- We determine the elemental, chemical and molecular composition of the outermost 1-10nm of the surface regions of organic and inorganic materials using spectroscopy, sub-micron resolution imaging and depth profiling.
- We also have the best XPS and SSIMS instrumentation currently available, both with UKAS Accreditation to ISO 17025
- “If we can’t do it - it probably can’t be done!”

X-ray Photoelectron Spectroscopy (XPS or ESCA)

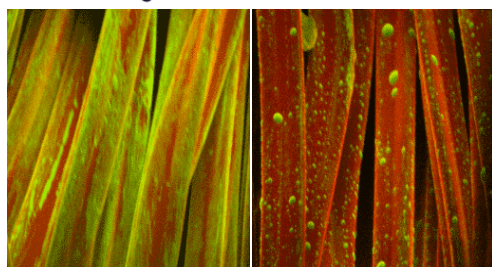
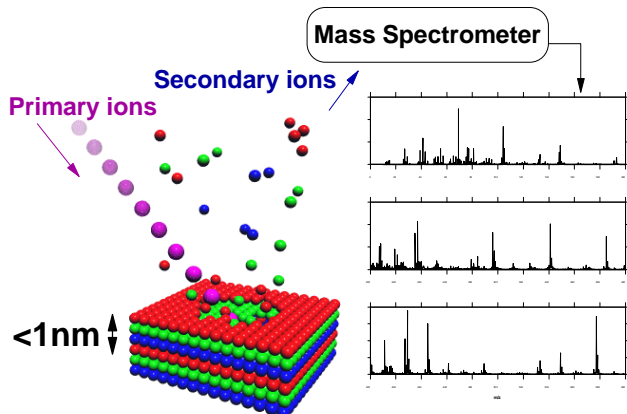


- quantitative elemental identification
- all elements except H
- detects 1 atom in 10000
- chemical information
 - bonding, oxidation state etc.
- sampling depth from ~ 1nm to ~ 10nm
- 2D imaging at ~ 2µm resolution
- linescans
- depth profiles
- solids and liquids
- -150°C up to 600°C
- automation



Kratos 'Axis Ultra'

Secondary Ion Mass Spectrometry (SIMS)



- molecular identification
 - organic and inorganic species
- molecular quantification
- fingerprint spectra from Static SIMS
- sampling depth < 1nm
- all elements
- ppm sensitivity
- depth profiles from Dynamic SIMS
- 2D imaging at ~ 0.1µm resolution
- retrospective Imaging and Spectroscopy
- high mass resolution ($m/\Delta m = 10000+$)
- solids and liquids
- -150°C up to 600°C
- temperature programmed SIMS
- automation



PHI '7200'



IonToF 'ToFSIMS IV - 200'

- 8" sample capability
- Sample heating & cooling
- Bismuth, Gold, SF₅⁺ and C₆₀⁺ ion sources
 - ⇒ high signal levels for molecular species
 - ⇒ imaging of molecular species at ~0.3µm resolution
 - ⇒ analysis of biomaterials, mobile and volatile molecules



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