

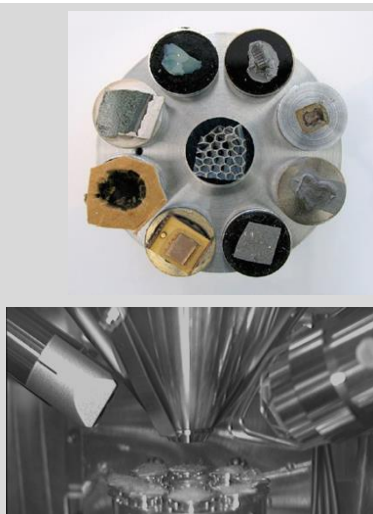
SCANNING ELECTRON MICROSCOPE WITH ENERGY DISPERSIVE X-RAY SPECTROMETER: SEM-EDX

- Microanalysis: Elemental analysis (EDX) coupled to scanning electron microscopy (SEM)
- Electron beam interaction in studied material
- Image formation using surface scanning electrons
- Elemental information – spatial distributions

WORKFLOW

SAMPLE PREPARATION FOR SEM

- Several options including fixation, embedding in plastic, cross sectioning, polishing, ion milling metal coating
- Mounting to sample holder
- Specimen must be free of liquids!



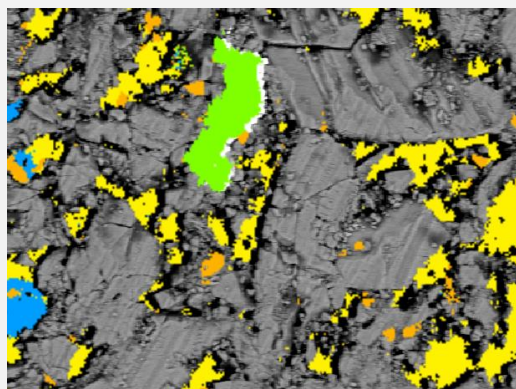
EXAMPLES

Sample types:

- Life Science - bone, tooth, cells, cancer, plant leafs, roots, pollen, fibres
- Materials - metals, biomaterial implants, pharmaceuticals, nanoparticles, traces of heavy metals, minerals

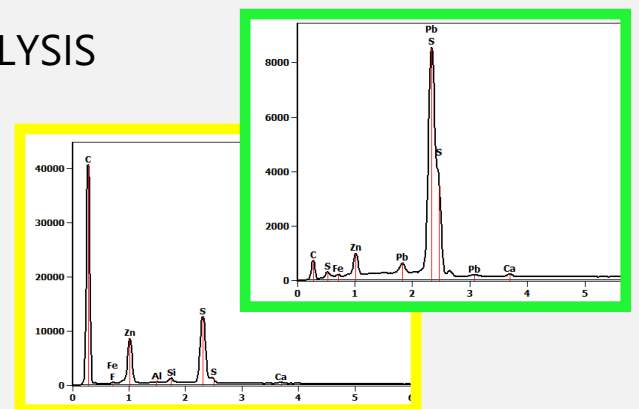
Research questions:

- Structural damage and cause
- Targeted development of optimal material combination
- Qualitative analysis and process validation
- Multi-detector device enabling versatile applications



MEASUREMENT AND DATA ANALYSIS

- Surface Structure
- Particle Size and Morphology
- EDX Spectra and Elemental maps



SIB LABS INFRASTRUCTURE

Scanning Electron Field Emission Microscope

Zeiss SigmaHD|VP

Thermo Scientific NSS dual detector EDX

CONTACT

Jari T.T. Leskinen, +358 50 308 9945, jari.leskinen@uef.fi
Laura Tomppo, +358 40 355 2541, laura.tomppo@uef.fi