

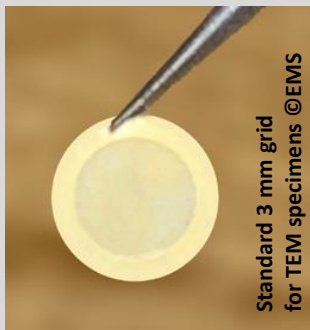
200 kV TRANSMISSION ELECTRON MICROSCOPE WITH ENERGY DISPERSIVE X-RAY SPECTROMETER

- High Resolution 200 kV transmission electron microscopy (HR-TEM)
- Electron beam transmission through studied material
- Image formation using projection of transmitted electrons
- Elemental information – spatial distributions

WORKFLOW

SAMPLE PREPARATION FOR TEM

- Fixation, coloring, embedding in plastic, cross sectioning and setting on the grid (bulk sample)
- Fine particles can be prepared on grid as solvent dispersed using pipette and air drying
- Mounting to grid holder
- Specimen must be free of liquids!



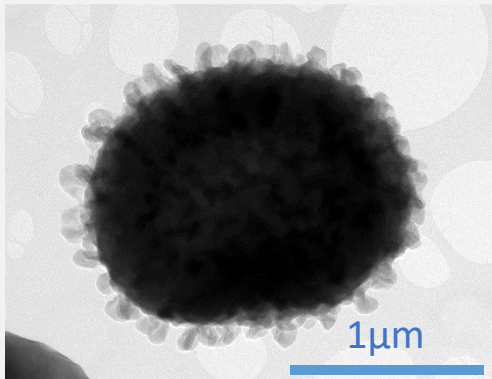
EXAMPLES

Sample types:

- Life Science - cells, cancer, plant cells, cell structures, fungal spores, viruses
- Materials – fines and nanoparticles, mineral crystals and fibres, microscopic material structures, composition of catalytic materials and fines

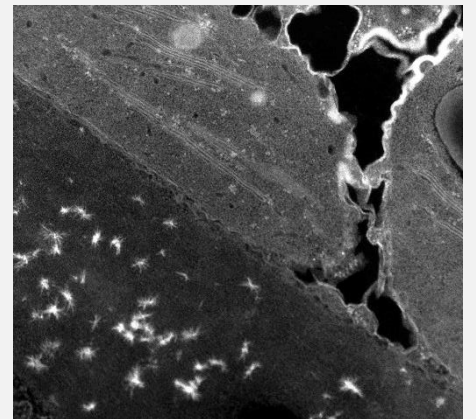
Research questions:

- Heavy metal traces and in biologic cells
- Product development and validation
- Combustion (particle and/or process) analysis



MEASUREMENT AND DATA ANALYSIS

- Structure
- Particle Size and Morphology
- Particle composition
- Composition of trace elements



SIB LABS INFRASTRUCTURE

Field Emission High Resolution Transmission Electron Microscope

Jeol JEM 2100F

Thermo Scientific NSS EDX

CONTACT

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