

Curtin University

# ZEISS NEON 40EsB FIBSEM

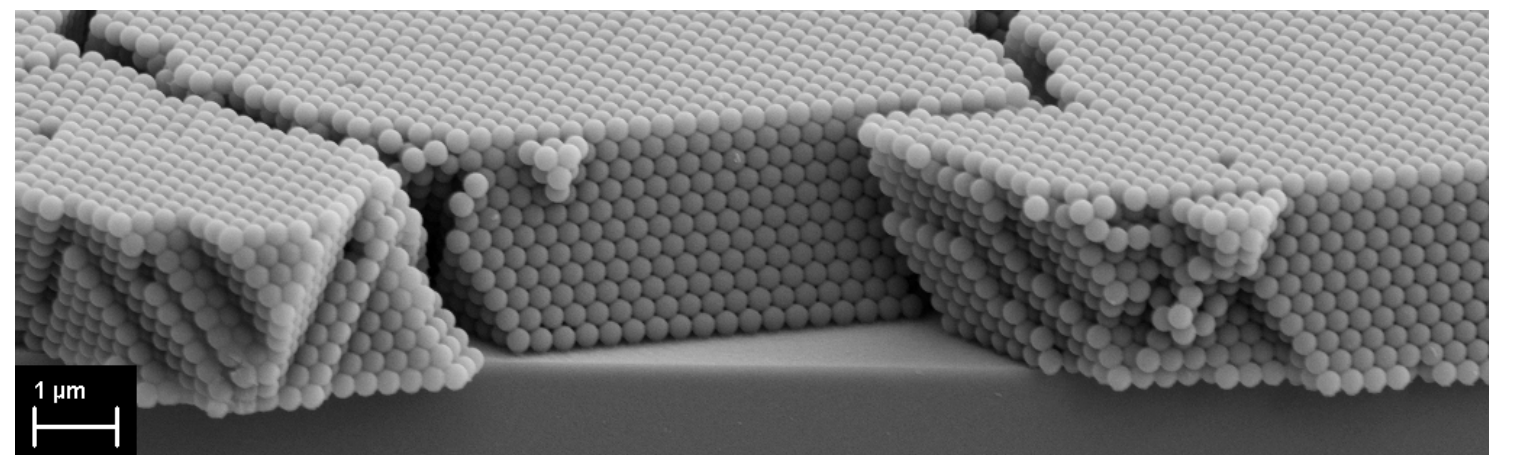
The NEON is a dual beam focussed ion beam scanning electron microscope (FIBSEM) equipped with a field emission gun and a liquid metal Ga<sup>+</sup> ion source. This instrument combines high resolution imaging with precision ion beam ablation of focussed regions, allowing for site specific analysis of the surface and subsurface of samples in 2D or 3D.

## Example Applications

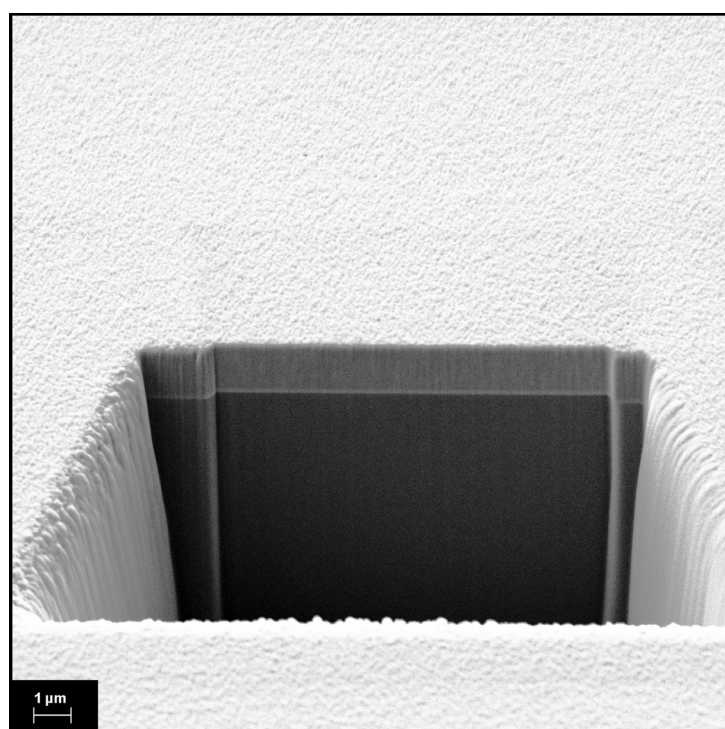
- Site specific TEM lamella preparation of crystallites for structural analysis
- EBSD mapping of lunar rocks to study their formation
- 3D reconstructions of porous shale rock
- Cross-sectional analysis of corrosion resistant coatings
- High resolution imaging of muscle tissues on artificial frames

## Capabilities

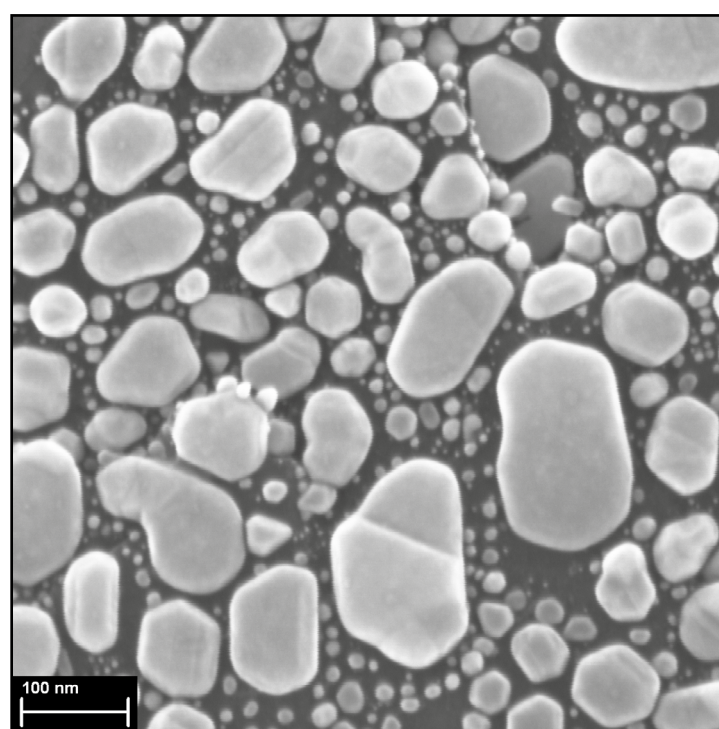
- High resolution imaging using Secondary Electrons (SE), Back Scattered Electrons (BSE) and inlens detectors (resolution is 1.1 nm at 20 kV to 2.5 nm at 1 kV)
- Energy Dispersive X-ray Spectroscopy (EDS) point analysis and mapping
- Electron Backscatter Diffraction (EBSD) mapping, including 3D EBSD
- Focussed Ion Beam (FIB) milling
- Transmission Electron Microscope (TEM) lamella, Transmission Kikuchi Diffraction (TKD) foil and atom probe tip preparation
- High resolution 3D tomography



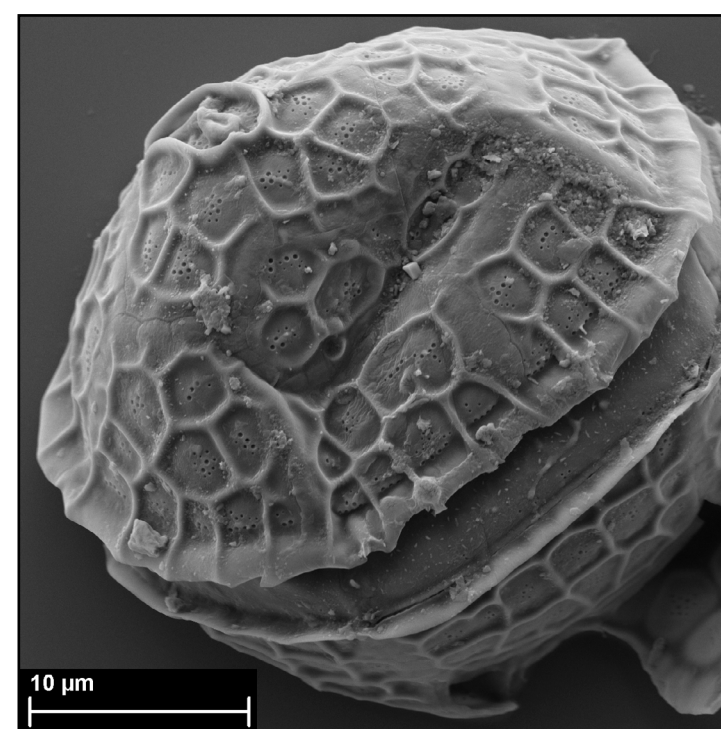
Polystyrene spheres



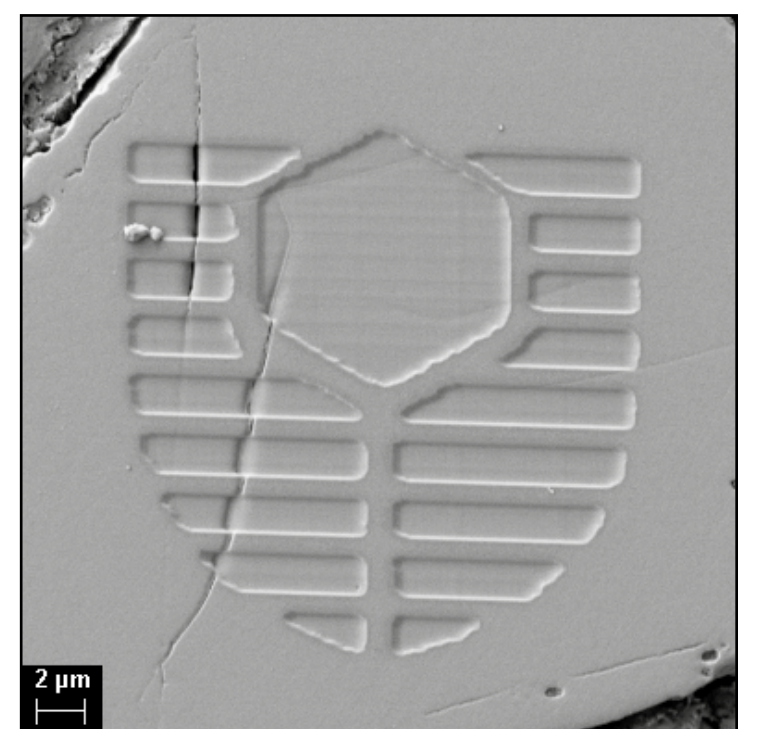
FIB cross-section of a thin ceramic coating on steel



Gold nano-particles



Dinoflagellate from Cockburn Sound



Curtin University logo milled onto quartz

## For more information

Electron Microscope Facility

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