

Mads Clausen Institute Structural Test Laboratory

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<p>Services for Companies:</p>	<p>High resolution imaging of non-organic and organic materials and their composite structures with high contrast and no charging artifacts. Sub-10nm nanostructures fabrication – for lithography, photonics/plasmonics etc. Electrical measurements - sample conductivity, resistance etc. Non-destructive reconstruction of internal microstructure of objects as large as >300 mm in diameter as well submicron resolution for smaller samples. Energy-dispersive X-ray (EDX) material analysis for quantitative analysis of samples providing detailed information of a sample’s chemical composition.</p>
<p>Technical Specification of Equipment:</p>	<p>Helium ion microscope Zeiss ORION NanoFab: Helium ion beam resolution: 0.5 nm @ 30 kV; beam energy: 10 – 30 kV Neon ion beam resolution: 1.9 nm @ 25 kV; beam energy: 10 – 25 kV Gallium FIB resolution: 3 nm @ 30 kV; beam energy: 1 – 30 kV</p> <p>Atomic force microscope Nanonics MultiView 4000: Scan resolution: <0.05 nm (Z), <0.15 nm (XY). Scan range: up to 130 microns (XYZ) with sample & probe scanning. Sample size: up to 34 mm, up to 70 grams.</p> <p>X-Ray nanotomograph Bruker SkyScan 2214: Scan resolution: <120 nm (pixel size), <500 nm (low-contrast spatial resolution, >10% MTF). X-Ray source: 20-160 kV with W filament, 20-100 kV with LaB₆ filament, up to 16 W. Sample size: up to 300 mm in diameter, up to 400 mm in length, up to 25 kg.</p> <p>Scanning electron microscope Hitachi S-4800: Scan resolution: 2 nm @ 1 kV; 1 nm @ 15 kV Sample size: up to 110 mm in diameter, up to 17 mm in height.</p>