UMF Equipment – Scanning Electron Microscope

TESCAN VEGA3

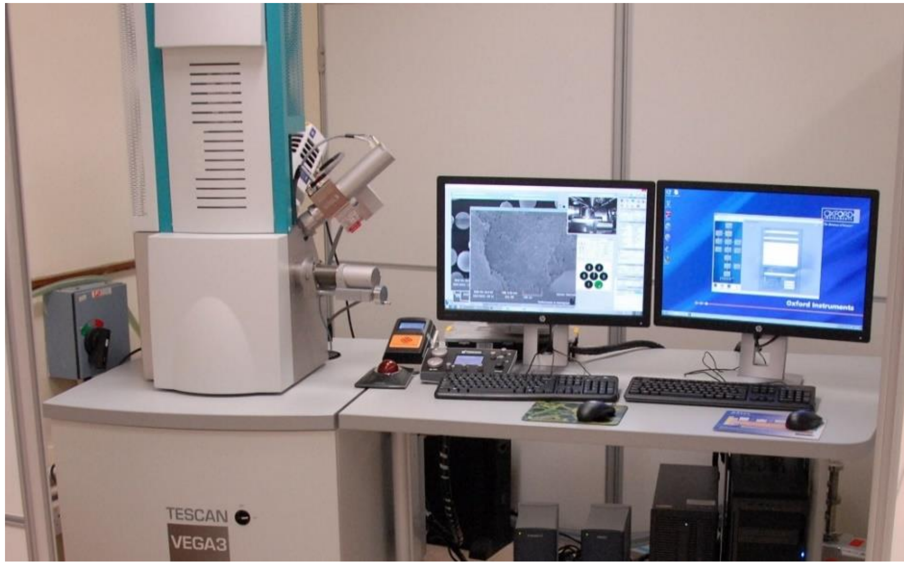
Scanning Electron Microscope (SEM) uses a focused electron beam to scan and study surfaces of solid objects. The electron beam interacts with the sample and generates a variety of signals, such as secondary electrons (SE) and characteristic X-rays, etc. Secondary electrons and backscattered electrons (BSE) are commonly used for morphology / topography imaging and produce high-magnification images. Other signals such as characteristic X-rays are used for elemental analysis. TESCAN VEGA3 is installed with tungsten-filament electron source and has a unique apertureless optical design. It also has in-flight beam tracing which allows beam parameters to be set-up quickly for optimal imaging and analytical conditions. The unit allows effortless and precise SEM navigation on the sample at magnification as low as 2x due to the unique wide field optics design. With the Low Vacuum Secondary Electron TESCAN Detector (LVSTD) enabled, it allows electron imaging in low vacuum condition. VEGA3 is ideal for routine materials characterization and research at sub-micron scale.

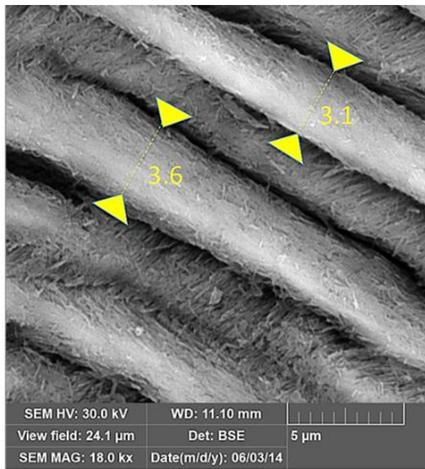
Features:

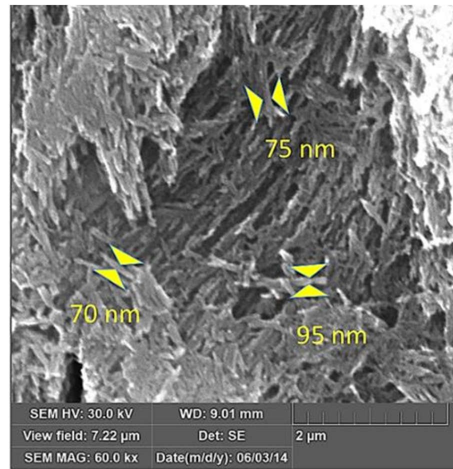
- Tungsten heated cathode; accelerating voltage from 200 eV up to 30 keV
- Large chamber size: 285 mm (W) x 340 mm (D)
- Compucentric 5-axis motorized specimen stage
- Fully integrated active chamber and column vibration suspension
- Chamber view camera
- Turbomolecular pump for fast pumping
- YAG crystal SE detector
- Four quadrant YAG scintillator crystal BSE detector
- Oxford Energy Dispersive X-ray (EDX) spectroscopy system for elemental analysis

Please refer to supplier information page for further details of the system:
https://www.tescan.com/product/sem-for-materials-science-tescan-vega/

For inquiry, please contact Dr. Hardy Lui (Tel: 2766 7791; Email: hardy.lui@polyu.edu.hk).


TESCAN
VEGA3


3.1
3.6
SEM HV: 30.0 kV
WD: 11.10 mm
View field: 24.1 µm
Det: BSE
5 µm
SEM MAG: 18.0 kx
Date(m/d/y): 06/03/14


75 nm
70 nm
95 nm
SEM HV: 30.0 kV
WD: 9.01 mm
View field: 7.22 µm
Det: SE
2 µm
SEM MAG: 60.0 kx
Date(m/d/y): 06/03/14