

# ThermoFisher Helios 5 Hydra PFIB-SEM with Cryo and EDS/EBSD

## General Overview:

A dual-beam high-resolution scanning electron microscope with ion beam milling capability. It is equipped with multiple detectors and four different ions and can perform conventional cross-section FIB-SEM as well as spin-milling to collect larger fields of view (<115 microns) at up to 5 x 5 x 5 nm resolution. It is also equipped with cryo-imaging capabilities and EDS (Energy Dispersion Spectroscopy) and EBSD (Electron Backscatter Detection).

**Commercial or pre-commercial:** Commercial

**Facility:** CMF

**Imaging Mode:** Electron

## Features:

- Plasma milling capabilities using Xenon, Argon, Nitrogen or Oxygen
- Gas injection system (GIS) for deposition
- ThermoFisher cryo stage with Leica transfer system and prep station
- Oxford Instruments AZtec EDS/EBSD microanalysis system
- ThermoFisher Auto Slice & View software for FIB-SEM acquisition
- ThermoFisher MAPS software for array tomography and tile-scanning

## Accelerating Voltage:

- 0.5-30 kV accelerating voltage, 1.5pA-2.5uA current range

## Detectors:

Backscattered electron detectors:

- Angular Backscattered electron detector (ABS)
- Concentric Backscattered electron detector (CBS)

Combined Backscattered/secondary electron detectors:

- Everhart-Thornley Detector (ETD)
- Through-Lens Detector (TLD)
- In-Column Detector (ICD)
- Ion Conversion & Electron Detector (ICE)

CCD & Nav-Cam cameras for specimen orientation & placement

## Temperature control:

Yes (cryo only)

**Location:** Lillie 207

## Hourly rate for use (internal users):

\$36.75/hr for SEM use; additional \$24.15/hr for use of cryo, EDS/EBSD or \$50/hr for FIB-SEM