

UMF Equipment – Thermo Scientific Helios 5 CX DualBeam Focused Ion Beam

The Thermo Scientific Helios 5 CX DualBeam is carefully designed to meet the needs of scientists and engineers, combining the innovative Elstar electron column for ultra-high-resolution imaging and the highest materials contrast with the superior Thermo Scientific™ Tomahawk HT Focused Ion Beam (FIB) Column for the fastest, easiest, and most precise high-quality sample preparation. In addition to the most advanced electron and ion optics, the Helios 5 CX DualBeam incorporates a suite of state-of-the-art technologies that enables simple and consistent high-resolution S/TEM and Atom Probe Tomography (APT) sample preparation, as well as the highest-quality subsurface, even on the most challenging samples.

Specifications:

- Highest-quality, site-specific, sample preparation for TEM and APT using the new high throughput Tomahawk HT Ion Column.
- Fastest and easiest, fully automated, unattended, multisite in situ and ex situ TEM sample preparation and cross sectioning.
- Shortest time to nanoscale information for users with any experience level using best-in-class Elstar Electron Column featuring Smart Align and FLASH technologies.
- The most complete sample information with sharp, refined and charge-free contrast obtained from up to six integrated in-column and below-the-lens detectors.
- Fast, accurate and precise milling and deposition of complex structures with critical dimensions of less than 10 nm.
- Easiest sample handling and navigation with high flexibility 110 mm stage, multi-purpose sample holder and Nav-Cam+.
- Artifact-free imaging based on integrated sample cleanliness management and dedicated imaging modes.

Please refer to <https://www.thermofisher.com/order/catalog/product/HELIOS5CX> for further details of the system.

For training arrangement, please log on [URFMS website](#) for further details of upcoming training session.

For any enquiry, please contact Dr. Wei Lu (Tel: 34002077; Email: wei.lu@polyu.edu.hk).

Application:

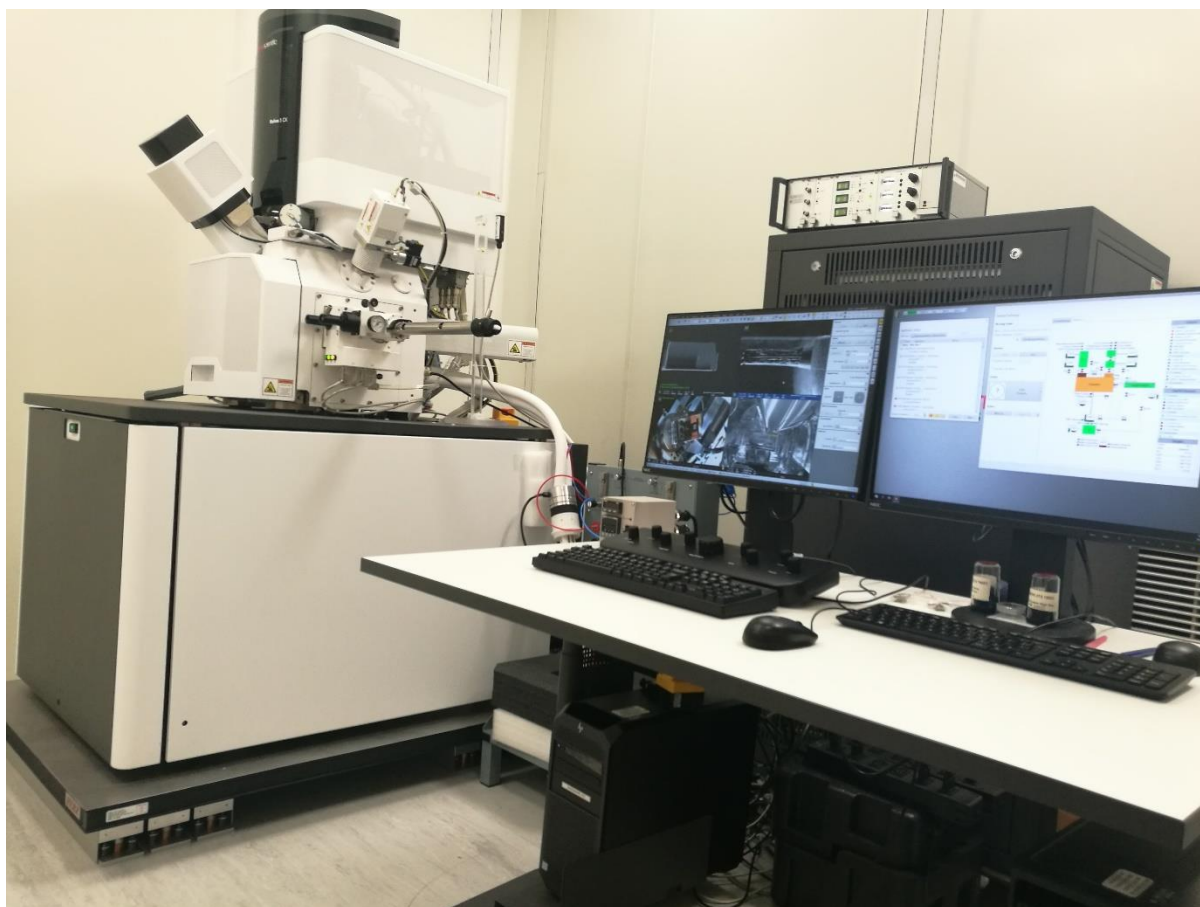


Fig 1. S/TEM sample preparation.

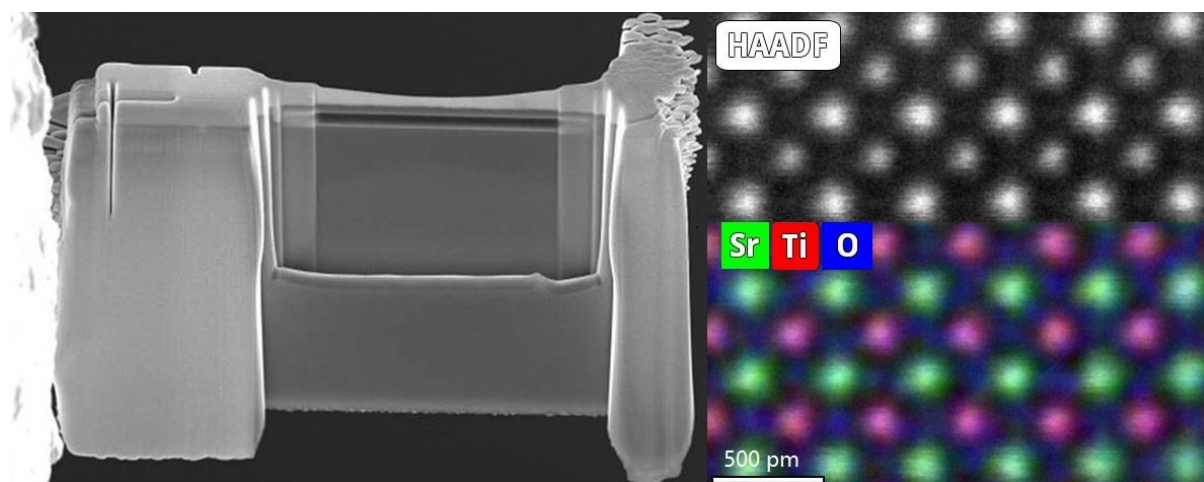


Fig 2. Prepared S/TEM sample and atomic Z contrast image & EDS mapping.