

Supplementary Materials

Characterization of human trabecular bone across multiple length scales:

A correlative approach combining X-ray tomography with

LaserFIB and plasma FIB-SEM

This PDF file includes:

Figures S1 and S2 and legends

Movie S1 legend

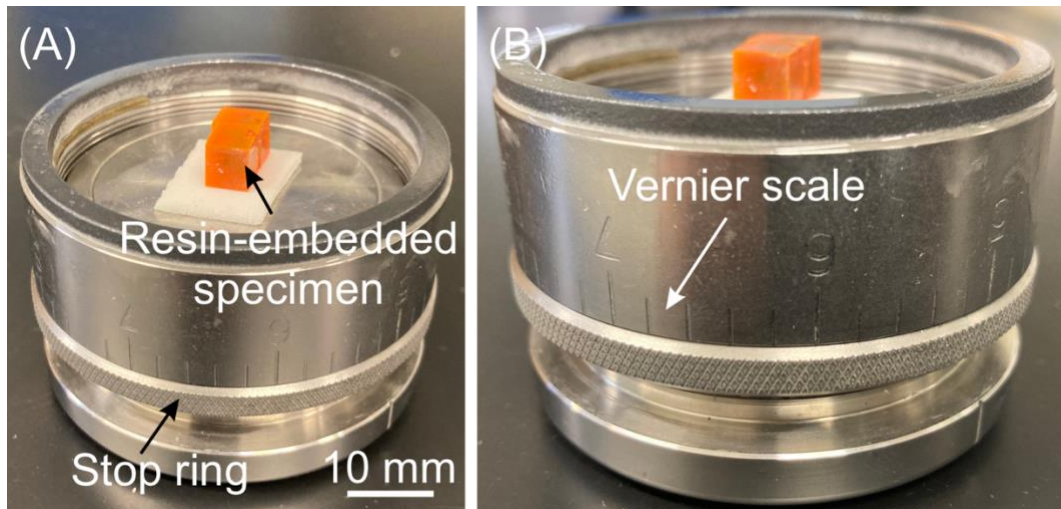


Figure S1. Images of a manual polishing holder that is used to remove large amounts of surface material from a specimen. (A) An overview of the holder showing a resin-embedded specimen mounted on the holder with double-sided tape. The stop ring adjusts the polishing depth. (B) A close-up view of the holder, highlighting the Vernier scale atop the stop ring, with each step corresponding to a 20 μm depth of polishing.

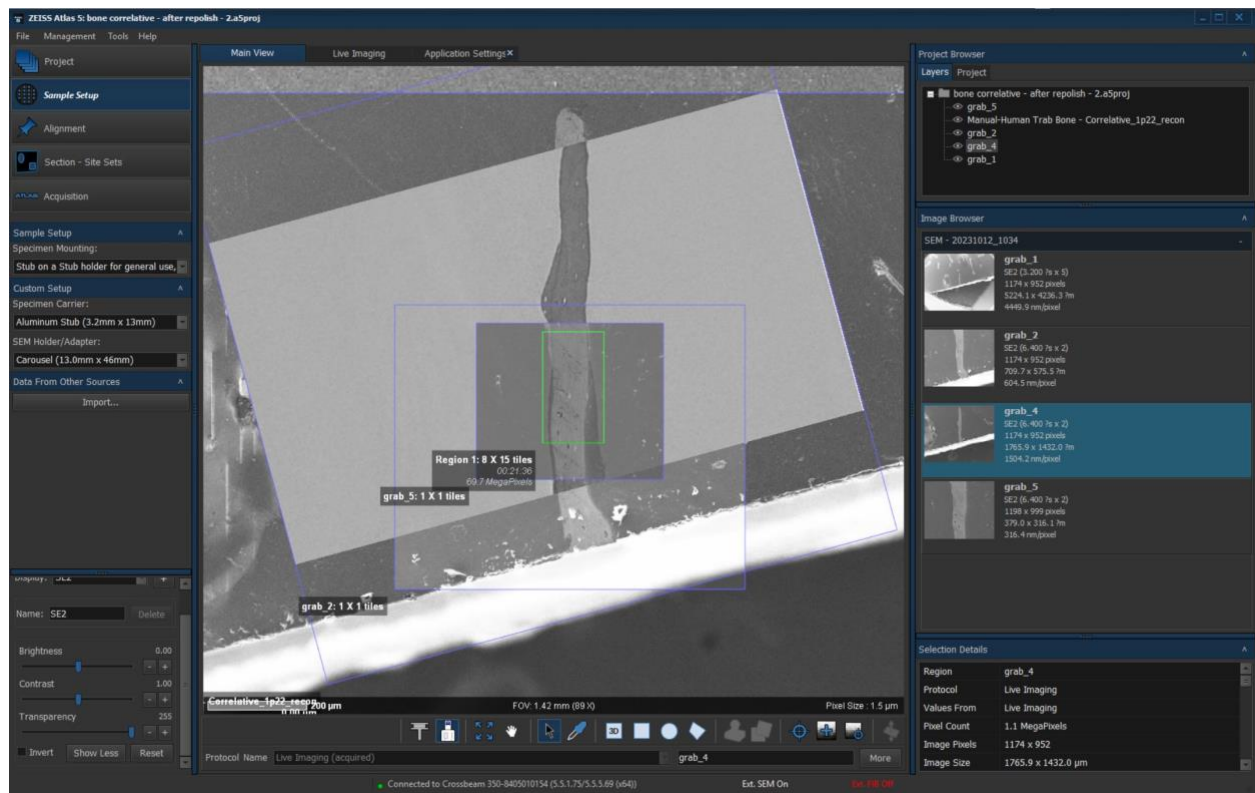


Figure S2. A screenshot of the Zeiss Atlas 5 correlative workspace where XRM data and SEM surface images were registered. SEM images are shown in orthogonal blue frames and overlaid on a diagonal XRM dataset. The transparency in the SEM overlay facilitates bone visualization in the XRM dataset. A chosen XRM slice represents a subsurface plane, revealing buried features and allowing for their upward projection to delineate the desired ROI accurately. In this instance, the bone within the selected ROI (green frame) is wider in the initial half below the surface than it appears on the surface.

Movie legend

Movie S1. PFIB-SEM images (BSE) of a trabecular subvolume. Image resolution was ~60 nm and a tissue volume was $\sim 100 \times 100 \times 75 \mu\text{m}^3$.