



University of Texas High-Resolution X-ray CT Facility (UTCT)

PI: Romy Hanna / University of Texas at Austin

www.ctlab.geo.utexas.edu

Description of Facility

- Two high-resolution X-ray computed tomography (XCT) scanners to image mm- to dm-sized samples and an image analysis laboratory
- Data resolution down to $< 1 \mu\text{m}/\text{voxel}$
- Specialized XCT capabilities include oversampling for better resolution on large samples and zoom/subvolume imaging for small ones
- Diffraction Contrast Tomography (DCT) for 3D crystallographic orientations in samples up to $\sim 2 \text{ mm}$
- Visitors welcomed to observe scanning, utilize image analysis laboratory for data exploration, visualization, and quantification, and participate in short courses in XCT data acquisition, visualization, and analysis



UTCT XCT Scanners. (left) NSI scanner: 450- and 225-kV X-ray sources and a flat-panel detector for larger and/or relatively more attenuating samples. (right) Zeiss Versa 620 scanner: 160-kV X-ray source and six detectors for smaller and/or relatively less attenuating samples and DCT.

How to use the facility

- Contact UTCT to discuss sample, imaging/measurement goals, and feasibility
- Sample can be shipped or hand-carried
- Usually a 2-week turnaround from sample reception to data delivery
- 50% discount for NASA PSD-funded projects, resulting in a typical cost of $\sim \$200$ – $\$500$ /sample depending on sample composition, desired resolution, and data quality requirements; an estimate can be provided prior to data acquisition.
- A free test scan can be provided as proof-of-concept for grant proposals

Contact information:

- UTCT is located in the Jackson School of Geosciences at the University of Texas at Austin (JGB 1.120; <https://www.google.com/maps/dir//30.2858516,-97.7356688>)
- For inquiries contact Dr. Romy Hanna at romy@jsg.utexas.edu or 512-471-0260