

SEEING HUMAN MICROSCOPIC ANATOMY IN 3D

ADDING A NEW DIMENSION THROUGH CORRELATIVE 3D X-RAY HISTOLOGY

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Histology is the study of microscopic biological structures which informs biomedical research and clinical diagnoses.

Classical histology sectioning techniques developed in the 18th century are still in use today, but are **destructive**, and only provide 2D information.

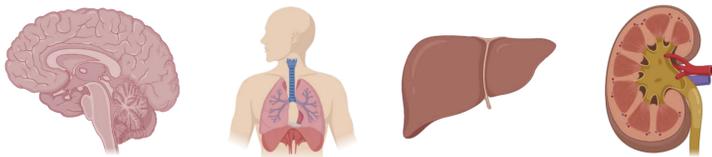
3D X-ray histology is **non-destructive** and can be integrated into the standard clinical workflow for processing soft tissue biopsies.

Find out more at xrayhistology.org.

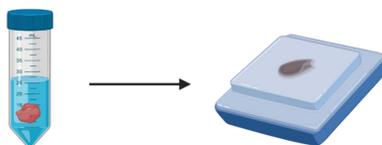


HOW ARE TISSUES PROCESSED WITH 3D X-RAY HISTOLOGY?

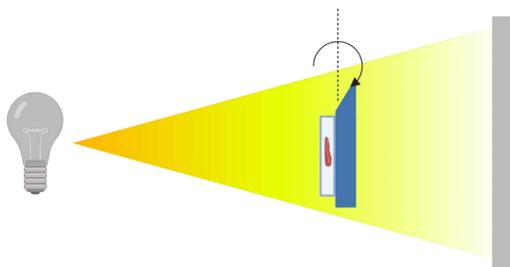
Biopsy



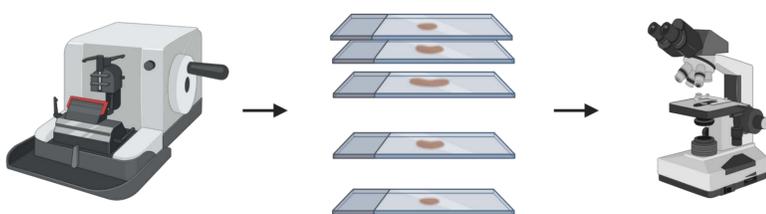
Fixation and Embedding



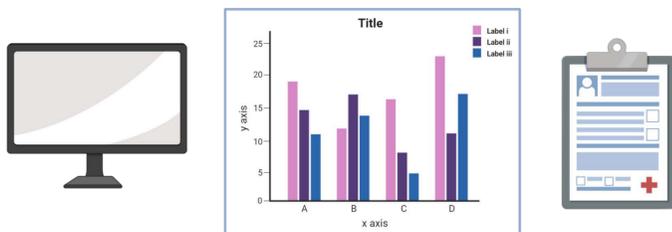
3D X-RAY HISTOLOGY



Classical Histology

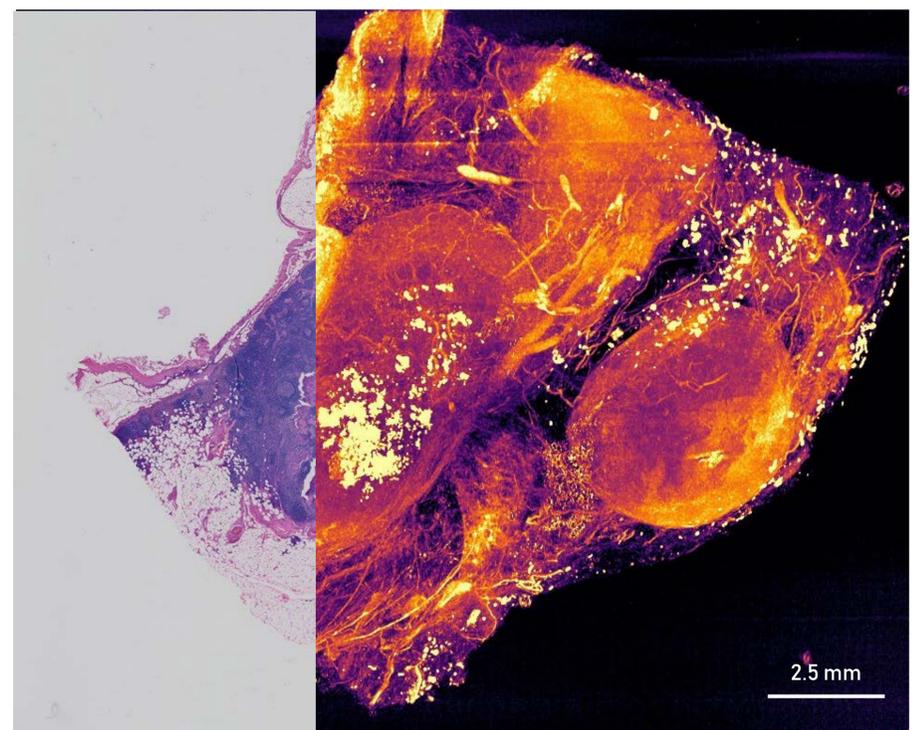


Analysis with 2D & 3D data



WHAT DOES 3D X-RAY HISTOLOGY TELL US?

A human lymph specimen was scanned with 3D X-ray histology and classical histology.



CLASSICAL HISTOLOGY

- Single 2D section
- Can identify specific biological structures

3D X-RAY HISTOLOGY

- 3D view of entire specimen
- Show connections in networks
- More representative

HOW CAN THIS PROJECT IMPROVE HEALTH?

- Provides realistic 3D images to inform diagnosis and treatment of diseases such as cancer.
- Make imaging biopsies more efficient and thorough for quicker and more accurate diagnoses.