

Boston University Digital Pathology Core: Powering Discovery at a Leading Academic Medical Center

A Core Deployment of HALO®, HALO AI, and HALO Link



Boston University Digital Pathology Core

- Institutional core housed within the BU Medical Campus's Alzheimer's Disease Research Center (ADRC)
- Provides high-quality digital pathology services to members of the Boston Medical Center and BU research community
- Houses multiple HALO® workstations and two Aperio GT 450 slide scanners

HALO Platforms at the Core

- HALO and HALO AI are leveraged for research projects requiring robust image analysis and AI-driven workflows
- HALO Link powers slide management, structure, and collaborative workflows between groups



The Boston University (BU) Chobanian & Avedisian School of Medicine is a leading research institute and hub for medical education and clinical innovation, renowned for its commitment to serving underserved populations and for pioneering research in fields such as neurodegenerative diseases, cardiology, and infectious diseases.



HALO is the gold standard image analysis platform for AI-assisted quantitative tissue analysis in digital pathology. **HALO AI** enables development of powerful custom AI classifiers with a streamlined train-by-example workflow. **HALO Link** is an enterprise-scale image management system for managing, sharing, and analyzing digital slides and data.

"HALO has transformed how we use and look at digital neuropathy images. The ability to extract quantitative pathology measures and develop more complex AI toolsets has really allowed us to better characterize neurodegenerative diseases."

Jonathan Cherry, PhD

Director, Digital Pathology Core | Assistant Professor of Pathology and Laboratory Medicine
Boston University Chobanian & Avedisian School of Medicine

Cutting Edge Research Powered by State-of-the-Art Digital Pathology

Digital Pathology Core Customers



Alzheimer's Disease Research Center

The ADRC is a National Institute on Aging Center focused on research aimed at reducing the human and economic costs of Alzheimer's disease and related dementias



CTE Center

The CTE Center conducts high-impact, innovative research on CTE and other long-term consequences of repetitive brain trauma

Boston Medical Center and BU Research Community

Researchers across the Medical Center and broader BU community oversee hundreds of laboratory-based and clinical research projects

Leveraging HALO, HALO AI, and HALO Link, the Digital Pathology Core supports labs and research projects across BU's ADRC, Chronic Traumatic Encephalopathy (CTE) Center, teaching hospital, and broader research community that transform our understanding of AD, CTE, and other diseases.



DIGITAL PATHOLOGY CORE

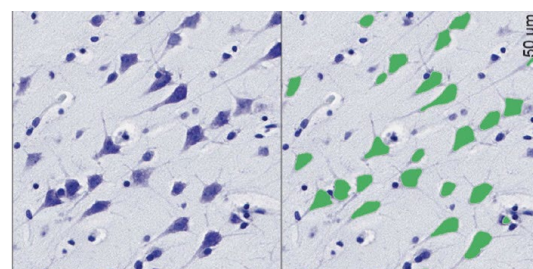
Vital Discoveries

Identification of distinct CTE subtypes marked by different regional pathology accumulation

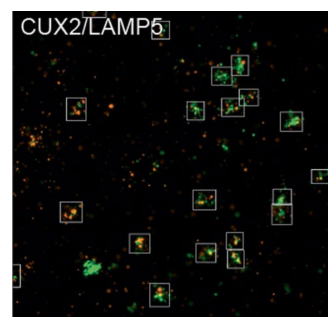
Determination that neurons, not astrocytes, comprise the early pathology found around the CTE neuropathologic lesion

Correlation of in-life imaging studies to postmortem autopsy results to better characterize biomarkers for disease diagnoses

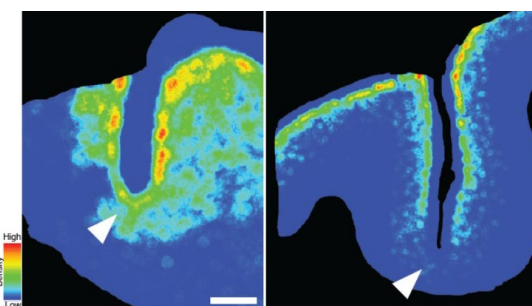
HALO-Powered Workflows



AI-powered tissue classification, cell segmentation, and object phenotyping



Cell and object measurement



Spatial analysis



Collaborative image management and analysis

Key Statistics for the Digital Pathology Core*

- 25,000 slides scanned per year
- 20 terabytes of image data produced annually
- Around 10 research projects supported each year
- Nine research groups and departments served
- 26 publications supported

*As of March 2026

Future Research Goals at the Core

- Better understand the regional accumulation of pathology specific to certain brain areas, like blood vessels
- Quantitate cell type data, like microglia and astrocyte phenotypes, across disease stages
- Develop neuropathology specific foundation models to further the development of AI algorithms

“The digital pathology core has been an enormous help in our brain banking and research efforts. The ability to digitize and analyze our entire back catalog of histologic slides has created a truly invaluable resource.”

Thor Stein, MD, PhD

Director, ADRC Neuropathology Core
Associate Professor of Pathology and Laboratory Medicine
Boston University Chobanian & Avedisian School of Medicine

Ready to Learn More?

Contact us for a demo or reach out with questions about HALO, HALO AI, and HALO Link