



LighTopTech

Lighting the Way to Discovery

SEE WHAT LIES DEEP BENEATH THE SURFACE

High-definition, non-invasive 3D
imaging solutions for life sciences,
research and manufacturing

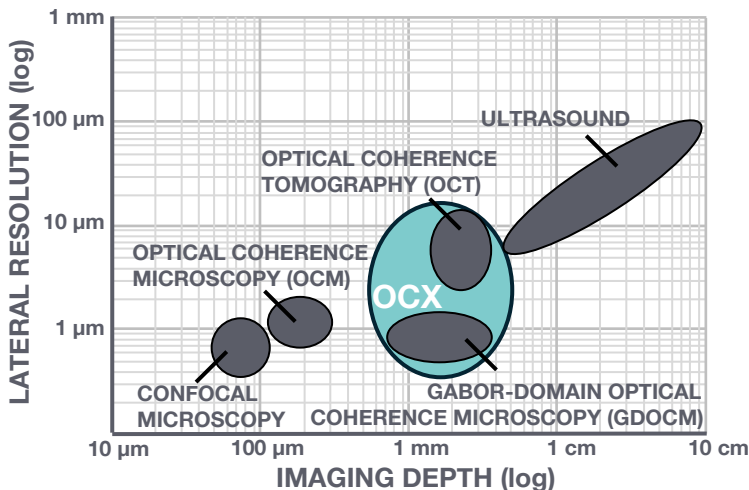


A NEW STANDARD IN CELLULAR IMAGING

The Imaging Trade-Off is Over

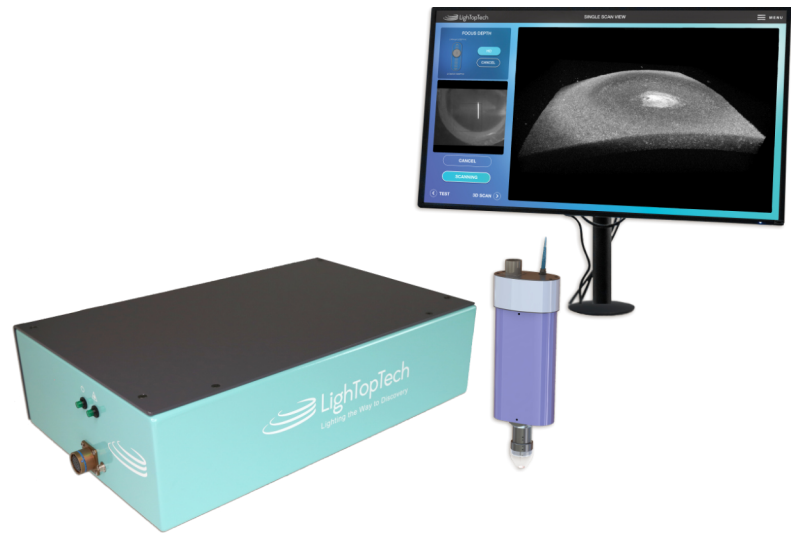
Capturing images at the cellular or the microstructure level often requires a trade-off between lateral resolution and depth of focus. This limits the ability to more accurately visualize what really lies deep below the surface. It also results in costly, time consuming and invasive practices to get a closer look.

LighTopTech's new standard in high-resolution imaging solves these dilemmas. The technology uses a combination of Optical Coherence Tomography (OCT) and Gabor Domain Optical Coherence Microscopy (GDOCM) - for the first time combined in a single instrument, in a compact, portable desktop format - to help visualize structures at the microscopic level within tissues or materials at a millimeter below the surface.



"This product will dramatically help what I do because it would help me better assess where cancer ends and where normal skin begins in my patients and that would allow for smaller surgeries with higher accuracy."

Dr. Sherif Ibrahim, MD, PhD
University of Rochester Medical Center



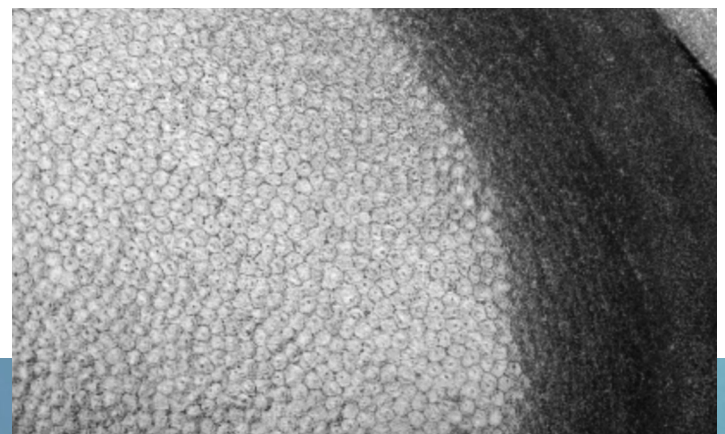
Extend the Depth of Your Discovery

LighTopTech's OCX® system uses a proprietary microscope design inspired by whale eyes, along with near infrared light, microelectromechanical systems and graphics processing units technology to dramatically improve in vivo cellular imaging capabilities.

Unlike other imaging technologies, the OCX® can dynamically refocus at different depths inside a sample or material. This enables the system to rapidly and reliably create high-resolution, 2D or 3D visualizations throughout the volume of the sample.

Maximum depths for imagery are < 1 mm for organic tissue such as skin, and 2 mm for composite materials, with a maximum resolution < 3 micrometers in all dimensions. This enhances GDOCM imaging capabilities in three key areas: in vivo 3D imaging, optical sectioning and cellular resolution.

Mouse corneal endothelium



Advanced Image Processing and 3D Visualization

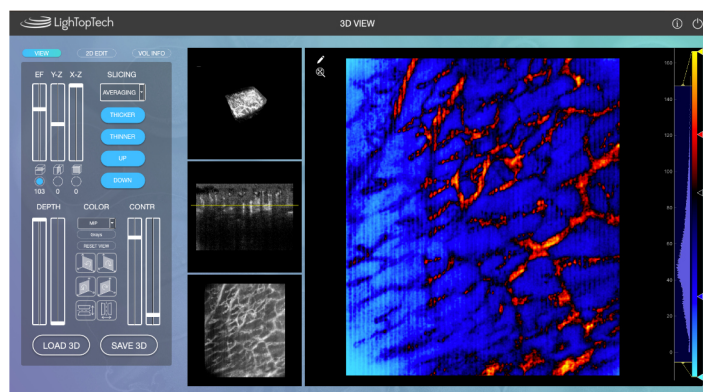
VIEWER 4D™ software for multi-platform 3D image visualization and annotation

- Compatible with .TIFF, .OCT and DICOM stacks
- Sagittal, coronal, and transverse plane displays
- 3D rendering with rotation and z-cropping
- Real time adjacent slice averaging in all dimensions
- Full control of color balance, brightness, and contrast
- User annotation, rulers, shapes, arrows

OCTA software tool provides optical coherence tomography angiography (OCTA) capability for in vivo non-invasive, label-free vascular imaging

- Compatible with .TIFF and .OCT stacks
- Proprietary motion-insensitive method reduces motion artifacts by nearly 50% on average

FrameAlign™ motion correction software with proprietary distortion-free volume registration

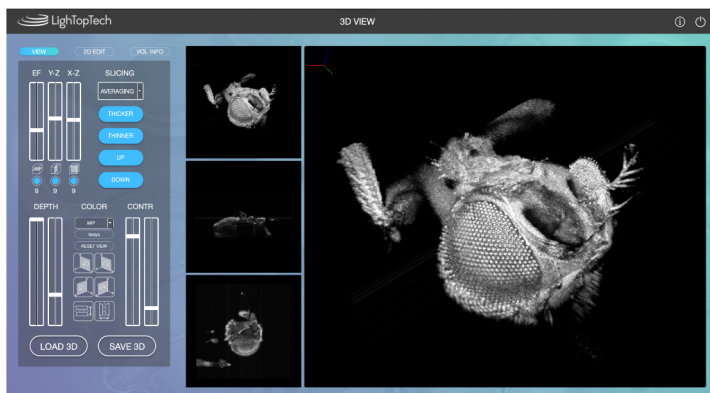


"In just seconds this liquid-lens system can capture a sharp two-dimensional image in depth. Also, a collection of these images from a range of lateral scans can be combined to quickly create a three-dimensional image."

BioOptics World

One Innovation. Multiple Applications.

LighTopTech's technology supports imaging needs across a range of materials and applications to provide measurable benefits.

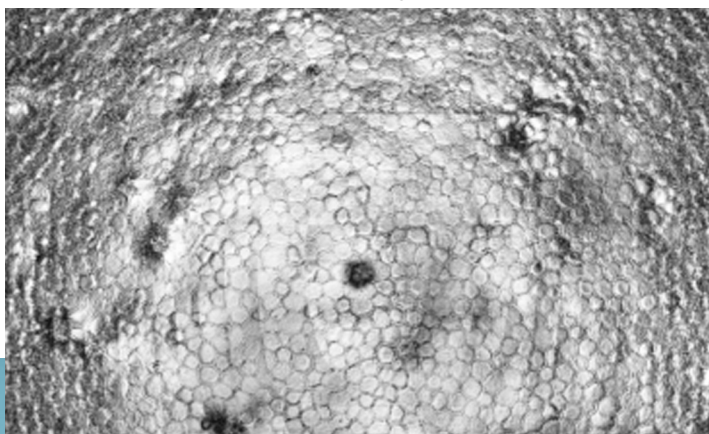


Drosophila (fruit fly) imaged with GDOCM

See movies at:

<https://vimeo.com/lightoptech>

Excised human corneal endothelium over a large field of view (1 mm by 1 mm)



Medical Discovery

The GDOCM 4D™ allows researchers to image subcellular structures beneath the surface of live tissue in small animals without the use of invasive techniques. The three-dimensional images also can be sliced to provide different cross-sectional views of the tissue being examined. This allows for more rapid evaluation and monitoring of cancer and other skin diseases, corneal layers in the eye, and drug response.*

Research and Preclinical Trials

In the lab, LighTopTech imaging solutions are an indispensable tool, especially for pharmaceutical and medical research. In addition to providing 3D imaging at the micrometer scale, the technology can eliminate the need for invasive procedures on animals during pre-clinical trials, thus reducing risks and accelerating results.*

Quality Control in Manufacturing

LighTopTech's imaging solutions allow manufacturing facilities to capture details inside materials, such as polymers, multi-layer films, contact lenses and glass. By identifying and quantifying microscopic structures inside samples during the manufacturing process, companies can improve the quality and yield of their products, as well as reduce the waste and costs associated with material and production issues.

*CAUTION--Device for investigational use in laboratory animals or other tests that do not involve human subjects.

Why Choose Between Field of View and Resolution?

With the OCX® Dual-Mode OCT+OCM Imaging you can have both in the same instrument. Transition seamlessly from the meso-scale to the micro-scale with label-free, cellular-resolution 3D imaging.

Product Specifications

The OCX® is offered in two configurations: for use in contact (OCX.R0) and with a 20 mm working distance (OCX.R20).

Both options include an integrated video camera to visualize the area being imaged.

Committed to Optical Innovation

LighTopTech was founded in 2013 to bring disruptive, non-invasive imaging technologies to market. The women-owned business is based in Rochester, NY (United States).



Manufactured in the USA

Schedule a Demonstration

For more information about LighTopTech, its solutions, or to schedule a technology demonstration, go to:

www.LighTopTech.com

email us at: info@LighTopTech.com

or call: **585.752.1013**

*This product is not yet cleared for use with humans.

	OCM Mode	OCT Mode
Light source	Superluminescent diode	
Optical output power	0.75 mW	
Central wavelength	860 nm	
Axial resolution in tissue	2.2 μ m	
Imaging depth in tissue	2.5 mm	
Lateral resolution at 1.5 mm deep in tissue	2.8 μ m	13.5 μ m
Lateral field of view	2.5 mm x 2.5 mm	10 mm x 10 mm
Focusing mechanism	Liquid lens dynamic focusing	
Working distance	0 mm (in contact) or 20 mm	
Acquisition speed (A-scans per second)	120,000	
Video size (pixels)	3264 x 2448	
Video field of view	2.5 mm x 2.5 mm	10 mm x 10 mm
OCX engine dimensions	48 x 30 x 12.5 cm ³	
Operating temperature range	15° to 30°C (59° to 86°F)	
Non-operating temperature	10° to 35°C (50° to 95°F)	
Power requirements	AC 110V - 240V 50/60Hz	