



TECHNOLOGY

High-Resolution Parallel Scanning Lamina Optical Tomography

OVERVIEW

Fluorescence imaging has been widely used in biomedical and clinical applications, and among many other fields. There are numerous situations where it is desirable to resolve 3D tomography (imaging by sections) of a sample. Most of the contemporary fluorescence tomography technologies fall in either the macroscopic or microscopic category. Unfortunately there is currently a gap in mesoscopic imaging, where millimeter penetration depth and tens of micrometer resolution are relevant.

Researchers at the University of Maryland have developed a novel extension of fluorescence lamina optical tomography (FLOT). The key advance made by this invention is improved resolution down to 50-60 micrometers (compared to 100-200 micrometers in previous technologies). As a result, the advent of new parallel, line-scanning FLOT opens the door to resolve 3D fluorescence distribution in high resolution. This invention will result in a transformative multi-modal optical imaging technology that enables depth-resolved comprehensive structural and molecular imaging at the mesoscopic scale, which will fill in the information gap between microscopy and macroscopy.

Advantages:

- Enables new discoveries for biomedical research and clinical applications
- Facilitates the study of tissue structure-function relationships
- Improves early disease diagnosis and treatment efficiency

Applications:

- Depth-resolved microscope
- Medical imaging

CONTACT INFO

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Additional Information

INSTITUTION

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PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Imaging devices

EXTERNAL RESOURCES

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