Tuesday, July 28, 2020

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WEBINARS

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An Oblique Plane Light-Sheet Microscope with 200-nm-Scale Resolution

Tuesday, August 4, 2020 1:00 PM - 2:00 PM EDT

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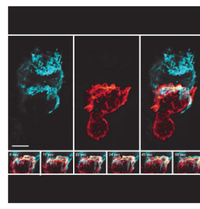
.: About This Webinar



Light-sheet fluorescence microscopy (LSFM) has generated significant interest in the biological community. Not only does it deliver light to only the in-focus portion of a specimen, decreasing the illumination burden, but the resulting fluorescence can be collected with modern scientific cameras, allowing for millionfold detection parallelization. Nevertheless, despite these advantages, its adoption for subcellular imaging remains limited.

The reasons for this include complicated sample preparation, the reliance on high-NA water-dipping objectives, and the lack of modalities that make microscopy routinely useful, such as sample environment control and laser-based autofocusing. There is, however, one form of LSFM, referred to as oblique plane microscopy, that avoids these complications and is compatible with traditional sample mounting, environment control, and autofocusing mechanisms.

In this webinar, Kevin Dean, Ph.D., will describe an oblique plane microscope that uses a newly developed glass-tipped objective and an optimized optical train to maximize the speed, field of view, and resolution of the overall imaging system. He will characterize the performance of this microscope, and then demonstrate biological imaging of clathrin-mediated endocytosis, cell migration, natural killer cell induced cytotoxicity, and more.

Who Should Attend:
Scientists, researchers, laboratory technicians, clinicians, and others in the fields of biology, biotechnology, microbiology, and other areas of the life sciences who are using light-sheet fluorescence microscopy. Engineers and commercial representatives involved in R&D and marketing of LSFM microscopes.

About the Presenter:
Kevin Dean received his B.A. in chemistry at Willamette University in Oregon and was recognized twice as an ESPN Regional Academic All-American in football. He received his Ph.D. in biochemistry at the University of Colorado, where his work focused on spectroscopy, protein engineering, and multiparameter high-throughput microfluidic analyses and cell sorting. After establishing the first campuswide light microscopy facility at the BioFrontiers Institute at the University of Colorado, he moved to the University of Texas Southwestern Medical Center in Dallas to perform his postdoctoral research. He has been named a Ruth L. Kirschstein Postdoctoral Fellow, published five first-author publications and co-authored an additional three, received the Dean's Discretionary Award, and was the runner-up for the UT Southwestern Brown-Goldstein Excellence in Postdoctoral Research award. Today, he runs a collaborative lab at UT Southwestern that brings cutting-edge computer vision and microscopy to biologists in an effort to advance our understanding of biological systems.

This webinar is sponsored by Applied Scientific Instrumentation (ASI). ASI develops and manufactures motion control, automation, and related products for light microscopy. ASI's modular components make it easy to build complete semi-custom microscopes, including light sheet microscopes.

This webinar is also sponsored by Andor Technology, part of the Oxford Instruments Group. Andor develop and manufacture high performance scientific cameras, microscopy systems, and spectrographs for academic, industrial, and government applications.

This webinar is also sponsored by TOPTICA Photonics. TOPTICA has been developing and manufacturing high-end laser systems for more than 20 years. The systems are used for demanding scientific and industrial applications in biophotonics, industrial metrology and quantum technology.

This webinar is also sponsored by Coherent, Inc. As one of the world's leading providers of laser-based technologies, Coherent offer a comprehensive portfolio of lasers, laser sub-systems, and laser machines for a broad range of commercial, industrial, and scientific applications.

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- Mastering the Hidden Pitfalls of Metallic Coatings, 8/20/2020 1:00:00 PM EDT

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