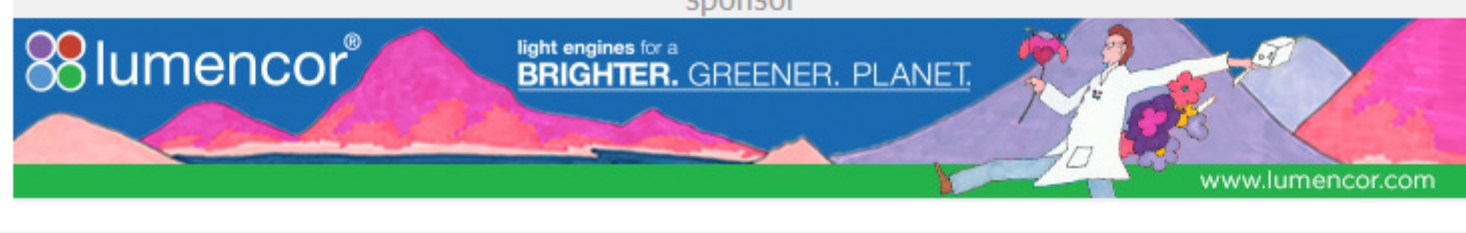


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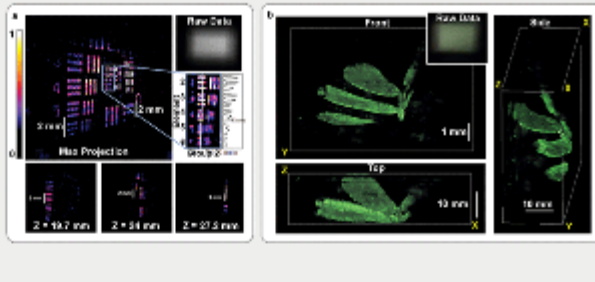


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Lensless Cameras May Offer Detailed Imaging of Neural Circuitry

Understanding brain function at the scale of individual neurons could open the door for advanced understanding of animal and human behavior and the mechanisms of neurological disorders such as Alzheimer's. But the size scale of neurons and their extremely large numbers create an extreme imaging challenge. New architecture could enable simultaneous monitoring of millions of neurons in 3D space at frame rates limited only by image sensor read times.



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AO-LLSM Microscope Achieves Aberration-Free Imaging

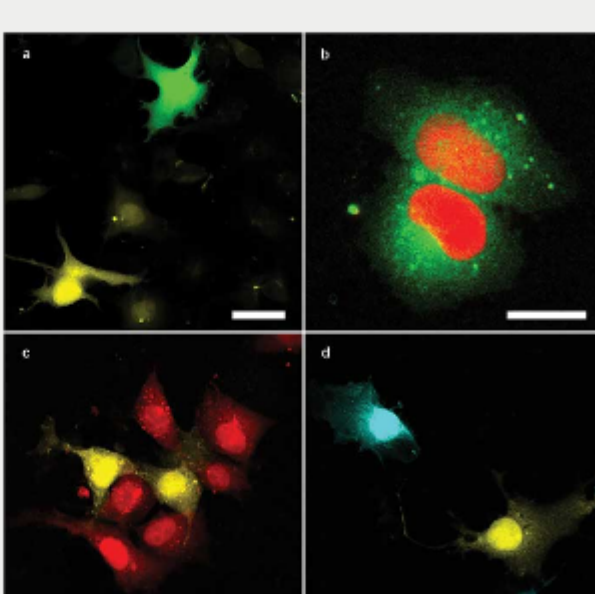
Scientists have combined lattice light-sheet microscopy (LLSM) with adaptive optics (AO) to capture high-resolution 3D movies of cells deep within living systems. The AO-LLSM microscope enables cells to be viewed in their native multicellular environments, under as gentle illumination as possible, with minimal external perturbation. The microscope could create new opportunities to study the diversity of intracellular dynamics, extracellular communication, and collective cell behavior across different cell types, organisms, and developmental stages.



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Fluorescence Microscopy Unravels Morphogenesis, Function of Lymph System

The lymphatic system is an underinvestigated part of the vascular system. A team led by Friedemann Kiefer at the European Institute for Molecular Imaging (EIMI) at the University of Münster in Germany is aiming to change that in ongoing studies of the formation and function of lymphatic vessels in lab mice. The researchers use an arsenal of fluorescent microscopy techniques to probe these vessels and unravel the genetic control of formation, function, and repair.



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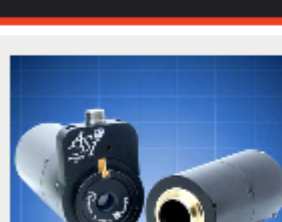
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Tunable Lens Focus Device

Applied Scientific Instrumentation Inc.
Our Tunable Lens system consists of the C60-TUNLENS- 4F assembly

along with the TGTLIC card of the TG1000 controller. The system lets user remotely control the focus of the system without moving the objective. C-Mounts are used to mount the C60 Tunable 4F assembly to the imaging camera and to the microscope's photo port.

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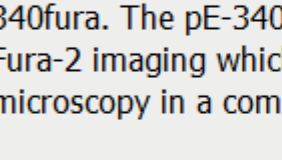


LED Illumination for Fura-2 Calcium Imaging

CoolLED Ltd.

Through partnership with The University of Strathclyde, CoolLED announces the latest leap forward in LED illumination for microscopy – the pE-340fura. The pE-340fura is a bespoke LED illuminator for Fura-2 imaging which also supports everyday fluorescence microscopy in a compact, affordable package.

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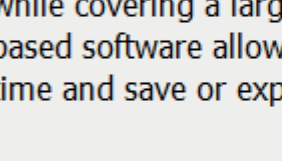


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The Hornet Spectrometer achieves the resolution of large grating spectrometers at a fraction of their cost and size while covering a larger wavelength range. Simple PC based software allows the user to review spectra in real time and save or export for more analysis.

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Photonics Media
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In Case You Missed It

Superresolution Microscopy Method Could Enhance DNA Nanostructure Design

A method of superresolution microscopy, called DNA-PAINT, allows all of the strands within DNA-based nanostructures to be visualized individually, with high degree of spatial resolution. The technique can quantify both incorporation and accessibility of all individual strands in DNA origami with molecular resolution.



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Stereolithographic Bioprinting Device Can Create Biological Tissue

A stereolithography-based bioprinting platform for building therapeutic biomaterials from multiple materials could help advance on-demand printing of artificial tissues for regenerative medicine.

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Guide to Building Biointerfaces to Photostimulate Neurons, Tissues, Limbs Developed

Researchers have devised design principles for building silicon-based interfaces for light-induced biological processes that do not use genetic modification. The design principles quantify and differentiate the capacitive, Faradaic, and thermal outputs from about 30 different silicon materials in saline.

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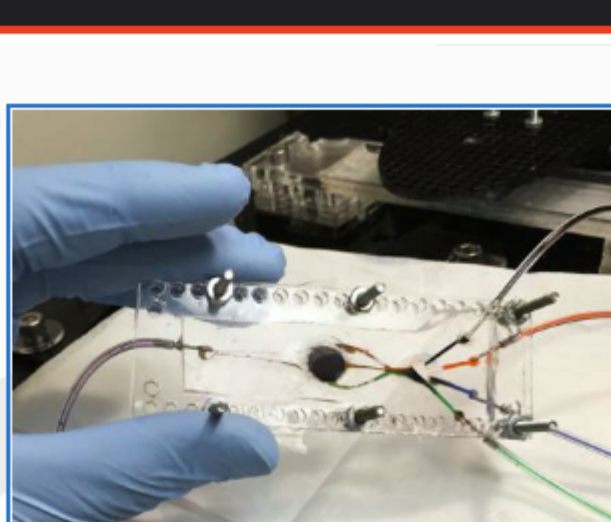


Webinars

Emerging Organ Models and Organ Printing for Regenerative Medicine

Mon, Oct 1, 2018 1:00 PM - 2:00 PM EDT

You will learn about the development and use of hydrogels to regulate cell behavior and the use of microfabrication methods, such as microfluidics, photolithography, bioprinting, and molding to regulate the architecture to generate miniaturized tissues. The presenter will discuss directed assembly techniques developed by his lab to compile small tissue modules into larger constructs in order to create tissue complexity. The webinar will conclude with a look at how current work in the area of organ modeling and bioprinting could lead to the development of next-generation regenerative therapeutics and biomedical devices.



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