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MICROSCOPY Tech Pulse

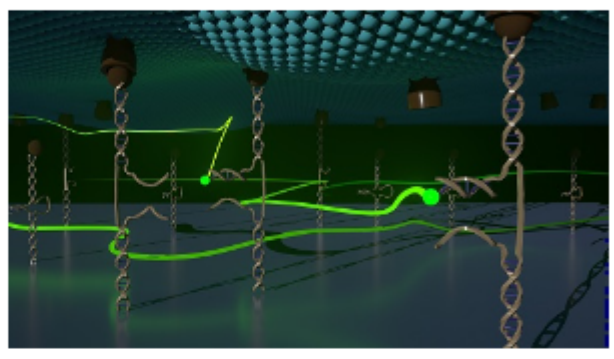
PHOTONICS MEDIA

September 2020

Microscopy Tech Pulse is a special edition newsletter from Photonics Media and Mad City Labs Inc. covering key developments in microscopy technology. Manage your Photonics Media membership at Photonics.com/subscribe.

'Firefly' Imaging Technique Sheds Light on Molecular Forces

Using tools made of luminescent DNA, researchers at Emory University have visualized the mechanical forces of cells at the molecular level.



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PROMOTED CONTENT

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Understanding Virus Mechanisms – One Particle at a Time

Single-molecule microscopy techniques facilitate direct study of molecular mechanisms, enabling leaps in understanding surrounding how viruses assemble, disassemble, and interact with their hosts. In this researcher profile, we describe how Prof. Tijana Ivanovic is working to understand cell entry mechanisms and the relationship between virus particle structure/organization and the early steps of infection.


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Understanding Virus Mechanisms –
One Particle At A Time

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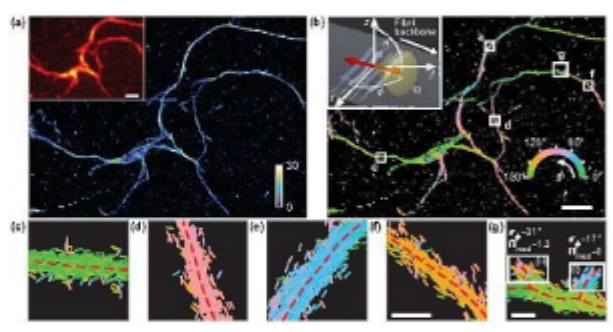
Methodology Aids Microscopic Study of Fibrils in Molecules

Researchers from Washington University in St. Louis have found a mechanism to efficiently and accurately measure the point spread functions (PSFs) of the position of molecules, called variance upper bound (VUB). They believe this will someday aid scientists and clinicians as they look to understand what is happening at the molecular level in the body.



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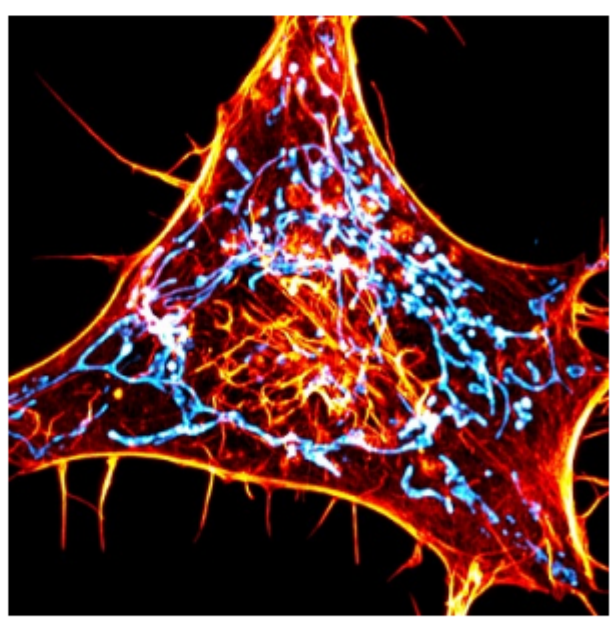
Imaging Method Enables Research on Cellular Protein

Researchers at the Salk Institute have developed a new imaging method that allows them to monitor actin, a small subset of skeleton-like filaments within cells. The method has enabled research on how actin mediates an important function: helping mitochondria divide in two.



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Raman Spectroscopy Pinpoints Viral RNA in Single Cells

A new technique for identifying and quantifying viral RNA in living cells, based on surface-enhanced Raman spectroscopy (SERS) and developed by scientists at Rutgers University, can detect minor changes in RNA sequences that could give viruses an edge or make some people "superspreaders."

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