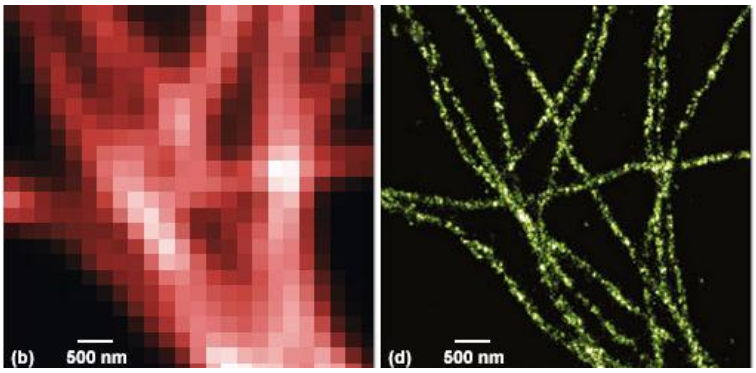
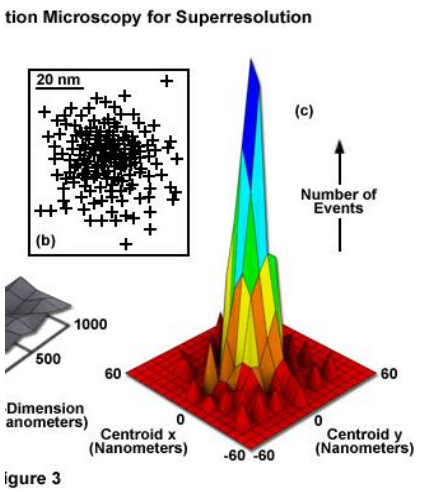
CSUF PHYSICS COLLOQUIUM



$$\frac{Information}{h\nu} = ???$$



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Theoretical Limits to Imaging Beyond the Diffraction Limit

Abstract

Superresolution microscopy techniques enable imaging of live cells with subwavelength resolution. In these techniques, fluorescent molecules are switched on and off, with only a small fraction emitting light at any instant. Consequently, one gets non-overlapping blurs in the image plane, enabling localization of molecules with subwavelength resolution. This work holds the promise of revealing very high-resolution details of biological processes in live cells. The question that we ask is, given that diffraction no longer limits the amount of information that can be obtained in fluorescence microscopy, what is the new theory that predicts the limits of performance? (Images from Nikon MicroscopyU)

3-4 p.m., Friday, April 27th
McLane Hall 162
All welcome!