

## **RECENT ADVANCES IN 4Pi MICROSCOPY**

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Leica Microsystems has introduced the first commercial 4Pi microscope, providing a 5-7 fold increase in axial resolution over conventional confocal microscopy. This marked leap in resolution in 3D fluorescence microscopy opens up new dimensions for research in cell and developmental biology.

A variety of recent applications demonstrate the use of 4pi microscopy for research in cell biology, immunology, and infectious diseases. Besides superresolution for 3D imaging, the small 4Pi focal volume enables high-precision spatial distance measurements with 5 nm accuracy. Aspects of sample preparation and instrument technology are discussed.