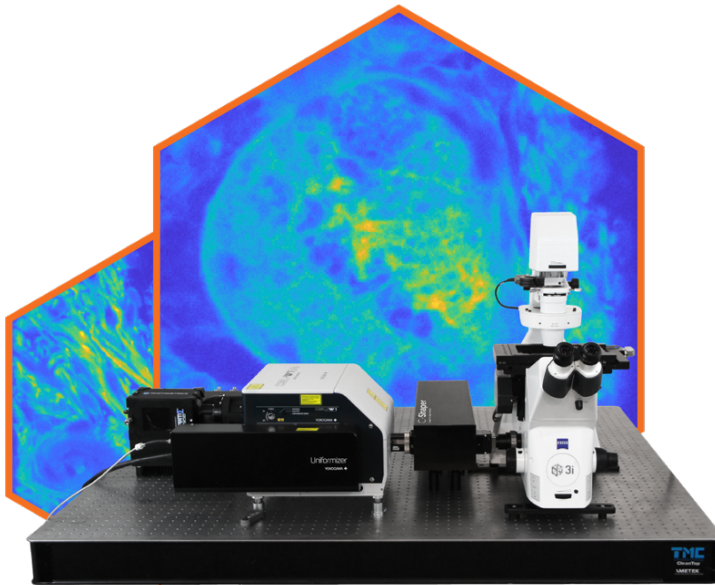




3i Intelligent
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C-Shaper: A New Approach for Adaptive Optics in Microscopy

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The quality and capabilities of optical microscopes are often compromised by aberrations that reduce image resolution, intensity, and contrast. Adaptive optics can correct these aberrations and restore imaging performance, as demonstrated by several experts in academia. However, the potential for wider use of adaptive optics in microscopy has been limited due to the significant expertise required to operate them properly. Intelligent Imaging Innovations (3i) introduces a new approach and line of products for adaptive optics compatible with currently available microscopes. C-Shaper is a dedicated module for spinning disk confocal microscopes that corrects sample-induced aberrations in confocal imaging. Within a few seconds of calibration, diffraction-limited performance is restored in challenging samples with inhomogeneity and refractive index mismatches. We use an image-based approach utilizing a high-quality deformable mirror with easy-to-use control via our image acquisition software SlideBook. For multiphoton scanning microscopy, M-Shaper improves depth penetration and image quality by shaping the excitation light using a similar approach. In this presentation, we show that C-Shaper and M-Shaper allow researchers to capture unseen information, extend the depth-range of their experiments, and boost the resolution of their microscopy images.