



RE-SCAN CONFOCAL MICROSCOPE

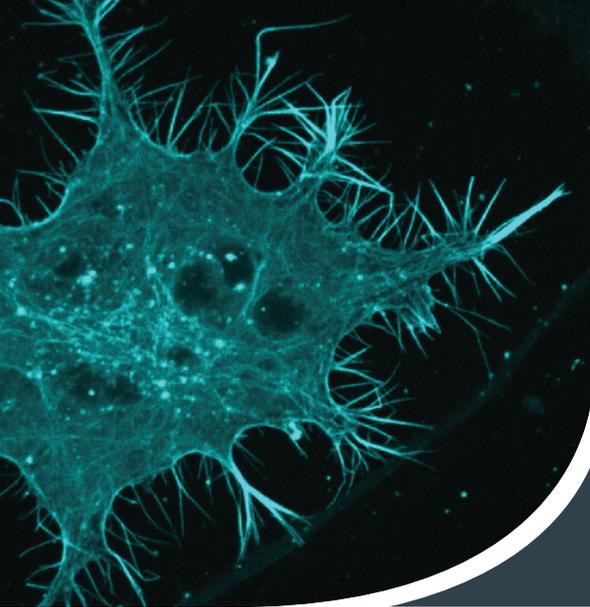
by scientists for scientists

 UNIVERSITY OF AMSTERDAM

 **NBT**
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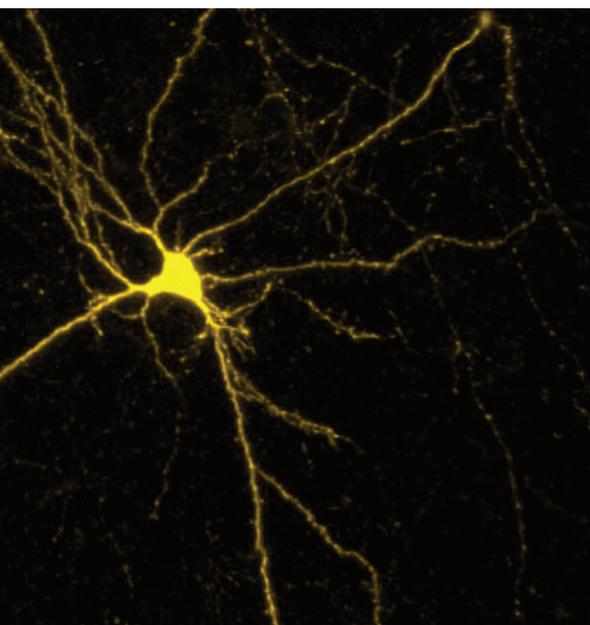
יבואן בלעדי



The RCM has all the features and benefits of a regular confocal microscope but additionally it offers:

01 BETTER SIGNAL-TO-NOISE RATIO

The unique open pinhole design and camera-based detection allow twice the QE (up to 95%) and a 4x improvement of the signal-to-noise ratio.

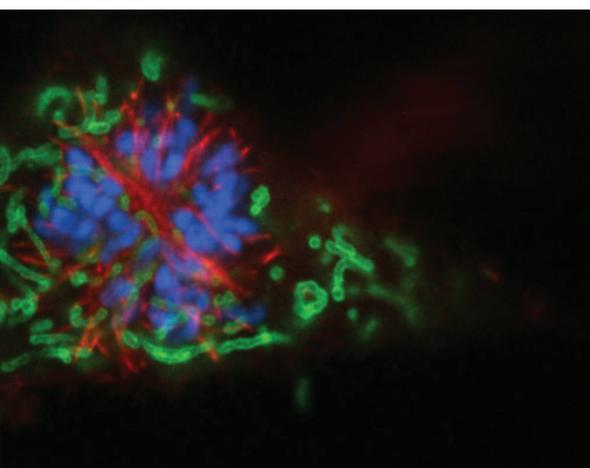


02 IMPROVED LATERAL RESOLUTION

RCM offers up to 170nm lateral resolution, 1.4x improvement over a regular confocal microscope. Further improvement possible with deconvolution, up to 120nm!

03 USER-FRIENDLY OPERATION

High-Resolution images are achieved with one-click; there are no adjustable settings, and no post-processing is required.

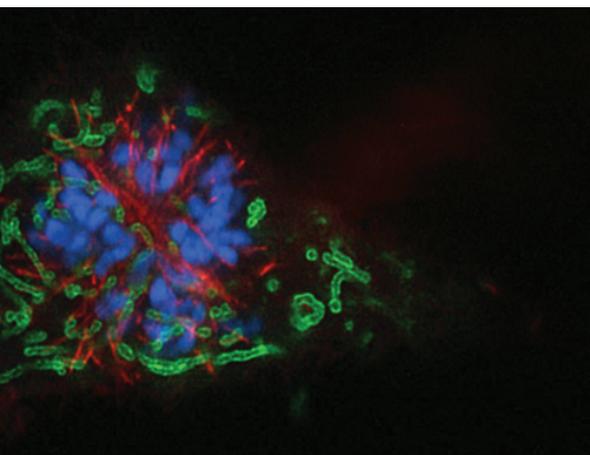


04 OPEN SYSTEM ARCHITECTURE

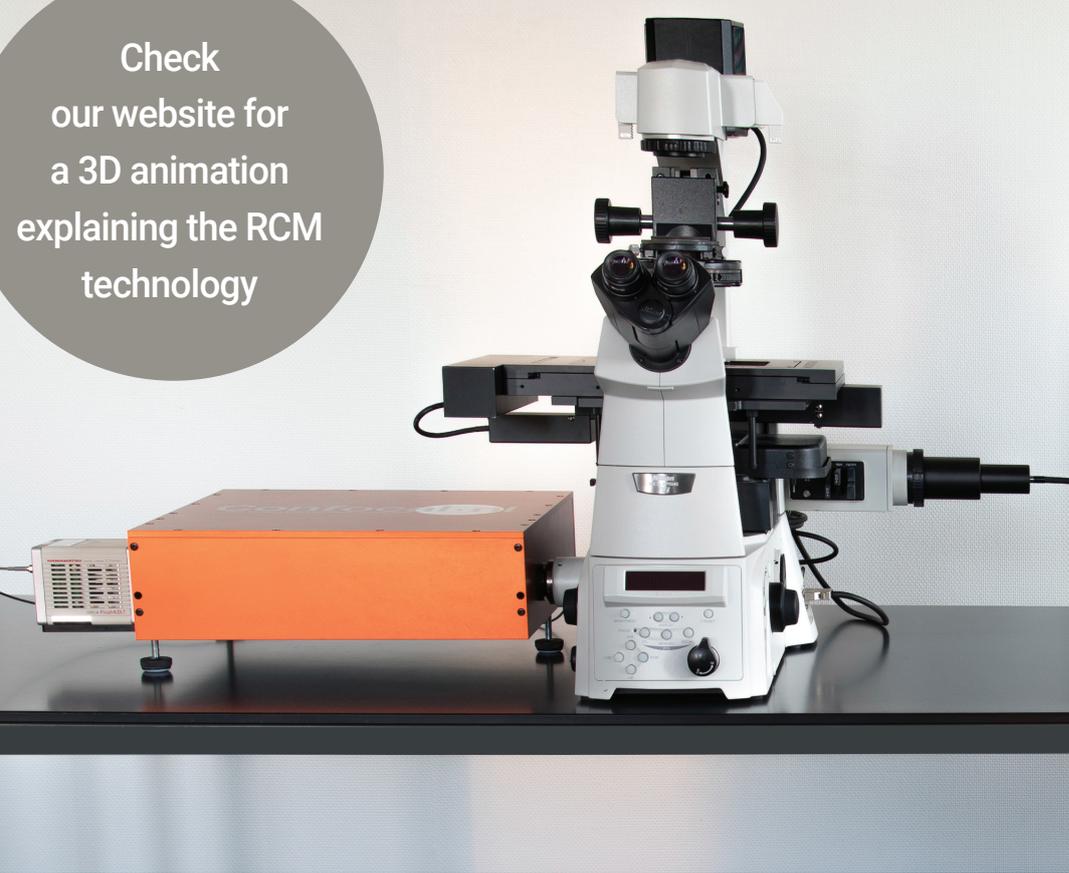
Easy integration with your preferred system components; microscope and camera connect via C-mount, laser via single mode fiber. Both commercial and open-source software drivers are available.

05 AFFORDABILITY

Low-cost due to its unique camera-based design and flexible system architecture.

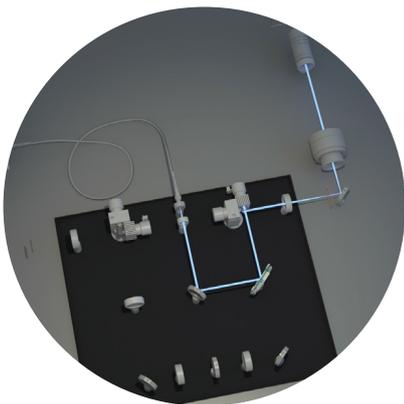


Check our website for a 3D animation explaining the RCM technology

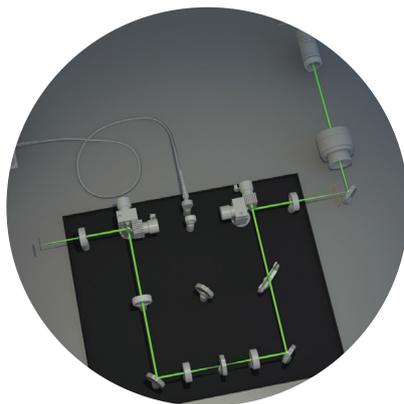


Working principle of the re-scan confocal microscope

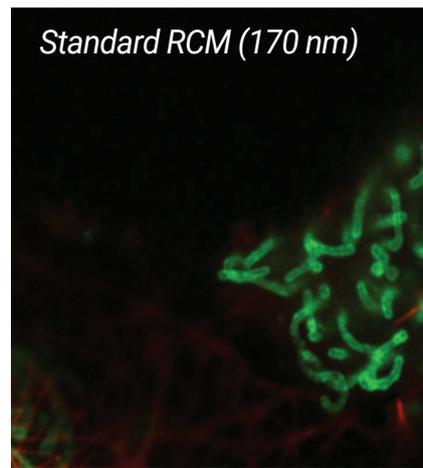
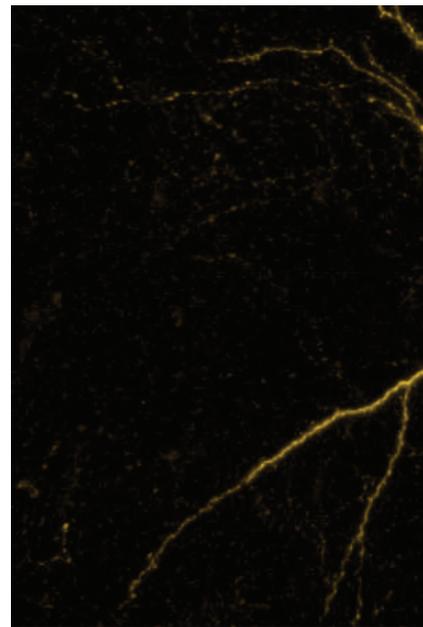
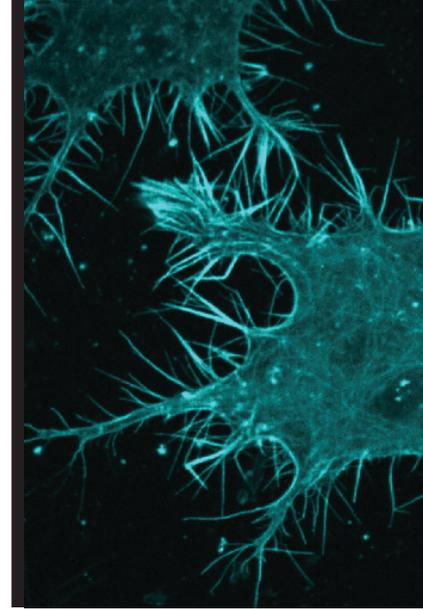
Re-scan Confocal Microscopy (RCM) is a super-resolution technique based on a standard laser-scanning confocal system, extended with an optical re-scanning unit. The re-scanner writes the image directly onto a camera chip. By doubling the sweep of the re-scanning mirrors, the image is magnified on the camera chip without increasing the size of the rescanning spot. This results in an increase in resolution up to 170nm - an improvement of 1.4 times. The camera-based detection and open pinhole design offer a high signal-to-noise ratio, while maintaining confocal sectioning capability. The rescanning principle is optics-mechanics only, achieving an improved resolution image without any post-processing.



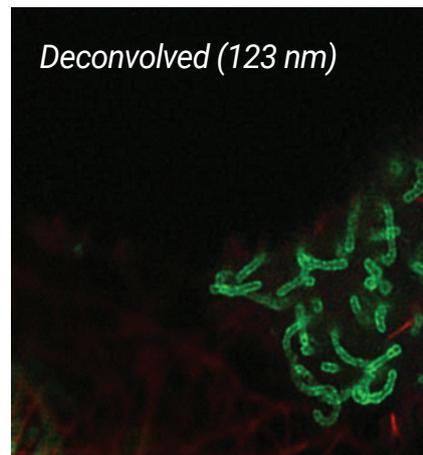
Excitation light path



Emission light path



Standard RCM (170 nm)



Deconvolved (123 nm)

Specifications

- ⑤ Lateral resolution: 170 nm (FWHM at 488 nm excitation)
- ⑤ Axial resolution: 500 nm (at 488 nm excitation)
- ⑤ Quantum efficiency: 80-95%
- ⑤ Scan-speed: 1 fps at 512x512 pixels
- ⑤ Excitation wavelengths: up to 4 lasers (e.g. 405 - 488 - 561 - 638 nm)
- ⑤ Pinhole size: 50 μm (optimized for high NA lenses; other sizes on request)
- ⑤ Upgrade option: Bypass



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