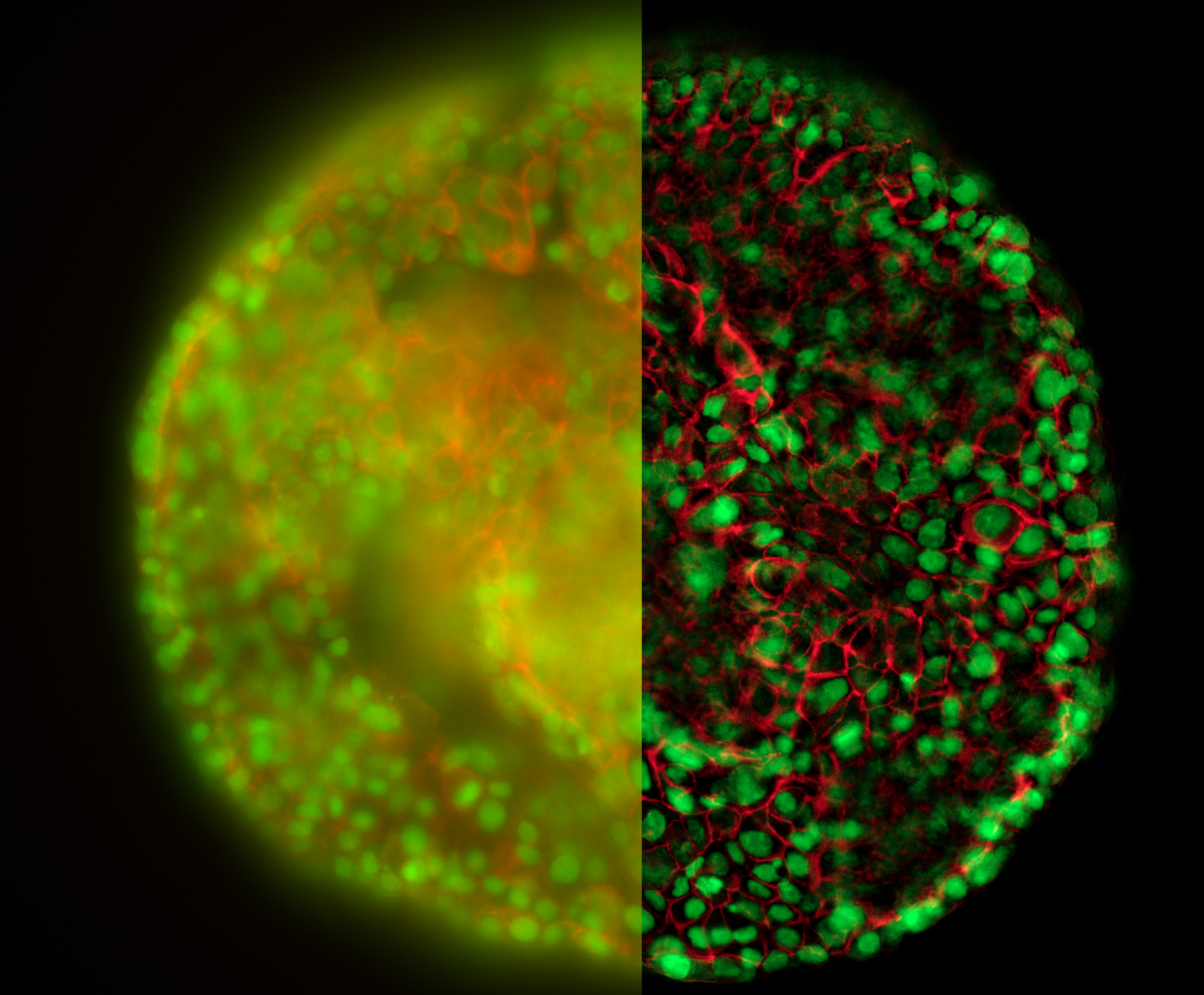
From Eye to Insight

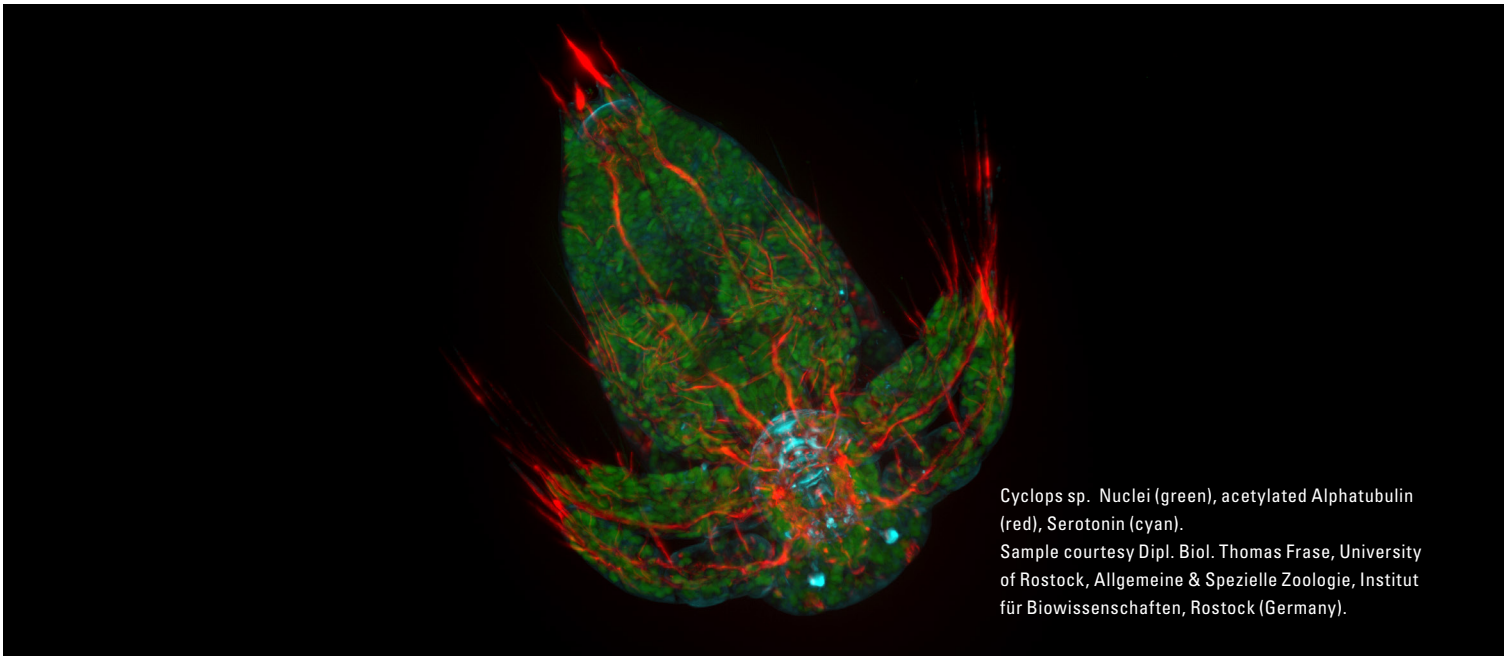
Leica
MICROSYSTEMS

THUNDER Imaging Systems

Decode 3D Biology in Real Time*



* in accordance with ISO/IEC 2382:2015



Cyclops sp. Nuclei (green), acetylated Alphatubulin (red), Serotonin (cyan).
Sample courtesy Dipl. Biol. Thomas Frase, University of Rostock, Allgemeine & Spezielle Zoologie, Institut für Biowissenschaften, Rostock (Germany).

COMPLETE YOUR MULTICOLOR IMAGING UNBELIEVABLY FAST IN BOTH THIN AND THICK SAMPLES

To answer your most important scientific questions, you need constant clarity. THUNDER Imaging Systems enable you to obtain a clear view of details, even deep within an intact sample, in real time without the out-of-focus blur.

THUNDER brings you high-speed, multicolor imaging of thin and thick samples with increased temporal resolution in the first attempt itself. Sharp imaging of 3D specimens is as easy as working with your favorite camera-based fluorescence microscope.

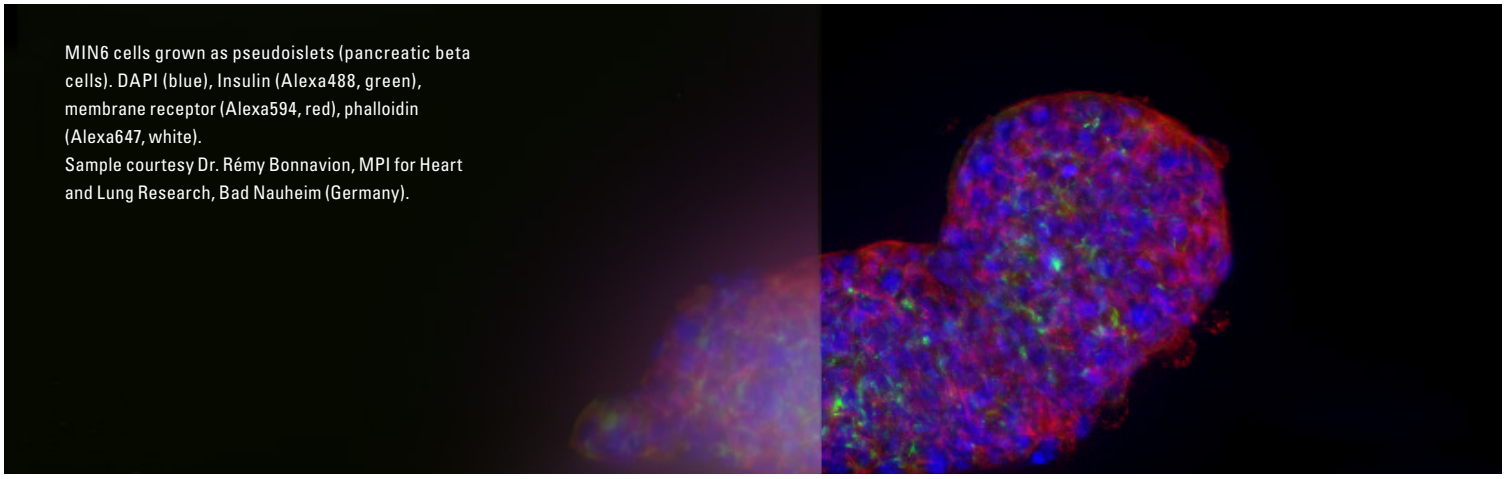
Decode 3D biology in real time*

Fundamentally change the way you work when imaging model organisms, tissue sections, and 3D cell cultures like organoids.

Whether you are imaging single cells, tissues, whole organisms, or tumor spheroids, THUNDER Imagers enable the decoding of 3D biology in real time, with immediate visual feedback.

"THUNDER Imager would be especially useful for time lapses, because it allows very fast scanning of big samples in less than 2 minutes, and provides confocal quality images."

Dr. Almary Guerra, Max Planck Institute for Heart and Lung Research, Bad Nauheim (Germany)



MIN6 cells grown as pseudoislets (pancreatic beta cells). DAPI (blue), Insulin (Alexa488, green), membrane receptor (Alexa594, red), phalloidin (Alexa647, white).
Sample courtesy Dr. Rémy Bonnavion, MPI for Heart and Lung Research, Bad Nauheim (Germany).

THE THUNDER FAMILY

Advance your live cell imaging to 3D

Combine next generation 3D cell culture models with an imaging system that offers great sensitivity, speed, and image quality to advance your live cell imaging to a whole new level of physiological relevance.

Investigate tissue in a 3D context

Whether you are investigating neurite projections, the architecture of a brain, or a regenerative response, THUNDER Imager provides you a 3D tissue imaging solution that is both powerful and easy to use.

Work effortlessly with model organisms

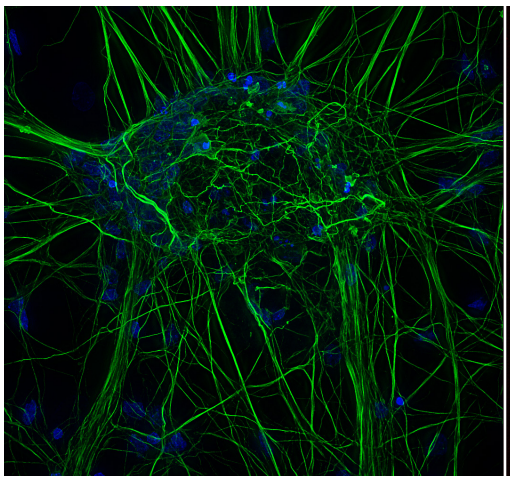
With THUNDER you can image relatively large model organisms, whether fixed or under physiological conditions (living), to gain insight and better understand their physiological and pathophysiological processes quickly.

High performance for 3D biology

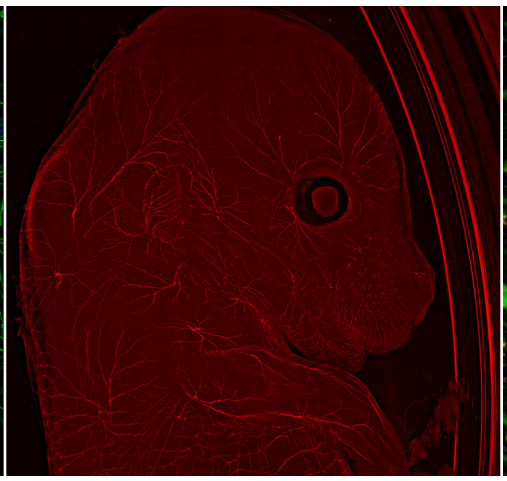
THUNDER imaging systems excel due to:

- Delivery of benchmark performance and first-rate results for your application
- Real-time removal of out-of-focus blur, thanks to Computational Clearing, now directly in your live preview
- Ease-of-use, speed, and sensitivity, just like with widefield imaging

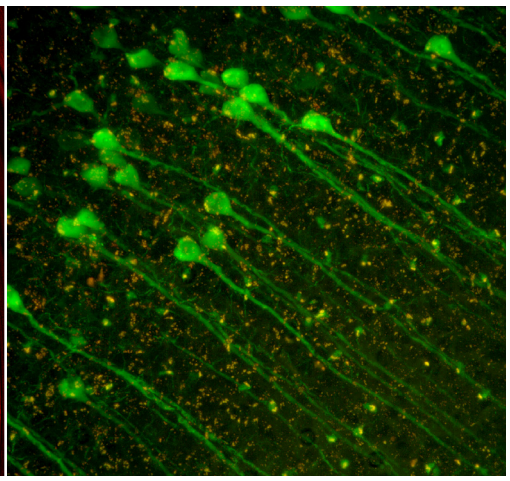
THUNDER Imager Live Cell



THUNDER Imager Model Organism



THUNDER Imager 3D Tissue



THE THUNDER TECHNOLOGY

THUNDER is an opto-digital technology that uses the Computational Clearing method to generate high resolution and high contrast images. It produces brilliant results for large image stacks, as well as single images taken deep in your sample.

THUNDER, a Leica technology, automatically takes all relevant optical parameters into account. It achieves haze-free results in real time.

Computational Clearing

Computational Clearing efficiently differentiates between signal and background by taking the size of the targeted specimen features into account. This approach makes image details immediately visible which formerly were not accessible. Acquire one image and you have stunning results displayed instantly on the screen.

Depending on the type of application, the base method can be combined with deconvolution using the Leica decision mask technique. It is fully automated and works independently without manual user input. The technique delivers high quality images at very fast speed.

Benefit from:

- Brilliant results in seconds
- Instant display of haze-free images during acquisition – no need to wait until the experiment is finished
- The effective removal of out-of-focus blur, even from single-plane acquisitions
- An extended range of applications for thick samples
- Increased statistical significance through background independent quantification
- Reduced time to result through skipping the post processing step

CONNECT WITH US!

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