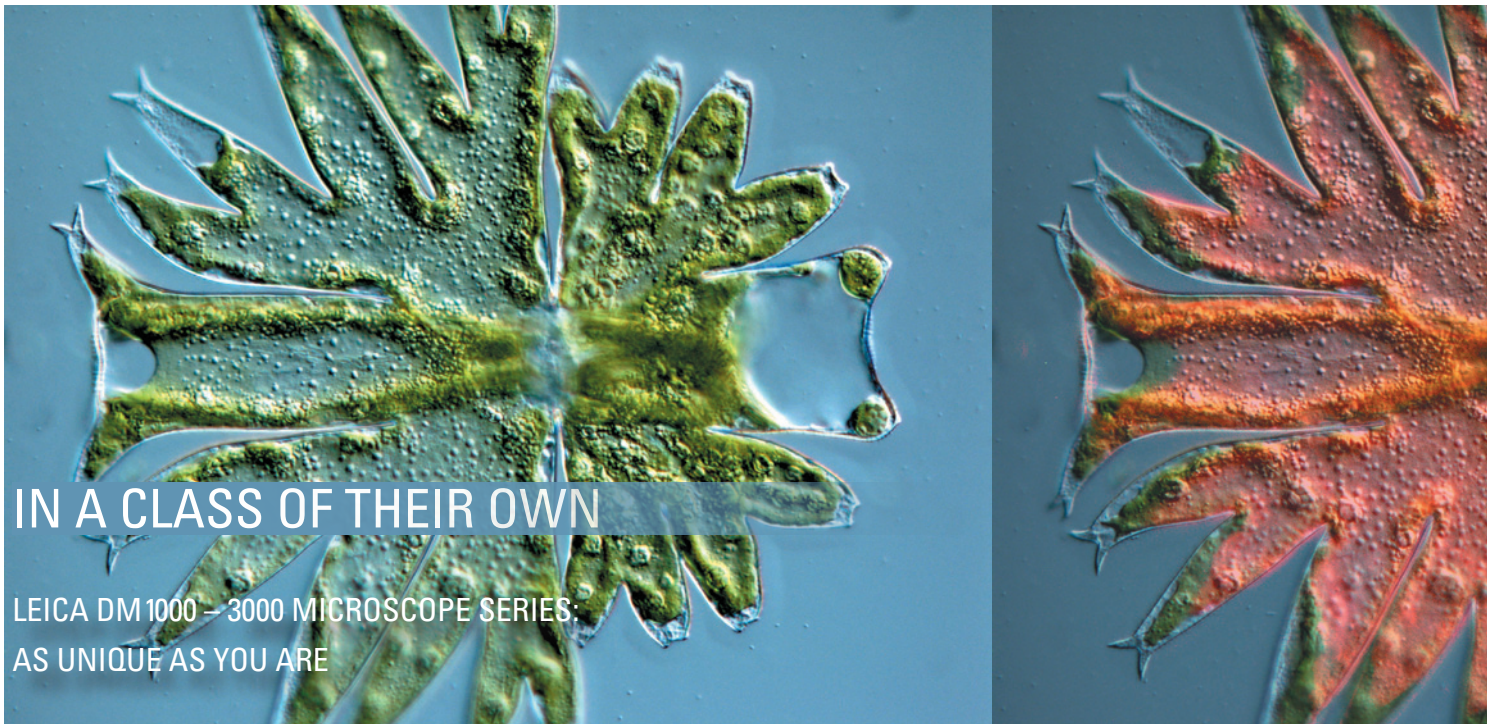
From Eye to Insight

Leica
MICROSYSTEMS

LEICA DM1000 – 3000

Microscopes for Life Science Research



IN A CLASS OF THEIR OWN

LEICA DM1000 – 3000 MICROSCOPE SERIES: AS UNIQUE AS YOU ARE

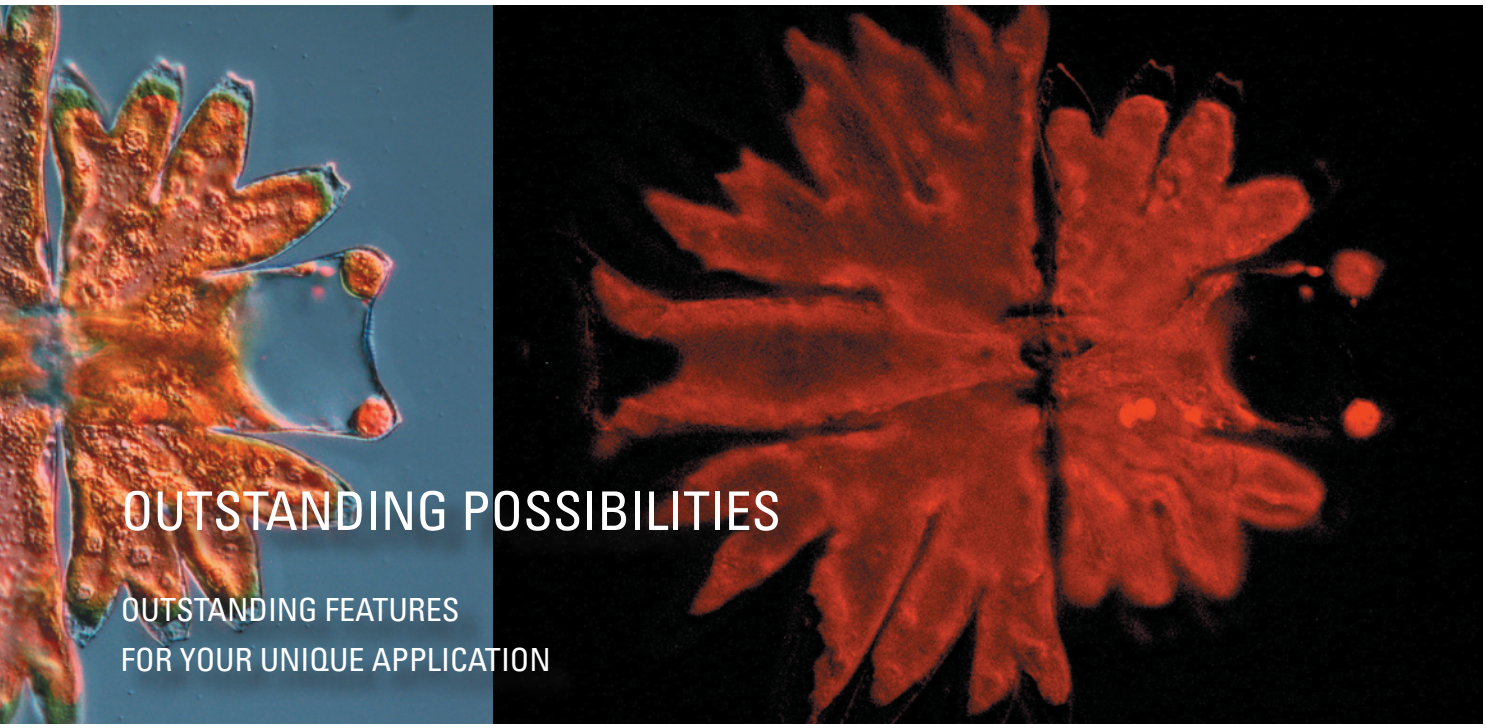
As a leading microscope and scientific instruments innovator, Leica Microsystems is at home in research facilities around the world – including those that pursue groundbreaking work and push the envelope of life science discovery.

A brief look at the Leica DM1000 – 3000 microscope series reveals why Leica Microsystems is a first choice provider of microscopes and scientific instruments. The goals of exceeding customer expectations and anticipating future needs guide Leica's research and development. The Leica DM1000 – 3000 series combines optical excellence with ergonomic design. With an unparalleled range of features, Leica Microsystems can uniquely tailor the perfect microscope system to help you achieve high-quality results in your research, and allow you to work efficiently and comfortably. The Leica DM1000 – 3000 microscopes are in a class of their own.

Outstanding image brilliance and clarity and the ability to use the full range of contrast and light microscope techniques to reveal delicate structures of even the most difficult-to-image specimens – Leica provides high-end optical capabilities at a competitive price in this performance class.

Leica's digital imaging platform is specifically tailored for all Leica DM microscopes having image analysis and management capabilities. A Leica DM microscope system can incorporate a digital camera, image processing workstation, and sophisticated software for image organization and archiving. As a one-stop vendor, Leica Microsystems provides the highest quality imaging, as well as durability – an imaging solution specifically designed for the day-to-day challenges of life science research.

Leica Design by Christophe Apothéloz



OUTSTANDING POSSIBILITIES

OUTSTANDING FEATURES FOR YOUR UNIQUE APPLICATION

The Leica DM1000 – 3000 microscope series provides a wealth of application options and features different microscope types distinguished by the tasks for which they are intended. All models can be configured to a user's specific needs and share carefully thought-out design for convenience and efficiency, as well as outstanding optical qualities. All models are well-suited for microscopic research that depends on sophisticated contrast methods. Each model features Leica's excellent optics, but the range of features is adapted to different application areas.

Leica DM3000 and DM3000 LED

The automated DM3000 (with 30 W halogen illumination) and DM3000 LED (with LED illumination) promote work efficiency with a high level of comfort. The DM3000 and DM3000 LED feature motorized objective turret, automated condenser and automatic light intensity adjustment to the light requirements of individual objectives

Applications:

> Brightfield, darkfield
> Phase contrast
> Polarization contrast
> Differential interference contrast (DIC)
> Fluorescence microscopy

Sophisticated focusing:

> Five focusing functions (coarse, medium, fine, focus height stops, adjustable torque)
> Alternatively, a conventional 2-gear mechanism
> Integrated thermal compensation eliminates focus drift, thus stabilizing stage height during long-term observation and ensuring a consistently sharp image.

Leica DM2500 and DM2500 LED

The DM2500 with powerful 100 W halogen illumination and DM2500 LED with ultra-bright LED illumination are ideal for highly light-absorbent specimens and DIC.

Leica DM2000 and DM2000 LED

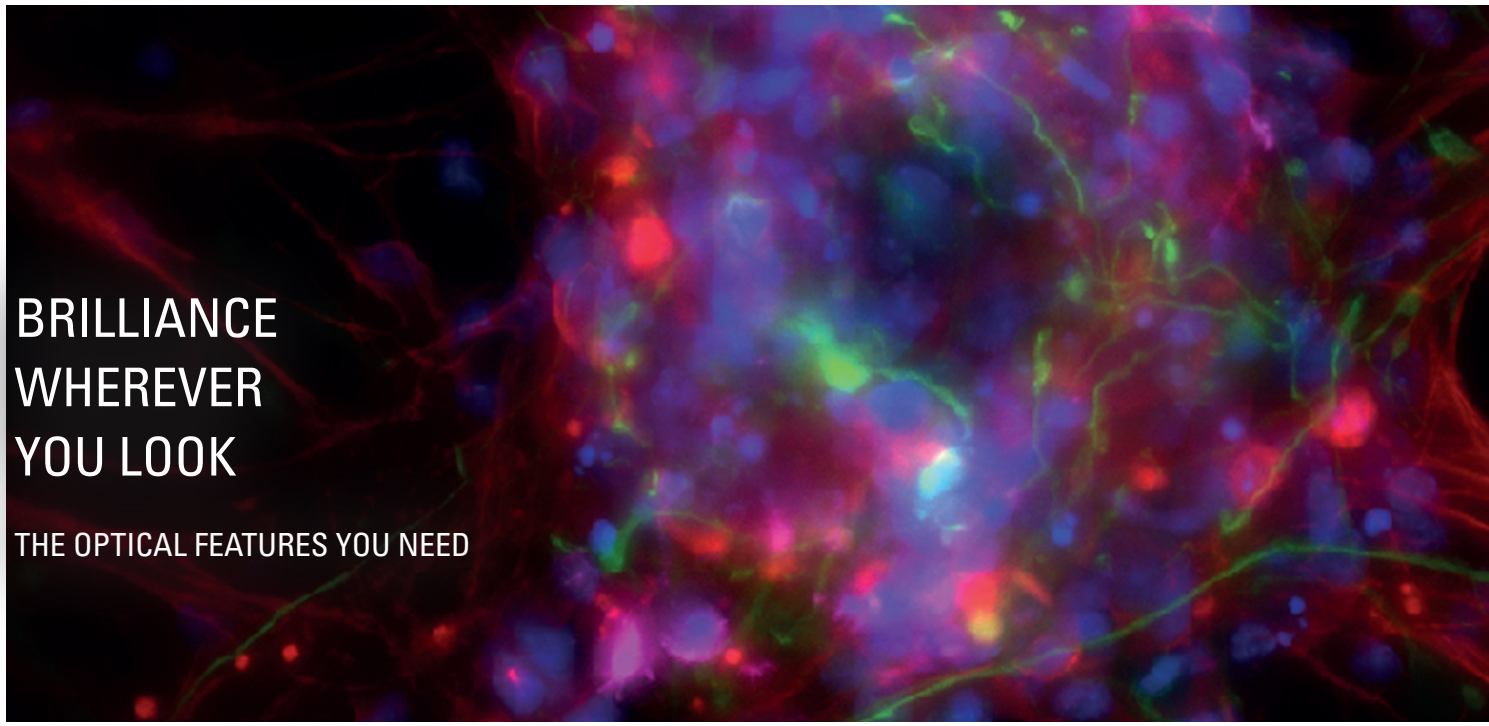
The DM2000 and DM2000 LED offer the same selection of contrast methods as the DM2500, but features 30 W halogen illumination with DM2000 and LED illumination with DM2000 LED.

Leica DM1000 and DM1000 LED

The Leica DM1000 provides the highest possible image brilliance, but without DIC. Optically, it meets the same standards as the DM2500 and can also be used as a fluorescence microscope.
The Leica DM1000 LED features LED illumination and an optional, portable power supply and integrated rechargeable battery for eight hours of operation without AC power.

Microscopy in a New Light:
Leica DM1000 LED, DM2000 LED, DM2500 LED and DM3000 LED

The Leica DM1000 – DM3000 LED microscopes offer additional convenience with long-life LED transmitted light illumination. LED illumination provides constant color temperature at all light intensity levels without heating up the specimen. The LED's high light density and optimal color reproduction provides brilliant images with a clear differentiation of the colors in the sample.
With extremely long lifetime LED of at least 50.000 hours, the LED illumination is very cost-effective, as frequent bulb-exchanges are no longer necessary. Due to the low power consumption of LED, the system is also energy efficient.



BRILLIANCE WHEREVER YOU LOOK

THE OPTICAL FEATURES YOU NEED

Razor-sharp contrast, precise contours, and brilliant fluorescence that reveals even the finest structures of dimly illuminated specimens; in terms of optical brilliance, the Leica DM1000 – 3000 series leaves nothing to be desired. Leica Microsystems offers a wide range of objectives – from planachromat with the best possible field flattening to apochromat with the highest resolution – and the ability to use sophisticated contrast methods.

Outstanding objectives:

HI PLAN Planachromat objective series delivers images of astonishing clarity with significantly improved image flattening and chromatic correction.

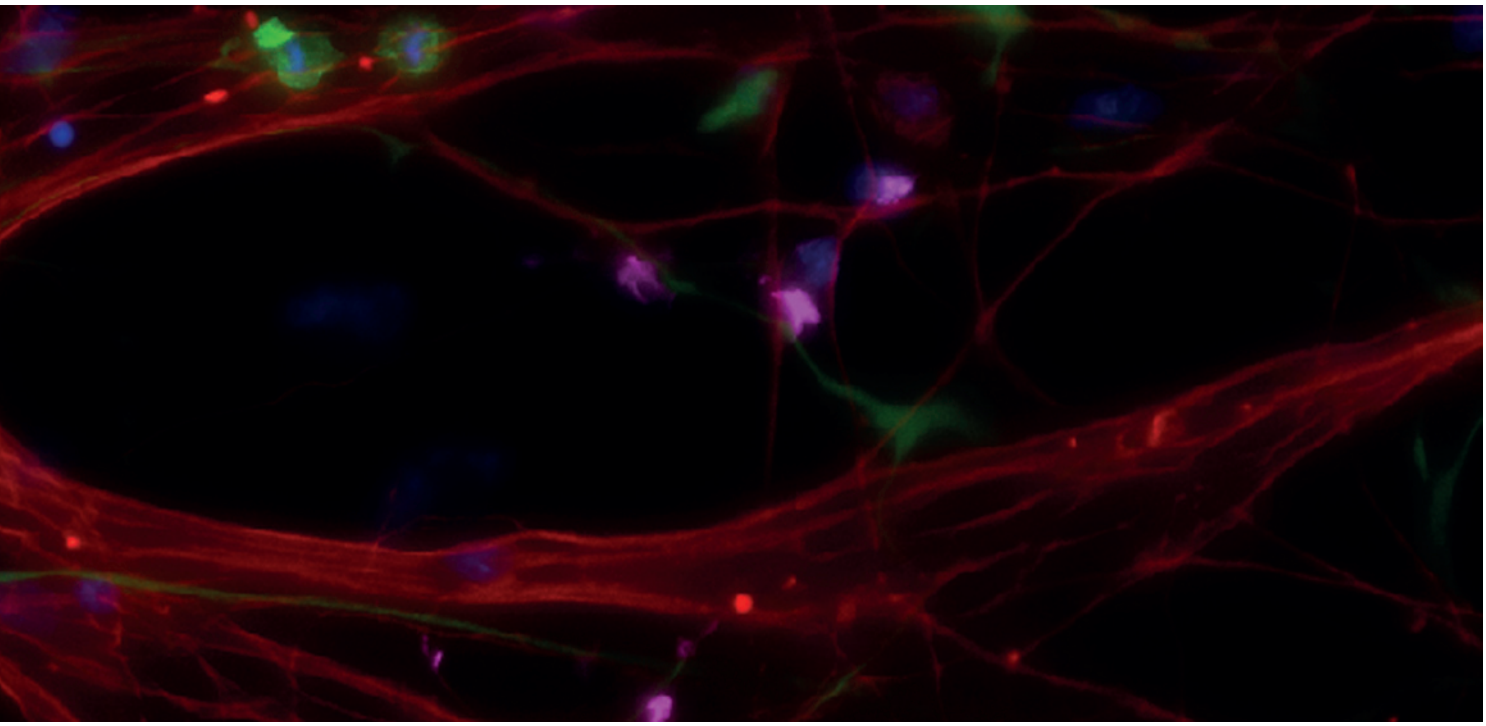
HI PLAN SL planachromat objective series maintains the brightness level at 4x, 10x, and 40x magnifications and preserves your preferred color impression. Continual adjustment of illumination intensity is history with Leica Microsystems SL (Synchronized Light) objectives.

Special HI PLAN CY 10x/0.25 objectives feature excellent field flattening and color correction, and offer a long working distance of 12mm. These objectives are also available in an SL (Synchronized Light) version.

A quick overview can be obtained with all models using the optional 1.25x screening objective.

The choice is yours: Use objectives from any Leica Microsystems` performance class, including our high-performance objectives from **PL Fluotar** class to **Leica Apochromats with PL APO** class for superior imaging quality.

The Leica DM3000 and DM3000 LED feature an automated six-position objective turret. The DM2500, DM2500 LED, DM2000 and DM2000 LED offer a choice of six or seven objective positions. The DM1000 and DM1000 LED can accommodate five objectives.

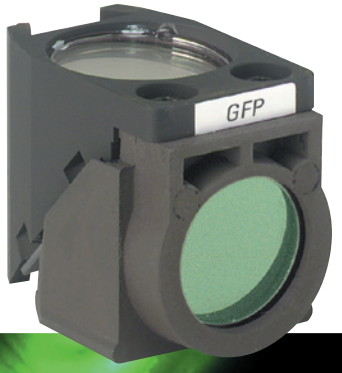


Fluorescence without compromise

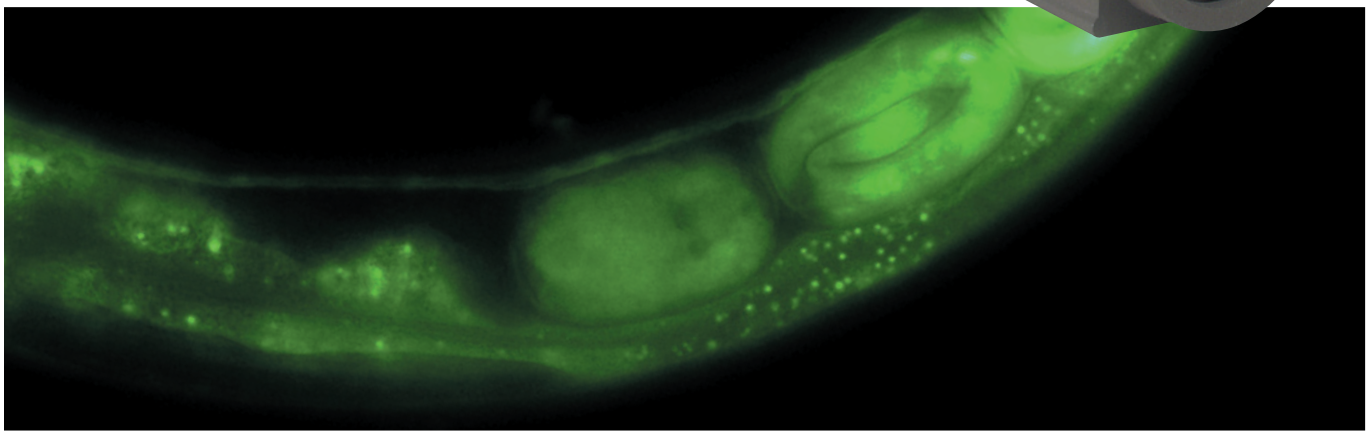
The Leica DM1000 – 3000 microscopes are optionally available with a durable, high-quality fluorescence axis. The fluorescence axis for the Leica DM2000 – DM3000 features five filter cube positions on an easy-to-turn disk. If more filter cubes are required, the convenient quick-release allows replacement cubes to be snapped into place. The integrated neutral filter allows intensity reduction, which protects the specimen. The Leica DM1000 and DM1000 LED feature three filter cube positions on a slider.

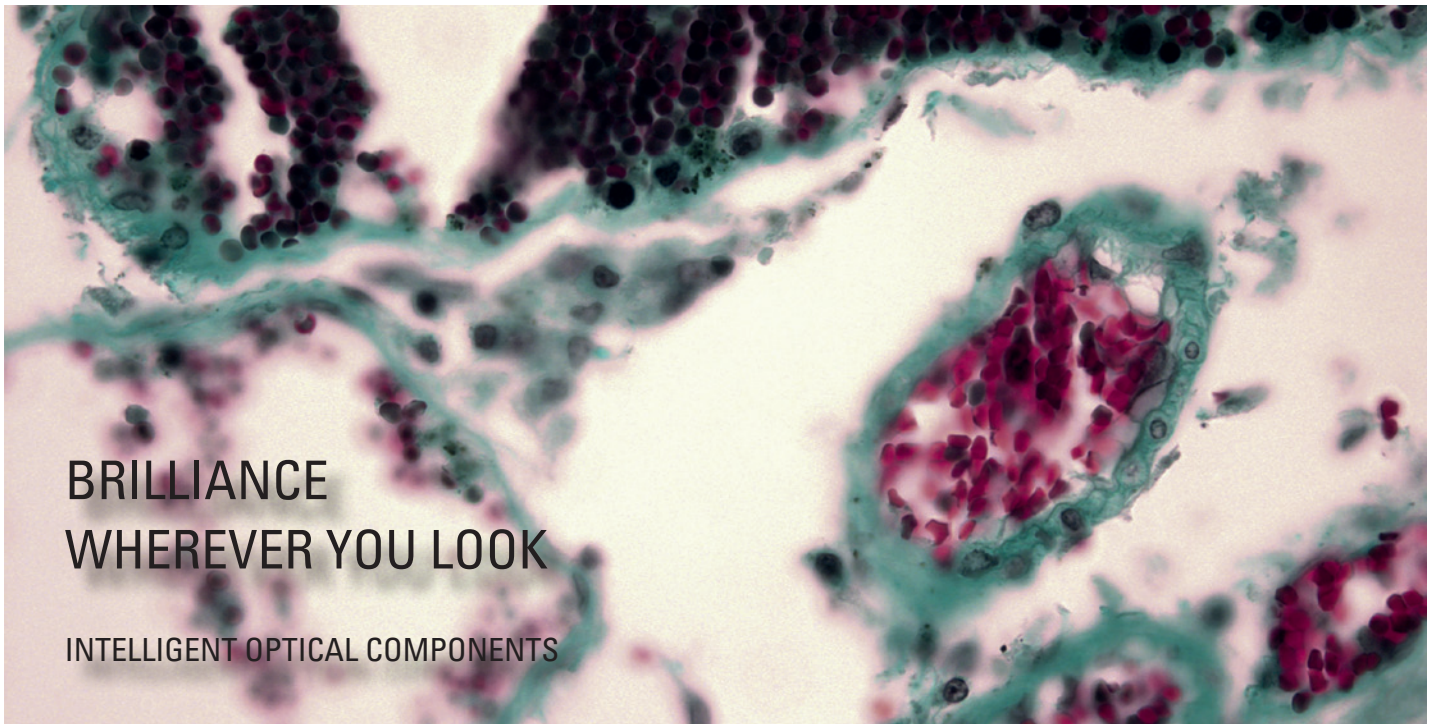
Fluorescence filter cubes

The fluorescence axis of the Leica DM2000 – DM3000 is designed to accommodate all filter cubes of Leica Microsystems' high-end research microscope range. The range of life science applications is covered completely, from routine FITC to GFP markers. The is no more need for additional BG38 filters because the new Leica K filter cubes integrate this capability. Leica Microsystems' broad range of commonly used filter cubes is also available for the DM1000 and DM1000 LED.



C. elegans, GFP expression



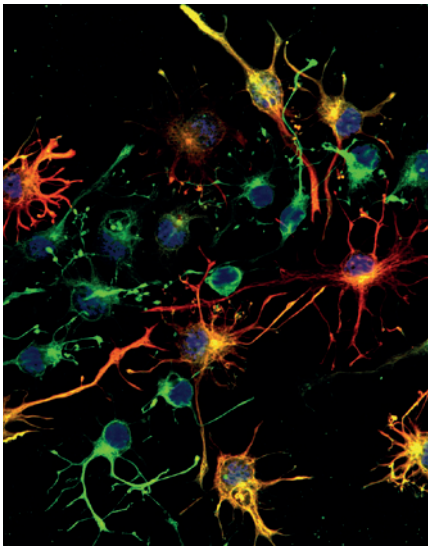


BRILLIANCE WHEREVER YOU LOOK

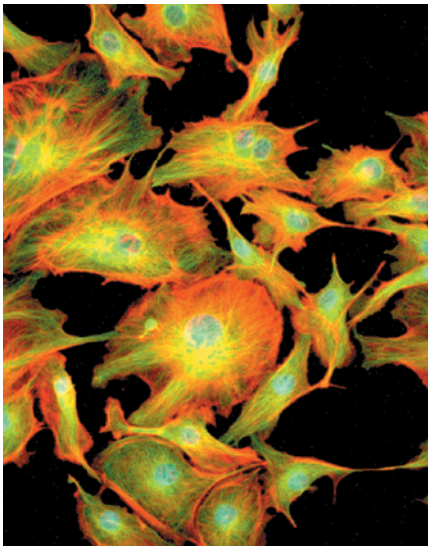
INTELLIGENT OPTICAL COMPONENTS

All filter cubes feature zero pixel shift technology which ensures correct image overlay with different filter cubes. As a result, images are accurately superimposed, remain razor-sharp, and match perfectly without tedious correction work.

Set the aperture with a single touch: The aperture scale features color markings that match the color code of the objectives. Simply match the colors and the aperture is set.



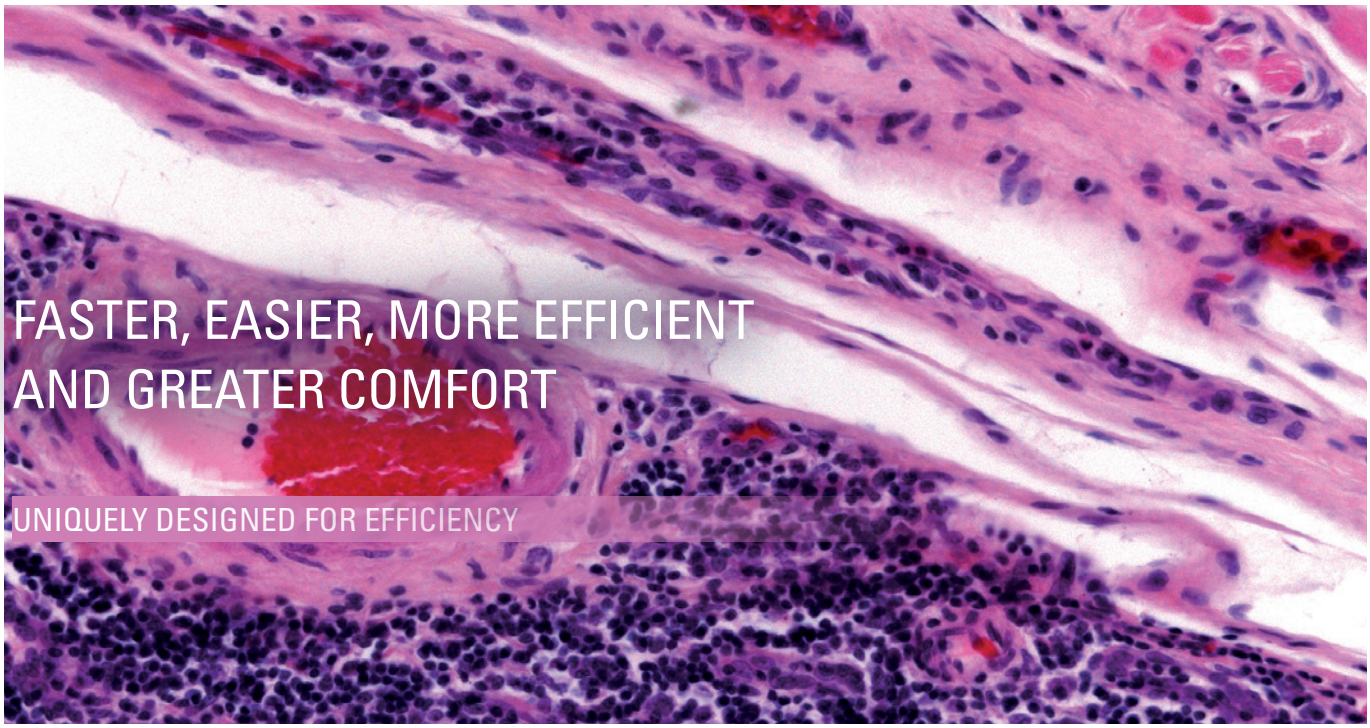
Neurons



BPAE cells with mouse anti-alpha-tubulin

Photo: Molecular Probes

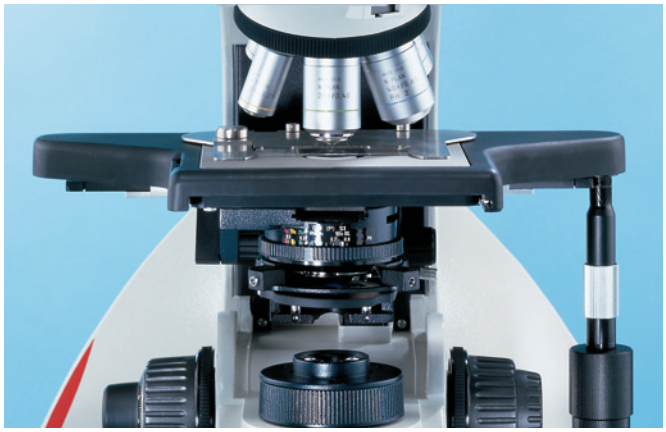

LEICA
LEICA
Leica



FASTER, EASIER, MORE EFFICIENT AND GREATER COMFORT

UNIQUELY DESIGNED FOR EFFICIENCY

Frequently, research laboratories operate under time pressure – some specimens require special attention, unforeseen events occur, or findings were due yesterday. Leica DM1000 – 3000 microscopes are up to the challenge with features that ensure speed and efficiency.

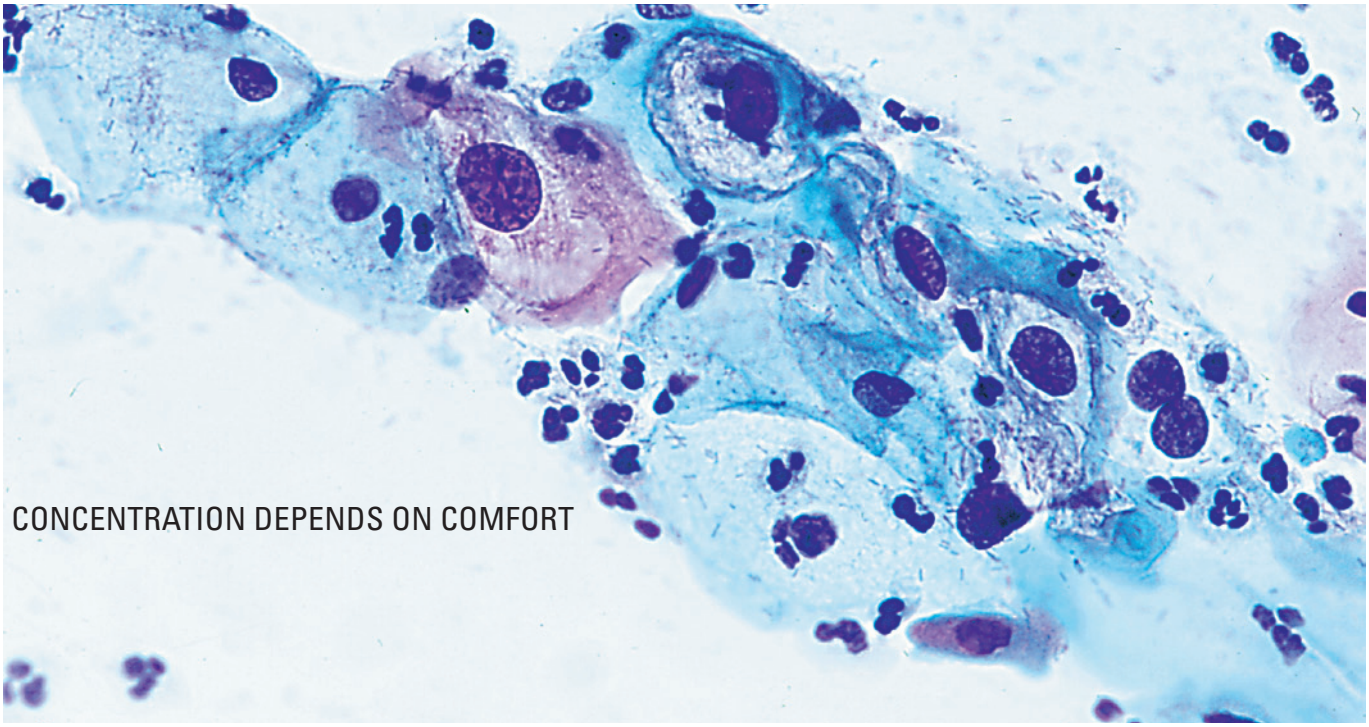


Quickly change specimens with Leica Microsystems' slide holders, designed so that slides can be changed in a single motion with one hand.

Focus and stage adjustments can be performed with just one hand. The other hand remains free for other activities such as operating the PC.

The modern stage design is rounded with no protruding parts. The entire design is compact and requires minimal space.

The stage is built to last with a hard ceramic surface that is durable enough to take years of demanding use.



CONCENTRATION DEPENDS ON COMFORT

Many laboratory activities promote poor posture, which can result in muscular tension and pain. But when it comes to microscopy, this discomfort is history: the Leica DM1000 – 3000 microscopes adjust perfectly to the physical needs of individual users – quickly, easily, and with minimal effort. They are designed to help prevent poor posture and so that the user can maintain a high level of concentration for long work sessions. Comfortable microscope use also promotes higher productivity in the laboratory.

Unique right-left handed operation* allows the controls to be switched over from the right- to the left-hand side of the microscope quickly and easily. Only one hand is required for focusing, and a user can decide which hand to leave free for other activities such as taking notes.

The user's neck remains relaxed while viewing through the eyepieces. A choice of flexible adjustment or a fixed viewing angle of 15°, various tube lengths and convenient height adjustment accessories adapt the microscope to the individual user.

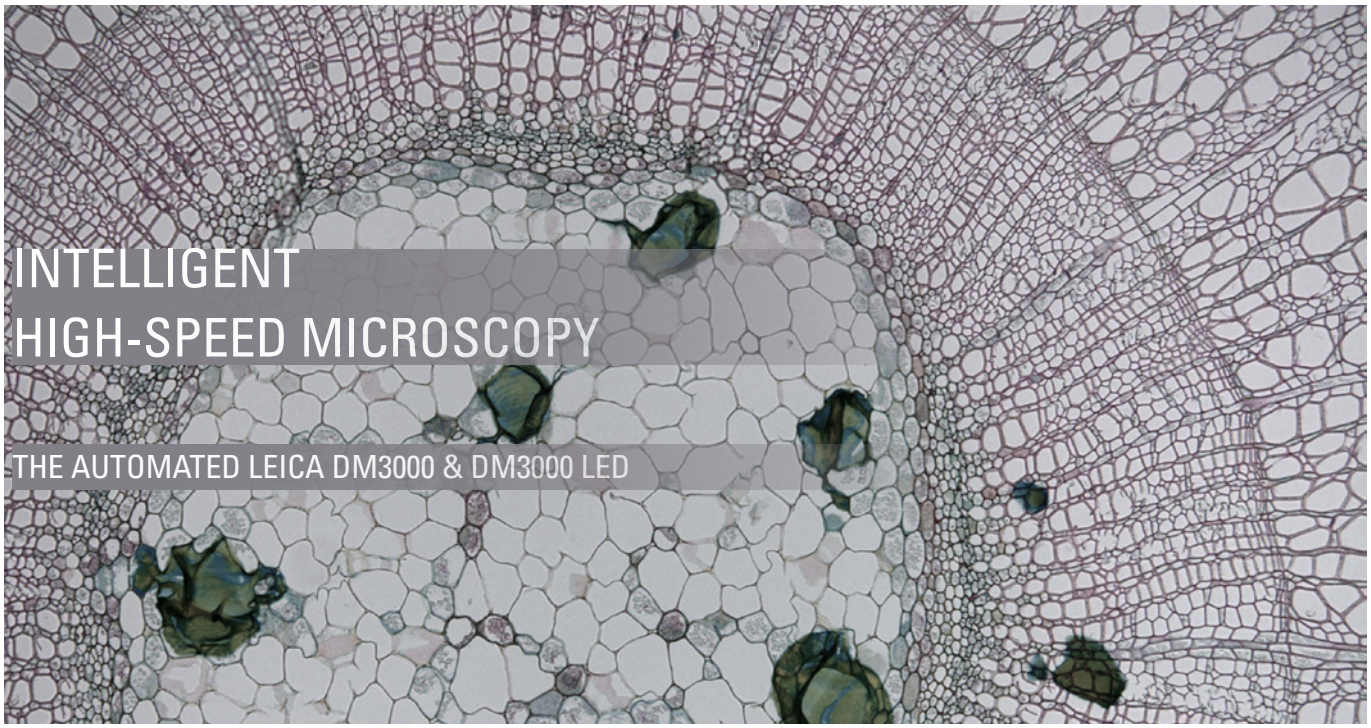
Users automatically adopt a natural, comfortable position, even after extended periods of work. The symmetrical arrangement of the stage and focus controls helps to promote the users comfort at the microscope.

The patented height adjustable focus knobs** can match the size of the user's hands for a relaxed hand and arm position – a unique advance in microscope design. The adjustment can be made in seconds, which eliminates the need for wrist supports.

The user's seat height can be accommodated with the optional ErgoLift or ergomodules. Both options represent a small investment for a major gain in comfort.

* Patented DE 10 2004 053 437 B4; US 7,283,295; JP 4886995; US 7,330,306; CN 100445795

** Patented DE 103 40 721 B3; CN 100538430 C; JP 4677213 B2; US 7,233,435



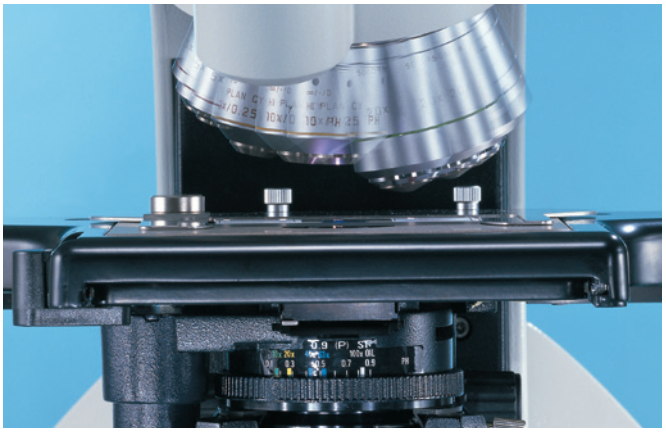
INTELLIGENT HIGH-SPEED MICROSCOPY

THE AUTOMATED LEICA DM3000 & DM3000 LED

The intelligent, automated Leica DM3000 and DM3000 LED make work at the microscope fast, convenient, and efficient – while adapting to a user's physique. With advanced features such as the unique patented toggle mode* and automated condenser, the Leica DM3000 and DM3000 LED provide the basis for fast, reliable results. Ease of use meets ergonomic design.

Automatic light adjustment for each objective change: The Leica DM3000 and DM3000 LED automatically set the light intensity to the appropriate level for any given magnification. The most recently used values are stored for each objective. The brightness impression remains constant for the observer and strong intensity changes are avoided for extended working sessions without eyestrain.

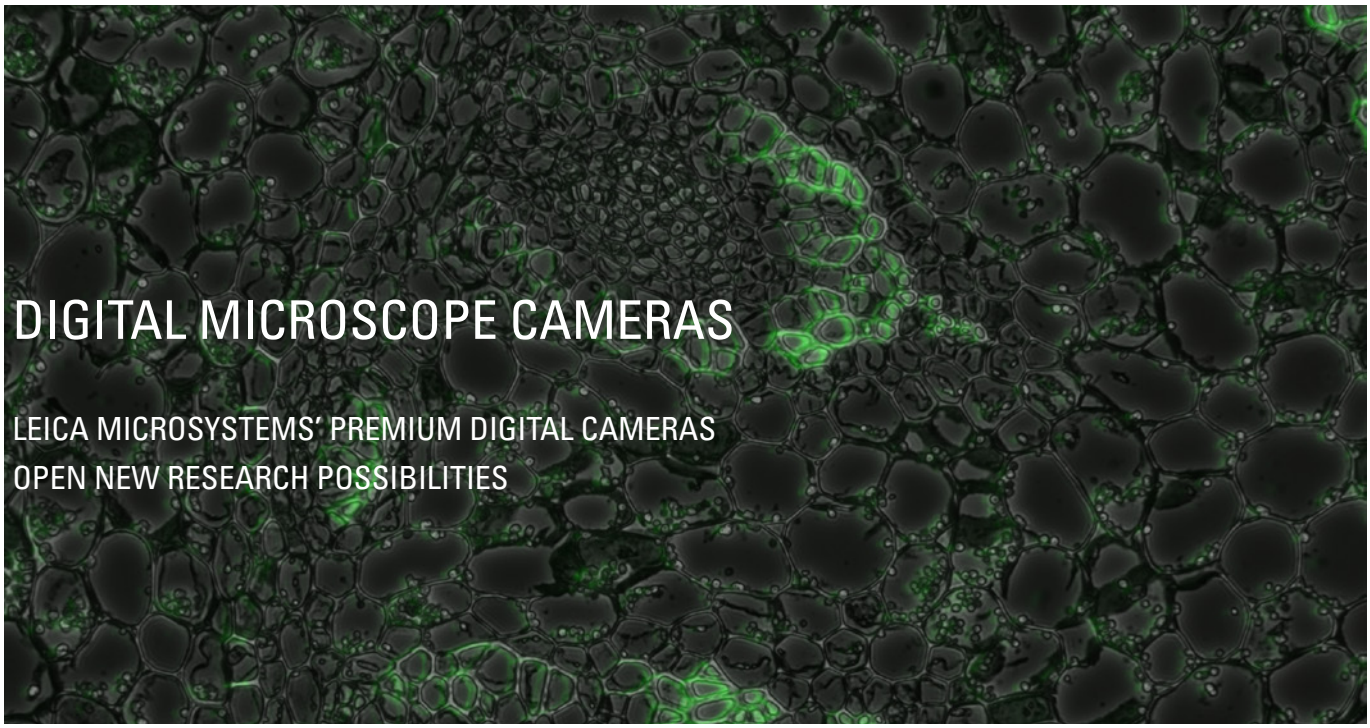
The ideal condenser settings for each objective: A condenser head automatically swings out for objectives with magnification lower than 10x and returns to proper position for higher magnifications. One less manual action – for fast, convenient work. The user can also individually adjust the position of the condenser head for special applications.



Leica's Intelligent Automation provides higher efficiency and greater convenience: The motorized objective turret changes magnifications in only half a second. Two ergonomically-positioned buttons, located behind the focus knobs, control the turret position. Six more buttons on the base of the microscope can be assigned to the six objectives. Leica Microsystems' unique toggle mode: any two of the six objectives can be easily assigned so that the user can toggle back and forth quickly between two objectives. An optional foot pedal is also available to free hands for other activities.

*Patented DE 10 2005 013 152 B4; US 7,570,421


LEICA
LEICA
Leica



DIGITAL MICROSCOPE CAMERAS

LEICA MICROSYSTEMS' PREMIUM DIGITAL CAMERAS OPEN NEW RESEARCH POSSIBILITIES

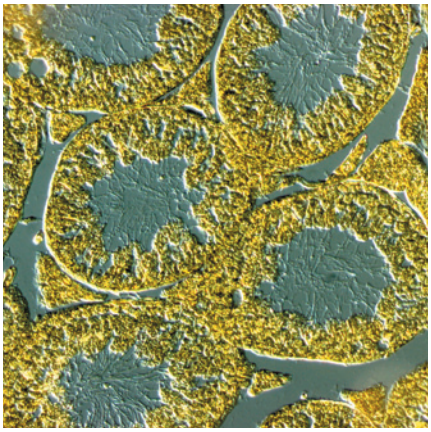
Digital recording is beneficial for research. Digitized images can be analyzed for data not easily seen by the human eye. Leica Microsystems' digital microscope cameras provide razor-sharp, brilliant images with uncompromising color fidelity. Leica Microsystems' offers a wide variety of application-specific cameras to address your imaging requirements.

Full line of digital cameras features ease of use, image clarity, and excellent color fidelity – everything needed for precise image analysis, documentation, and reporting.

For fluorescence photography, Leica Microsystems has developed digital cameras that deliver brilliant images from even very faint fluorescence specimens.

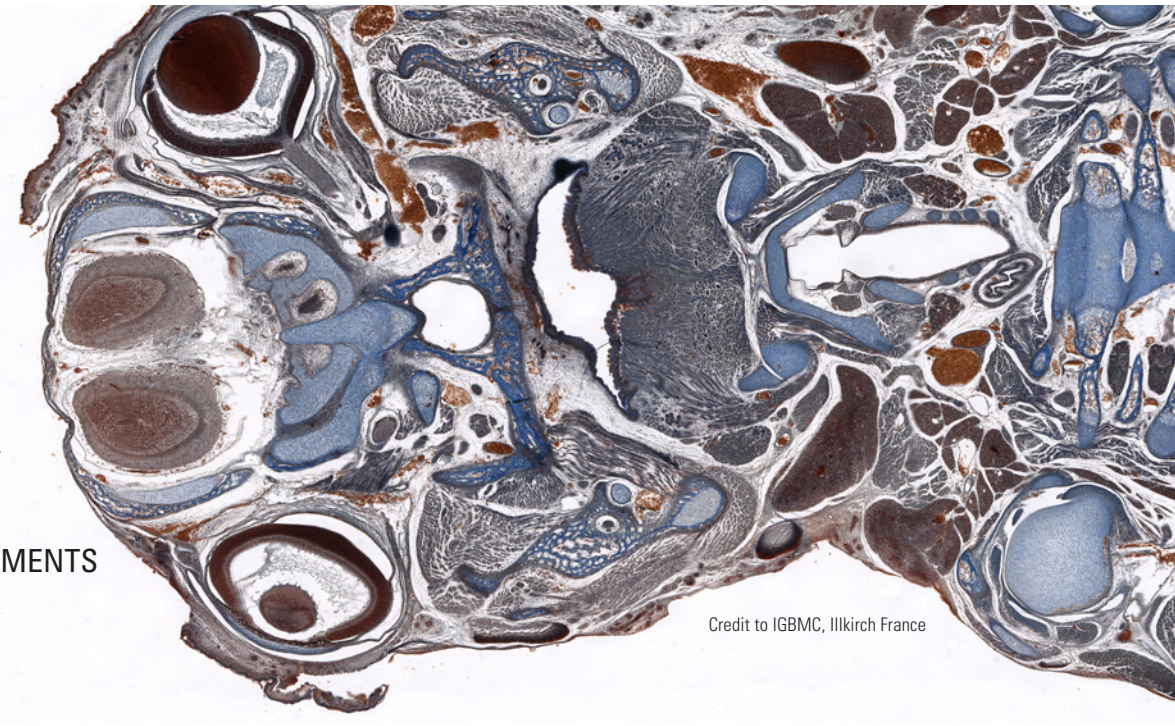
High-end digital cameras capture the finest structures and most subtle color nuances and are suitable for all contrast methods, brightfield and darkfield, and even dimly illuminated specimens.

Testis of mouse showing spermatogenesis




1150C

MICROSCOPE IMAGING SOFTWARE



Credit to IGBMC, Illkirch France

IMAGE MANAGEMENT TAILORED TO SPECIFIC LABORATORY REQUIREMENTS

Leica Microsystems can precisely tailor an image analysis and management system to a laboratory's unique requirements. Leica Microsystems provides a variety of image analysis options that harmonize perfectly with Leica digital cameras and image management software packages. You can count on smooth-running, reliable image analysis and fast, effective image management.

Leica Application Suite LAS – Easy and Efficient

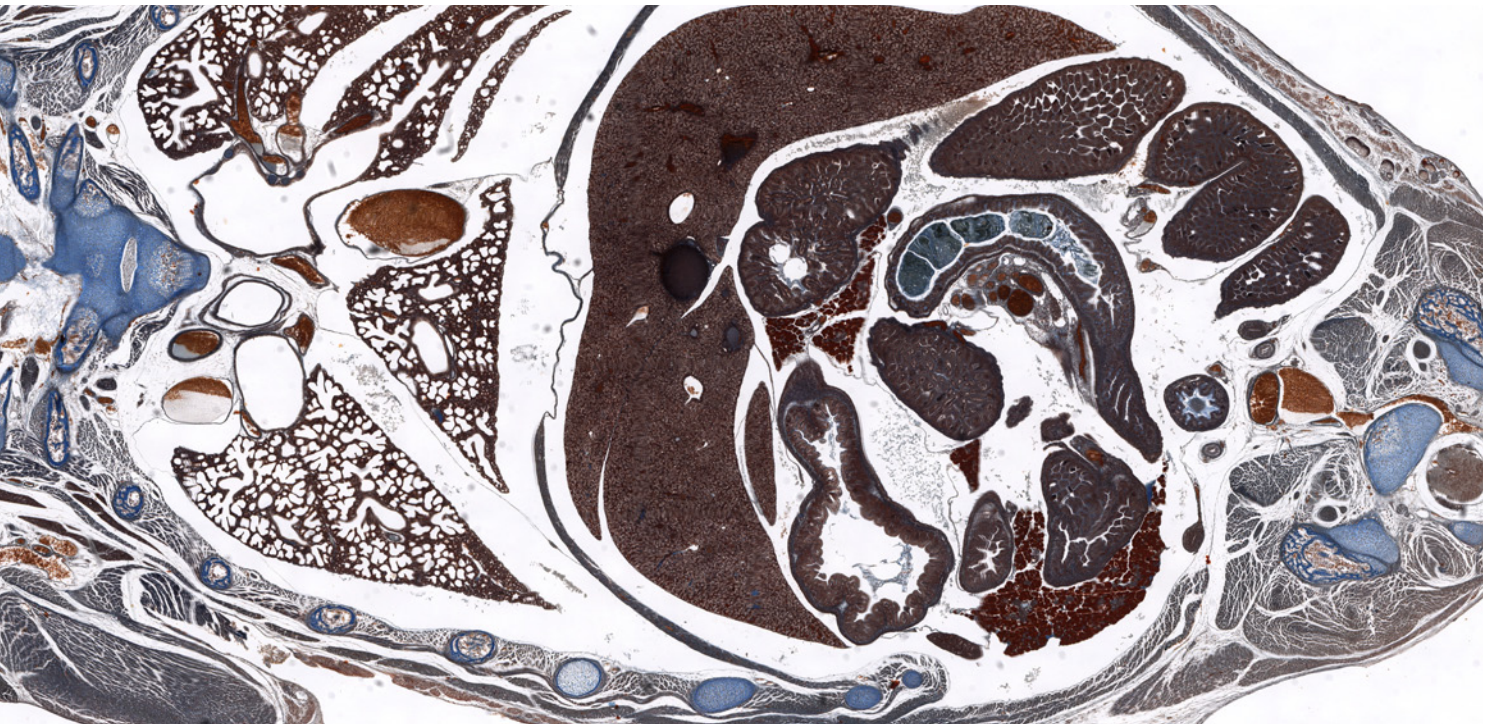
With its wide range of imaging capabilities, LAS provides an excellent software platform for life science researchers making it easy to complete demanding tasks from acquisition, to analysis and to the final report or research paper. Due to its modular structure, LAS can be tailored to fit the specific requirements of a vast range of life science research applications.

Leica Application Suite X – Imaging and Analysis Software for Life Science Research

Leica Application Suite (LAS X) is the easy to use software platform for advanced life science research with Leica Microsystems microscope systems and is ideal for the whole spectrum of fluorescence applications from routine work to sophisticated imaging tasks in biomedical research such as fast multidimensional fluorescence scans and processing.

Leica DM2500 LED

Leica DM3000 LED



Leica Microsystems' imaging solutions were developed in close cooperation with researchers working in the relevant fields to ensure that they deliver genuine solutions and truly enhance the laboratory work for which they were intended.

www.leica-microsystems.com

CONNECT
WITH US!

Leica Microsystems CMS GmbH · Ernst-Leitz-Strasse 17–37 · D-35578 Wetzlar
T +49 64 41 29-40 00 · F +49 64 41 29-41 55

www.leica-microsystems.com