Your microscopes for laboratory and teaching.
Your microscopes for increased efficiency in the lab and for more fun in teaching and working.

Enjoy the convenience for your daily checks, every day. Choose a sturdy microscope that is easy to use and has a long life. Make the best of your tuition and work with ZEISS microscope systems.

Use a microscope to investigate cells and body fluids in your laboratory. You prepare, manipulate, or document human, plant, or animal organisms, often for several hours at a time. You assess the quantity, type, and characteristics of blood cells. You need convenient and efficient solutions. You need to easily operate your microscope and expect excellent optical performance. Does your microscope need to fit into a restricted space?

Enjoy the convenience of ZEISS laboratory microscopes for your daily checks, every day. These ergonomically designed microscopes are so flexible that they adapt to you and your working procedures. They speed up your daily routines. And they have an outstanding price–performance ratio.

For your training courses, you can rely on a sturdy microscope that is easy to use and has a long life. Teaching involves demonstrating procedures and then jointly considering and discussing the results. You can use the iPad imaging app Labscope to document and analyze your samples. You can also connect several microscopes to make a digital classroom and allow your students to simultaneously participate in your observations – on a mobile basis. ZEISS systems can make your courses a real success both for you and your students.
Select your system according to your requirements.

Whether you use your microscope for training or for your daily laboratory investigations, your experience and knowledge grow from day to day. Of course, your microscope has always to perform reliably and should be easy to use. ZEISS microscopes have been optimized for use in your medical laboratory or your training department. The systems make it easier for you to efficiently apply your knowledge and methods on a daily basis.

Stereo Microscopes and Zoom Microscopes
ZEISS Stemi 305
ZEISS Stemi 508
ZEISS SteREO Discovery.V8
ZEISS Axio Zoom.V16

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Upright Microscopes
ZEISS Primo Star
ZEISS Primo Star iLED
ZEISS Axiolab 5
ZEISS Axioskope 5
ZEISS Axio Imager

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Inverted Microscopes
ZEISS Primovert
ZEISS Axio Vert.A1
ZEISS Axio Observer

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Connectivity and Documentation
ZEISS Labscope
ZEISS Axiocam
ZEISS ZEN lite
ZEISS Multidiscussion

Page 42
Stereo Microscopes and Zoom Microscopes
Brilliant 3D impressions with good depth of field.

With these microscopes, you can observe your large or living samples nondestructively and without needing complex preparation. Zooming smoothly, you can adjust the magnification to your object and analyze its morphology. In the lower overview magnification, you can screen and sort your samples. Then, with higher magnification, you can effortlessly analyze details and prepare and manipulate the samples thanks to a large working distance that enables good access to them.
Stereo Microscopes and Zoom Microscopes

Stereo Microscopes and Zoom Microscopes

Stemi 305 is your compact Greenough stereo microscope with 5:1 zoom. Equally at home in the biology classroom, research lab or on the industrial shop floor. Observe your samples as they are: three dimensional and crisp in contrast with no preparation required. Then share your images, whenever you want.

Profit from an easy-to-use microscope, where everything is integrated: long-life LED illumination, reflected and transmitted light and documentation. Stemi 305 makes documentation easy and affordable. Simply snap your images with the integrated 1.2 Megapixel Wi-Fi camera and share them using Labscope, the iPad imaging app. Or opt for the conventional phototube to have access to all Axiocam cameras and free ZEN lite imaging software.

Configured to Your Requirements

Microscopes
Stemi 305
Stemi 305 trino with phototube (fixed division 50/50)
Stemi 305 cam with integrated camera

Stands
Stand K, stand K MAT, stand K EDU, stand K LAB, Boom stands: stand A, stand U with tilting arm

Illumination Techniques
Reflected light, transmitted light and variable mixed light
Brightfield, darkfield and oblique light, polarization

Illumination
Reflected light: spot, double spot, ring light, near vertical, polarization
Transmitted light: homogeneous brightfield, darkfield, oblique light with relief contrast, polarization

Accessories
Eyepieces and interchangeable front optics, eyepiece reticles, fiberoptic cold-light sources with various light guides, stages, polarization accessories


- Stemi 305 integrates everything you need. This compact Greenough stereo microscope comes without additional boxes and cables.
- With the microscope camera already on board, you’re prepared to save your results, share your images and collaborate on projects with friends, colleagues and classmates.
- An LED illumination is already integrated in stands K EDU/LAB/MAT and provides reflected, oblique and transmitted light. Easily select and mix the integrated LED illuminations such as vertical and oblique reflected light, so as transmitted light.
- Stemi 305 comes with two options for documentation. Choose the conventional phototube and have access to all Axiocam microscope cameras.
- With the iPad imaging app Labscope you create your own digital classroom and share your images.
- Stemi 305 microscope sets for education, lab and industry ensure optimized object illumination for your application.

Created for Your Applications

- You observe and identify biological samples during biology lessons, in the classroom, and in the lab.
- In a teaching environment you connect microscopes and build up your own digital network.
- In your practical botanical work, you investigate the morphology of plants’ organs. Your zoological studies deal with worms, snails, spiders, frogs, crabs, eggs, and larvae.
- As a fungus expert, you investigate the macroscopic characteristics of the fruiting bodies of large fungi to differentiate between edible mushrooms and inedible look-alikes. The Stemi 305 large working distance allows you to examine whole mushrooms without the need for extensive preparation.
- Are you a veterinarian who carries out investigations and does surgery? Then you will particularly appreciate the shadow-free, homogeneous illumination provided by Stemi 305 as well as the flexible alignment of the microscope with stand U with tilting arm.
Stemi 508 is compact, reliable and equipped with optics and mechanics designed for heavy workloads. With the large 36 mm object field you always keep the overview of your sample. The 8:1 zoom then allows to bring details up to 50× magnification. You even have larger samples? Add interchangeable optics and observe an area of up to 122 mm, making Stemi 508 a top performer. Stemi 508 offers better ergonomics than any other Greenough-type stereo microscope: The low viewing angle of 35° lets you keep a relaxed posture even after hours of work.

With Stemi 508 you observe and document your samples exactly as they are: rich in detail, sharp in focus and free from distortion or color fringes. Stemi 508 is your robust all-rounder for everyday lab work and industrial inspections: accurate, ergonomic – and always easy to use.

Configured to Your Requirements

Microscopes
- Stemi S0B
- Stemi S0B doc with phototube and (100/0 switchover)

Stands
- Stand K, stand K MAT, stand K EDU, stand K LAB, stand N
- Boom stands: stand A, SDA and stand U with tilting arm

Illumination Techniques
- Reflected light, transmitted light and mixed light
  - Brightfield, darkfield and oblique light, polarization

Illumination
- Reflected light: light guides for spot, ring, line, vertical, diffuser, and area illumination, direct LED spots and segment ring lights
- Transmitted light: brightfield, darkfield, oblique light with relief contrast and polarization option

Accessories
- Interchangeable eyepieces and front optics, reticles, camera adapter, cold-light sources with various light guides, gliding stage, rotating stage, ball-and-socket stage, polarization accessories


- Thanks to their excellent optics, Stemi 508 stereo microscopes provide a crisp and highly resolved threedimensional image, sharp in focus and free of distortions or color fringes.
- Enjoy the 8:1 zoom range and observe even minute structures. Zoom in on details, either continuously or reproducibly by adding click stops. Due to mechanical corrected zoom curves and precise zoom mechanics, the image stays sharp in each zoom position.
- The large field of view lets you overview an object area larger than 35 mm in diameter. The 0.3× supplementary lens even expands this to 123 mm.
- Stemi 508 doc always comes with camera adapter 0.5× to connect Axioacam microscope cameras.
- Configure exactly the stereo microscope you require – select from stands, mounting brackets and stages. A large range of fiberoptic or direct LED accessories allow various illumination contrasts in reflected and transmitted light, such as brightfield, darkfield, oblique light and polarization.

Created for Your Applications

- You work in developmental biology with model organisms such as Drosophila, C. Elegans, or Xenopus. You assess, select, and prepare eggs, larvae, and embryos using micromanipulators.
- You are an entomologist who identifies insects, sometimes in the field – for example to map biotopes.
- You look for and classify horse or cattle embryos for subsequent transfer or for deep freezing for breeding purposes. Then you need high-contrast oblique transmitted light.
- Do you study, compare, and document plants from your herbarium? Then, for your larger samples, you will need a boom stand, a large working distance, and a maximum field of view.
- You look for and identify macroparasites such as ticks, fleas, and lice, as well as their eggs and larvae.
Stereo Microscopes and Zoom Microscopes

SteREO Discovery.V8 is equipped with open interfaces and is completely integrated into the ZEISS system. Its modular design and extensive accessories offer you a variety of options to set up your workplace to your exact requirements. You can configure your microscope as a manual microscope for the preparation of specimens, as a powerful tool for fluorescent screening with easy-to-use documentation, or as a largely motorized system with ergonomic operation and imaging options.

The impressive stereoscopic image helps you to better observe, understand, and manipulate your specimens. You get a high-resolution, high-contrast, and apochromatically corrected microscopic image – that has sharp edges over the entire field of view and is always in focus when zooming. With its 8× zoom, you can quickly change from the overview down to the magnified detail. Add in click stops to the continuous zoom and you can easily reproduce ten discrete levels of magnification so that you can correctly scale your images.

SteREO Discovery.V8

Acquire brilliant, high-contrast, three-dimensional images.

Configured to Your Requirements

Microscopes
SteREO Discovery.V8 (manual)

Illumination Techniques
Brightfield, darkfield, oblique light, polarization, fluorescence

Illumination
Reflected light: fiber-optic cold-light sources with spot, ring, line, vertical, diffuser, area, and coaxial illumination, LED ring lights with a segment function
Transmitted light: fiber-optic setup 450 with sliding mirror, low-profile LED setup 300

Accessories
Interchangeable lenses, observation and intermediate tubes, additional viewer attachments, illumination, manual and motor-driven stands, cameras, software modules to document images and for image processing


- The intermediate LED tubes for fluorescence have been designed for screening tasks. They are high performance, robust, and easy to use. For this, they combine Achromat S lenses with high transmission.
- With the PlanApo S objective lenses, you get a level image with sharp edges and no distortion or color fringing.
- The 300 and 450 stands ensure vibration-free 3D viewing – even at high magnification.
- Choose between the variably adjustable fiber-optic transmitted light 450 unit and the especially low-profile 300 LED unit.

Both units offer brightfield, darkfield, oblique-light, and polarization contrast.

- ZEISS cold-light sources provide intense light that is free from infrared to prevent damage to your sample. Long-life LEDs make lamp changes a thing of the past. A wide spectrum of light guides guarantees that your specimens’ structures are optimally emphasized.
- In macroscope mode, you observe your specimen vertically through the right-hand stereo channel. You can produce z-stacks that are free from parallax errors and with increased depth of field.

Created for Your Applications

- You work in embryology and prepare model organisms for more extensive imaging using laser scanning microscopes. Then the 5 – 45° ergotubes ensure that your working posture is ergonomic.
- You can document the embryonic growth of your zebra fish with the time-lapse module in the ZEN imaging software.
- You assess the health of plants or seeds, or you identify pathogens and record their incidence. When investigating whole plants, you will benefit for the large focusing range and the large sample space.
- In their biology classes, your students can draw plants and animals using drawing-tube attachment S. You can teach the preparation of samples or monitor it in 3D with the additional viewer attachment S.
- Do you carry out IVF or ICSI treatments in a fertility clinic? Then with SteREO Discovery.V8, you can isolate the eggs before fertilization and then later assess the growing embryos.
- In the forensic department, with the plan apochromatic lens, you can compare fibers and hairs with no color tints.
- Your task is restoration of precious museum artefacts? SteREO Discovery.V8 is an essential tool in restoration of museums collections to preserve Cultural Heritage for future generations.
Axio Zoom.V16 offers you a successful combination of a large field of view, zoom, and working distance as in a stereo microscope together with the high resolution of a light microscope.

With the Axio Zoom.V16 zoom microscope, thanks to its double-sized basic aperture compared to powerful CMO stereo microscopes, you benefit from a resolution that is 2.5× higher, as well as fluorescence that is 10× brighter in comparable fields of view. As needed, you can quickly and easily switch in the stereoscopic image.


- With a 16x zoom and a basic aperture of 0.25 (with a 1x objective lens), with Axio Zoom.V16 you will benefit from what is currently the most powerful available stereo or zoom microscope.
- Axio Zoom.V16 offers you a high resolution of 0.3 μm in a large field of 1.6 mm.
- Its patented eZoom allows you to choose between optimized zoom modes for viewing through the eyepiece, for fluorescent applications, or for the documentation of images.
- With eZoom, you get reproducible magnifications with accuracy of over 99%.
- Take advantage of the intelligence of the 450 mot transmitted-light module. When zooming in **Best Mode**, you get an image that is automatically optimized for contrast and brightness, while taking account of the microscope’s current state.

**Created for Your Applications**

- Use Axio Zoom.V16 when you need more resolution in larger fields.
- You benefit from the significantly higher aperture if, with image processing software, you manage to add value to the information in the image compared to the classical view through the eyepiece.
- Axio Zoom.V16 offers you high optical performance together with large working distances, which are of particular importance when manipulating your specimen. As well as in museums collection restoration.
- Do you need to investigate model organisms and zoom from a large overview down into the smallest details of organs, tissues, and individual cells? Then Axio Zoom.V16 is your best choice.

**Configured to Your Requirements**

**Microscopes**
- Axio Zoom.V16 (manual focus)
- Axio Zoom.V16 (motor-driven focus)

**Illumination Techniques**
- Brightfield, darkfield, relief contrast with reflected, transmitted, and mixed light, polarization, fluorescence

**Illumination**
- Reflected light: fiber-optic cold-light sources with spot, ring, line, vertical, diffuser, area, and coaxial illumination with switchable relief illumination, LED ring lights with a segment function
- Transmitted light: fiber-optic setup 450 with sliding mirror, low-profile LED setup 300

**Accessories**
- Interchangeable lenses (objective lenses, eyepieces), observation and intermediate tubes, manual and motor-driven stands, manual and motor-driven stages, cameras and software modules to document images and for image processing

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**ZEISS Axio Zoom.V16**

Your zoom microscope for high resolution in large fields.

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Tick (Ixodida) from below, objective lens PlanApo Z 2.1×/0.25 WD 60 mm, autofluorescence, 20×

Fruit fly (Drosophila), objective lens PlanNeoFluar Z 2.3×/0.57 WD 10 mm, multiple fluorescence
### Technical Specifications

Choose the microscope system that best matches your application.

#### General
- **Model type**: Two zoom systems, arranged in parallel, with a common main objective lens.
- **Parfocal zoom**: Your specimen will stay in focus when zooming.
- **Axial mode** for vertical observation.
- **Zoom factor**: 5:1, 8:1, 8:1, 16:1.

#### Optical System
- **Modular intermediate tubes** – 40 mm spacing ergotube, (through eyepieces)
- **Stereoscopic image**: 25×/10 25×/10 25×/10 25×/10

#### Eyepieces
- **Optical Data with Interchangeable Lenses**
  - **Magnification**: 8–40×, 6.3–50×, 10–80×, 7–122×
  - **Field size**: 28.8–5.8 mm, 123 mm, 23–2.9 mm, 33–2 mm
  - **Zoom factor**: 5:1, 8:1, 8:1, 16:1

#### Microscope Body
- **Zoom tube**: 5.1, 8.1, 8.1, 16.1
- **Low-distortion zoom optics**
- **Apochromatically corrected zoom lenses** –
- **Parfocal zoom**: Your specimen will stay in focus when zooming.
- **Axial mode for vertical observation, free from parallax errors** –
- **Viewing angle**: 45°, 35°, ergotube 5–45°, 20°, ergotube 5–45°
- **Eyepieces**
  - **10×/23 (included)**, 16×/14, 16×/16, 10×/23, 16×/16
  - **Eyepieces with dipter adjustment, incl. eyepiece**: 25×/70, 25×/70, 25×/70, 25×/70

#### Microscope Spec
- **Viewing tubes** –
- **Modular intermediate tubes** –
- **Viewing tubes with/without camera output, ergotube with extended eyepiece tube**
- **Fluorescence attachment, co-axial reflected illumination**
- **Fluorescence attachment, co-axial reflected illumination**

- **Available**
- **Optional**
- **Not available**

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#### Stereo Microscopes and Zoom Microscopes

<table>
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<th>Magnification</th>
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<td>Steri 508</td>
<td>2–250×</td>
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<td>300</td>
</tr>
<tr>
<td>SteriREO Discovery.V8</td>
<td>3–460×</td>
<td>346 LP / mm, 1.5 µm</td>
<td>745 LP / mm, 0.7 µm</td>
</tr>
<tr>
<td>Axio Zoom.V16</td>
<td>3.5–644×</td>
<td>346 LP / mm, 1.5 µm</td>
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#### Documentation options
- **Steri 305**: Photostitch with 50/50 split to the left. Built-in co-axial mount adapter 0.5× for 2055 Axioscam cameras.
- **Steri 508**: Built-in 1.2 MP Wi-Fi camera, to be used with iPad imaging labSpace.
- **SteriREO Discovery.V8**: Photostitch with 0/100 switch to the right.
- **Axio Zoom.V16**: Built-in, changeable co-axial mount adapter 0.5× for 2055 Axioscam cameras.

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#### Stands
- **Bench stands**: Stands A and U, Stands A, SDA, and U, Stands A and SDA, Stands SDA

#### Illumination
- **Integrative LED illuminations (stands K)**
  - **Integrated near vertical LED spot**
  - **Spot K, height adjustable, rotatable polarization stage**
  - **Double spot K, gooseneck**
  - **Segmentable ring light K**
  - **Flat transmitted light stand**
  - **Microscope-based transmitted light stand**

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#### Fiberoptics
- **Cold light sources (LED or halogen)**
- **Achromat S 0.3×, 0.5×, 0.63×, 1×, 1.5×**
- **Plan-NEOFLUAR Z 1×, Plan Apo 0.63×, 1×, 1.25×, 1.5×**
- **Segmentable ring light K**
- **Coaxial illuminator (for flat reflective objects)**
- **Microscope-based transmitted light stand**

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#### Direct LED
- **Segmentable ring lights (BF or DF)**
- **LED double spot gooseneck**
- **Flat transmitted light base (BF, DF, oblique)**
- **Motorized transmitted light unit 450 (BF, DF, oblique)**

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#### Polarizing Equipment
- **Polarizing attachment**
- **Polarizing attachment**

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You can detect even the smallest details of your specimen with upright ZEISS microscopes thanks to their numerous contrasting techniques. Especially in clinical labs, you can rely on proven, reliable technology when assessing complete blood counts, smear tests, or sections. Ranging from robust educational microscopes and ergonomically designed laboratory units up to the most demanding platforms, upright microscopes from ZEISS enrich your daily work.
**ZEISS Primo Star**
Robust, user-friendly, affordable: your educational microscope.

**Configured to Your Requirements**

**Microscopes**
- Primo Star (fixed Köhler)
- Primo Star (full Köhler)
- Primo Star (fixed Köhler with iLED fluorescence attachment)
- Primo Star HDcam (integrated HD streaming camera and iPad imaging app Labscope)

**Contrasting Techniques**
- Brightfield, darkfield, phase contrast, fluorescence (optional)

**Illumination**
- Transmitted light: HAL 30 (halogen), LED, illumination mirror
- Reflected light: LED fluorescent reflected light

**Accessories**
- Stages for left- and right-handed users, camera tubes, objective lenses (HF, Ph, D = 0), handle, indicator lamp, modular illumination, country-specific power supply unit, transport box, rechargeable battery pack, illumination mirror, set of filters (blue, green, yellow)


- Primo Star shows the intensity of the illumination on the stand. This makes it easier for users to check, and you can keep an eye on all of the microscopes in the classroom.
- The perfect equipment for students’ practical exercises: Primo Star as a preconfigured fixed-Köhler variant and with the dry Plan-APOCHROMAT 100x/0.8 objective lens.
- Make use of the advantages of the camera integrated into the tube and its numerous interfaces. With Labscope, the iPad imaging app from ZEISS, you can connect the microscopes in your classroom into a network.
- Use the free software ZEN lite and control Axiocam microscope cameras. You can create, manage, and export images and videos, and you can use reporting functions.
- A swiveling mirror means that you can use your microscope with sunlight, without the need for electricity.
- In rural areas with an unreliable power supply – or with none at all – you can use a rechargeable battery pack for your Primo Star.

**Created for Your Applications**

- You examine stained tissue sections using brightfield or fluorescent contrast. You look at unstained specimens with phase contrast. You analyze extremely fine structures such as diatoms using darkfield.
- As a botanist, you examine cross sections of plant stems.
- You examine tissue sections and blood smears from anatomy, pathology, hematology, and zoology to record symptoms.
- You examine cultivated plants for phytopathogenic agents or pests, or you track the development of illnesses and the course of diseases.
- You investigate the morphology of bacteria cells such as *Bacillus subtilis*, *Staphylococcus epidermidis*, *Micrococcus luteus* and *Escherichia coli*.
**ZEISS Primo Star iLED**
Your fluorescence microscope to quickly detect tuberculosis.

Primo Star iLED is outstanding for its robustness, energy efficiency, and ease of use. This fluorescence microscope is the cost-effective solution in the fight against tuberculosis and other infectious diseases. You can easily and reliably detect *Mycobacterium tuberculosis*, either using fluorescence or brightfield.

Primo Star iLED is the result of a cooperation between ZEISS and the Foundation for Innovative Diagnostics (FIND). This microscope exploits all of the ZEISS expertise in light microscopy for the diagnosis of tuberculosis under extreme conditions. ZEISS is a member of the Stop TB Partnership.

**Configured to Your Requirements**

**Microscopes**
Primo Star (fixed Köhler with iLED fluorescence attachment)

**Contrasting Techniques**
Brightfield, LED fluorescence

**Illumination**
Transmitted light: LED
Reflective light: LED reflected fluorescent light (455 nm)

**Accessories**
Objective D = 0, eyecups; optional: transport box, rechargeable battery pack, illumination mirror, Axiocam microscope cameras


- It is easy to change between fluorescence and brightfield. You get images with outstanding contrast, especially when you work with samples colored with auramine-rhodamine stain.
- You use the 40x objective lens of your Primo Star iLED and detect *Mycobacterium tuberculosis* up to four times faster than when using brightfield.
- LED fluorescence is safe, energy-efficient, and easy to use. You neither have to wait for lamps to heat up or cool down, nor do you have to replace or adjust them.
- In areas without a power supply, you can use a rechargeable battery pack.
- With the ergonomic eyecups, you can get precise results even without a darkroom.
- If you are a customer from the public health services of those countries most heavily affected by tuberculosis, you can get Primo Star iLED at an especially low price.

**Created for Your Applications**

- You examine stained tissue sections using brightfield or fluorescent contrast. You look at unstained specimens with phase contrast. You analyze extremely fine structures such as diatoms using optional darkfield.
- As a botanist, you examine cross sections of plant stems.
- You examine tissue sections and blood smears from anatomy, pathology, hematology, and zoology to record symptoms.
- You examine cultivated plants for phytopathogenic agents or pests, or you track the development of illnesses and the course of diseases.
- You investigate the morphology of bacteria cells such as *Bacillus subtilis*, *Staphylococcus epidermidis*, *Micrococcus luteus* and *Escherichia coli*.
ZEISS Axiolab 5
Your smart microscope for more efficient routine lab work.

Axiolab 5 is made for the routine work that goes on every day in your lab. Its compact and ergonomic design saves space and makes for easy handling.

Axiolab 5 is a real team player. Combine it with Axiocam 208 color and take full advantage of the smart microscopy concept: you’ll be experiencing a completely new form of digital documentation. Just focus your sample and press a single button for crisp images in true color. The digital image will look exactly like you see it through the eyepieces, with all the details and subtle color differences clearly visible.

Plus, Axiolab 5 automatically adds the correct scaling information to your images. You get all of this in a standalone operation, without needing a PC or any additional software. Save time, money and valuable lab space with Axiolab 5. Digital documentation has never been easier.

Configured to Your Requirements

<table>
<thead>
<tr>
<th>Microscopes</th>
<th>Axiolab 5 (transmitted light)</th>
<th>Axiolab 5 (transmitted light and reflected light fluorescence)</th>
</tr>
</thead>
</table>

Contrasting Techniques
Brightfield, darkfield, phase contrast, simple polarization, LED fluorescence

Illumination
Transmitted light:
- 35 W halogen illumination (optional)
- 10 W LED illumination
Reflected light:
- Up to 3 fluorescence LEDs

Accessories
Axiocam 208 color and Axiocam 202 mono microscope cameras, stages for left and right hand operation, ergotubes, multidiscussion equipment


- Axiolab 5 offers you an easy handling, ergonomic user concept that’s adapted to your lab routine. You can control the microscope and its attached camera without even changing your grip.
- To acquire an image, simply press the snap button right on the stand. Your smart microscope system then automatically adjusts the parameters for you and documents your sample precisely as you see it through the eyepieces – detail-rich and in true color. The correct scaling is always included automatically, even without a computer.
- LED fluorescence is safe, energy-efficient, and easy to use. You neither have to wait for lamps to heat up or cool down, nor do you have to replace or adjust them.
- Ergotubes and torque adaptable stage handle allow you to work in a comfortable position, even during extended use.
- With the multidiscussion equipment, all co-observers can see the same image with the same orientation.

Created for Your Applications

- With Axiolab 5, it is particularly easy for you to count white blood cells in brightfield, as you can reach all of the essential controls with one hand.
- In darkfield, you can recognize uncolored structures at a glance.
- Using polarization contrast, you can detect birefringent crystals, for example when visualizing gout.
- Using fluorescence contrast, you can examine heparinized blood for cytogenetic (chromosome analysis) and molecular cytogenetic investigations.
- In the laboratory, you can analyze body fluids, tissues, and excretions. You can do hematological analyses on the cell morphology of blood and tissue cells and can do hemostasis analyses for bleeding tendency or thrombophilia.
- In your IVF laboratory you use Axiolab 5 for enlarged visualization of sperm cells in brightfield or phase contrast.
In the past, documenting samples with multiple fluorescent labels in your routine lab could be time consuming. To get best image quality, you needed to manually switch filters, adjust illumination intensities and exposure times and to snap each single channel image. For three different channels, this could sum up to 15 steps and clicks. With Smart Microscopy from ZEISS, this is a thing of the past.

Your Axioscope 5 with Axiocam 202 mono and Colibri 3 LED illumination take this workload from you. You don’t even need to move your hands from the microscope stand anymore. All you have to do is focus and press Snap – and you’re done! You can now concentrate on the essence of your job and let your Axioscope 5 work for you. You’ll work more efficiently, save time and produce high contrast images with best image quality. What’s more: this even works without any PC involved.

Configured to Your Requirements

Microscopes
Axioskop 5, transmitted light, LED
Axioskop 5, transmitted light, Hal 50
Axioskop 5, fluorescence

Contrasting Techniques
Transmitted light: brightfield, darkfield, DIC, Phase
Reflected light: brightfield, darkfield, DIC, C-DIC, simple polarization, fluorescence

Illumination
Transmitted light:
- LED 10W, Hal 50, Hal 100
Reflected light, fluorescence:
- Colibri 3, HXP 120, and other

Accessories
Axiocam 208 color and Axiocam 202 mono microscope cameras, Colibri 3, XY stages, ergotubes und multidiscussion equipment


- Capture up to four fluorescence channels with just one click: the system automatically adjusts the exposure time, acquires the image, switches the channel and starts again. You get your overlayed multichannel fluorescence image including scale bar.
- Colibri 3 provides up to four fluorescence LEDs which can be individually controlled, directly from the stand.
- For transmitted light applications, the smart Axioskop 5 system makes automatic adjustments for brightness and white balance to keep digital documentation easy.
- Axioskop 5 uses its transmitted white light LED to provide powerful illumination with high color fidelity.
- With Axioskop 5 you can use a sheer variety of contrasting techniques for your applications.

Created for Your Applications

- You can carry out histological or pathohistological analyses of tissue sections in brightfield contrast.
- With polarization contrast, you can analyze foreign bodies and crystals in tissue and body fluids.
- You can examine stained mucosal cells in hematology, urology, and gynecology using brightfield and fluorescence.
- Perform multichannel fluorescence imaging of tissues and cells in your lab.
Axio Imager 2 supports your requirements – from brightfield observations and fluorescence light via polarization up to complex FISH applications. This system platform, with its modular architecture, is aimed at your growing needs. Application-specific components complement the solid fundamental characteristics of the Axio Imager 2 stand variants. See for yourself what the combination of outstanding optics, high resolution, and excellent contrast can do!

**Configured to Your Requirements**

**Microscopes**
- Axio Imager.A2 (manual)
- Axio Imager.A2 LED (manual, LED fixed Köhler illumination)
- Axio Imager.D2 (partially motor-driven)
- Axio Imager.M2p (pathology system, partially motor-driven)

**Contrasting Techniques**
- Transmitted light: brightfield, darkfield, DIC, polarization, phase contrast
- Reflected light: brightfield, darkfield, DIC, C-DIC, fluorescence

**Illumination**
- Transmitted light: DL 12 V 100 W HAL, 12 V LED
- Reflected light: 12 V 100 W HAL, 12 V 100 W HBO, 12 V LED, 75 W XBO, VisiLED, microLED, Colibri.2

**Accessories**
- LEDs with push-and-click modules, manual stages for left- and right hand operation, encoded and motorized stages, sample holders, binocular tubes with various viewing angles, camera tubes, multi-discussion equipment

- Axio Imager 2 impresses with its outstanding optics, perfect contrast and illumination.
- It evenly illuminates your specimens.
- Your Axio Imager 2 is equipped with a light manager for transmitted and reflected light. You benefit from a constant light impression at all magnifications and for all contrasting techniques.
- The stands for Axio Imager 2 family are coded and all details of the image acquisition, such as objective lens and magnification, are saved together with the image.
- Axio Imager.M2p is perfectly tailored for your requirements in the pathology department. Thanks to the encoded nosepiece turret and convenient motorization such as automated parfocal correction, you can work efficiently with a high specimen rate.
- The motorization of Axio Imager 2 allows an ergonomic workflow and speeds up your work.

**Created for Your Applications**
- Axio Imager.A2 with LED illumination in connection with Achromplan or EC Plan-APOCHROMAT objective lenses is your ideal basic equipment for histology.
- Axio Imager 2 with polarization contrast is indispensable in showing debris in tissue or in diagnosing Alzheimer’s disease, for example. Depending on the application, you can use fixed or rotating polarizers and analyzers, or even a lambda plate.
- In histology and anatomy, you benefit from excellent resolution, convincing colors in details and overviews, and the ability to quickly and precisely relocate important positions in the specimen. The EC Plan-NEOFLUAR and Plan-APOCHROMAT objective lenses in connection with motorized stages are ideally tailored for this.
- You can visualize parasites, bacteria, or clusters of viruses.
- You identify extrinsical particles.
## Technical Specifications

Here you can find the microscope system that best matches your application.

<table>
<thead>
<tr>
<th>ZEISS System</th>
<th>Primo Star</th>
<th>AxioLab 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand</td>
<td>Upright</td>
<td>Upright</td>
</tr>
<tr>
<td>Optical system</td>
<td>Infinite TL180°</td>
<td>Infinite IC²S</td>
</tr>
<tr>
<td>Minimum viewing height in mm</td>
<td>385 +</td>
<td>472</td>
</tr>
<tr>
<td>Ergotube</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Eyepiece suitable for wearers of glasses</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Field of view in mm</td>
<td>18/20</td>
<td>23</td>
</tr>
<tr>
<td>Integrated carrying handle</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Integrated solution to accommodate cable when stored</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Power supply</td>
<td>External, on the stand</td>
<td>Integrated</td>
</tr>
<tr>
<td>Rechargeable battery pack for mobile use</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Intensity indicator for illumination</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Contrasting Techniques

- Transmitted light, brightfield
- Darkfield
- Phase contrast
- Differential interference contrast
- Fluorescence

### Documentation

- Camera tube
- Smart Microscopy
- Snap Button
- Integrated camera

### Illumination

- Full Köhler
- Integrated LED Fluorescence
  - 1 LED
  - 3 LEDs
- External TL excitation
  - –
- Maximum power consumption in W, halogen transmitted light illumination
  - 30
  - 35 (optional)
- Maximum power consumption in W, LED transmitted light illumination
  - 10 W
- Plug-in mirror
  - Yes, for fixed Köhler

### Optional/Available

- Available
- Optional
- Not available
Inverted Microscopes
Living cells in focus.

With inverted microscopes, you can use the large sample space between the stage and the illumination for your cells in petri dishes, well plates, or culture flasks. You will have enough space for your roller bottles and for micromanipulation. And all that together with contrasting techniques such as brightfield, phase contrast and fluorescence, that you need in your laboratory. Your ZEISS microscope is compact and focuses on the essentials.
Now you can study the morphology of living cells and evaluate their development with this compact inverted microscope from ZEISS. Primovert is perfectly suited to your cell culture laboratory.

It enables fast, efficient investigations of both unstained cells in phase contrast and GFP-labeled cells in fluorescence contrast. It fits straight into your laminar flow cabinet to work directly in a sterile environment. And it brings you a welcome degree of flexibility, too, with its integrated camera and the Labscope imaging app for iPad: observe your cells from outside the sterile working space and evaluate them with colleagues.

**Configured to Your Requirements**

- **Microscopes**
  - Primovert
  - Primovert photo
  - Primovert HDcam
  - Primovert iLED

- **Contrasting Techniques**
  - Brightfield, phase contrast, fluorescence

- **Illumination**
  - HAL 30, LED

- **Accessories**
  - Stage insert (glass or metal), holding frame for petri dishes, object guides, LD condensers, phase contrast slides, Plan-ACHROMAT and LD Plan-ACHROMAT objective lenses


- Switch from phase contrast to fluorescence contrast to assess both undyed and GFP-labeled cells.
- The inverted microscope is compact and fits directly in your Laminar Flow Box – you work directly in the sterile environment.
- Your Primovert is immediately ready for use. You reactivate the microscope in stand-by mode directly at the stage. Primovert switches in walk-away mode automatically after 15 minutes off. This saves energy and increases the life of the light source.
- Primovert HDcam integrates a camera. Use your iPad and the free imaging app Labscope and discuss the image together in the team.
- Snap microscope images, annotate and create reports, and share them easily wirelessly with other.

**Created for Your Applications**

- With phase contrast, you get high-contrast images of unstained cells. You can analyze the growth, morphology, and condition of living cells at a glance.
- Research the structure of plant cells and tissues, reproduction, growth, metabolic processes, and pathogens.
- You can do sterility tests.
- Examine cells before preparing protein, DNA, or RNA samples.
- Differentiate between types of cells and characterize cell lines.

ZEISS Primover
Examine and assess your living cells – quickly and easily.
Choose from all standard contrasting techniques, including DIC, to investigate your cell cultures. Axio Vert.A1 produces brilliant images to answer your questions.

Axio Vert.A1 is the only system in its class with such a large range of features, compact enough in fact to sit directly beside your incubator. Look into the very essence of your research while keeping your cell culture in its own protected environment.

Choose from all standard contrasting techniques, including DIC, to investigate your cell cultures. Axio Vert.A1 produces brilliant images to answer your questions.

Axio Vert.A1 is the only system in its class with such a large range of features, compact enough in fact to sit directly beside your incubator. Look into the very essence of your research while keeping your cell culture in its own protected environment.
You observe, analyze, and manipulate living cells. Then Axio Observer is your inverse microscope platform for maximum flexibility. Its open architecture can be cost-effectively extended— from the base stand through to high-speed and laser-scanning microscopy or microdissection dimensions. There are not even any restrictions in adding external components to the system.

**Configured to Your Requirements**

**Microscopes**
- Axio Observer 3
- Axio Observer 5

**Contrasting Techniques**
- Brightfield, phase contrast, PlasDIC, iHMC, DIC, fluorescence

**Illumination**
- Transmitted light: halogen, LED
- Reflected light: HBO 50, HBO 100, HXP 120 V, Colibri.2

**Accessories**
- Binocular tubes, binocular camera tubes, binocular ergotubes, stages, manual and motor-driven stages, condensers, objective lenses, cameras, software, incubation components


- The apochromatic fluorescence beam path ensures homogeneous intensity of fluorescence over the entire field of view. Colibri.2 light sources permit a fast LED change for fluorescent applications.
- Combine Axio Observer with manipulators, and together with PlasDIC or iHMC, you will have the perfect platform for IVF and for your work with stem cells.
- With the DIC contrasting technique, you can achieve the highest detail resolution and improved success rates—for example when assessing sperm.
- Axio Observer combines all of the IVF contrast methods in a single microscope.

**Created for Your Applications**

- Observe and mark cells using vital stains.
- You carry out series of experiments and need documentation and incubation.
- Compare images from different fluorescence channels and require uncompromisingly brilliant images.
- Carry out pronuclear injections working with transgenic animals.
- You are responsible for ICSI, IMSI, and embryonic observations in an IVF clinic.

**ZEISS Axio Observer**

Observe. manipulate. and analyze.
# Technical Specifications
Here you can find the microscope system that best matches your application.

## ZEISS System

<table>
<thead>
<tr>
<th>Primovert</th>
<th>Axio Vert A1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand</td>
<td>Inverse</td>
</tr>
<tr>
<td>Optical system</td>
<td>Infinite TL180°</td>
</tr>
<tr>
<td>Minimum viewing height in mm</td>
<td>349 +</td>
</tr>
<tr>
<td>Ergotube</td>
<td>●</td>
</tr>
<tr>
<td>Eyepiece suitable for wearers of glasses</td>
<td>●</td>
</tr>
<tr>
<td>Field of view in mm</td>
<td>20</td>
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<tr>
<td>Integrated carrying handle</td>
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<td>–</td>
</tr>
<tr>
<td>Intensity indicator for illumination</td>
<td>–</td>
</tr>
</tbody>
</table>

## Contrasting Techniques

| Transmitted light, brightfield | ● | ● |
| Darkfield | – | – |
| Phase contrast | ● | ● |
| Differential interference contrast | – | ● |
| Fluorescence | ● | ● |

## Documentation

| Camera tube | ● | ● |
| Integrated camera | ● | – |

## Illumination

| Full Köhler | – | – |
| Integrated LED fluorescence | 1 LED | 4 LEDs |
| External FL excitation | – | 4 |
| Maximum power consumption in W, halogen transmitted light illumination | 30 | 37 |
| LED transmitted light illumination | ● | ● |
| Plug-in mirror | – | – |

- **Available**
- **Optional**
- **Not available**

* Axio Vert A1 and Axio Observer: additional iHMC, PlasDIC

## Axio Observer

<table>
<thead>
<tr>
<th>Inverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infinite IC²S</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td>23</td>
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<tr>
<td>–</td>
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<tr>
<td>–</td>
</tr>
<tr>
<td>Integrated</td>
</tr>
<tr>
<td>–</td>
</tr>
</tbody>
</table>

- **Available**
- **Optional**
- **Not available**
Connectivity and Documentation
Network your microscopes and document your results.

Document exactly what you see. Fast, easily to access and with brilliant image quality. With the digital microscope cameras from ZEISS, you have the perfect tool for image acquisition and documenting your work. To display and edit your images, choose the iPad imaging app Labscope. Using Labscope, you can connect several microscopes and digitize your classroom and easily take a look into your students’ work.
Documenting images has never been easier: you have the power and functionality of PC-based software together with the ease of use of an iPad app.

With Labscope and the Axiocam ERc 5s camera, you can convert your microscope into a wirelessly connected imaging system. Whether in the laboratory, at the university, or in school, with Labscope you can quickly and easily take pictures and videos of your microscopic samples. You can add annotations, create reports, edit images, and save your data within your Windows network – or share any of these, at any time.

**Configured to Your Requirements**

**Microscopes**
- All microscopes with a camera interface
- Primo Star HDcam
- Primovert HDcam
- Stemi 305 cam

**Camera**
- Axiocam 208 color
- Axiocam 202 mono
- Axiocam ERc 5s

**Software**
- Labscope imaging app for iPad (free download in iTunes store)
- Labscope for Windows (free download in web)

**Functionality**
- Documentation, image processing, camera control, storage on SD, iPad, PC, server (cloud), report function, social media, measurements/annotations, parallel display of several microscope cameras


- It’s your choice: HDMI, USB, and LAN interfaces and an SD card slot offer you numerous options.
- Use the HDMI interface to directly view on a screen without a PC.
- Simply save images and videos to an SD card at the touch of a button.
- Connect the camera with your Wi-Fi network and enjoy the benefits of the iPad imaging app Labscope.
- You only need one tablet for all of the microscopes in the laboratory, and you are networked to all users.

**Created for Your Applications**

- Document results or dynamic processes for specific microscopes with images and videos directly on your iPad.
- You can make direct comparisons with other images.
- Take measurements, annotate the results, and save them on the file server integrated in the network.
- Load application images onto the iPad for talks and presentations and can use the image processing tools.
- You can easily create an individual report.
- Give a presentation live using your iPad.
- You can network your classroom and move around freely.

* Labscope can run on Windows 7 (64-bit) and 10 (64-bit).
Teaching is the art of passing the knowledge of the few on to the many. For this, you need a good overview over all of those who are learning, a deep insight into the individuals, and the option of networking them all together.

This is exactly what Labscope supports in your digital classroom. You can move freely around the classroom and still see through all of the eyepieces.

Discuss working methods and details with individual students and all of the others can see what is going on. You can allow your students to work independently and to document their results. Check the reports immediately online, or later on your PC. You can put images and videos into the network and allow your students to do mobile work on them with an iPad and record their results. It doesn’t matter whether a small course is to be held quickly on a mobile basis or if a large classroom is to be permanently networked, the digital classroom from ZEISS adapts to your needs.
ZEISS Axiocam – Microscope Cameras

Accurate documentation is an important part of your daily analyses.

Brilliant images reveal the state of your samples. Select the Axiocam microscope camera best suited to your application.

<table>
<thead>
<tr>
<th>CMOS</th>
<th>CCD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microscope Camera</strong></td>
<td>Axiocam ERC 5s</td>
</tr>
</tbody>
</table>

| **Specification** | | | |
| Effective pixels | 5 megapixels | 5 megapixels | 2 megapixels | 8.3 megapixels | 5.07 megapixels |
| Number of pixels | 2560 × 1920 | 2560 × 1920 | 1920 × 1080 | 3840 × 2160 | 2464 × 2056 |
| Pixel size | 2.2 µm | 2.2 µm | 5.86 µm | 1.85 µm | 3.45 µm |
| Sensor size | 1/2.5” | 1/2.5” | 1/1.2” | 1/1.7” | 2/3” |
| Sensor diagonal | 7 mm | 7 mm | 13.4 mm | 9.33 mm | 11.1 mm |
| Maximum frame rate at resolution | 20 fps at 800 × 600 (with ZEN Imaging Software) | 19 fps at 2560 × 1920 | 30 fps at 1080p | 30 fps at 4K/1080p | 67 fps at 2752 × 2208 |
| PC interface | SD card slot, 2× USB 2.0 | USB 3.0 | USB 3.0 Type C, Ethernet, HDMI | USB 3.0 Type C, Ethernet, HDMI | USB 3.0 SuperSpeed USB 2.0 optional |
| Stand-alone mode | ● | ● | ● | ● | ● |
| Special features | Also as integrated version for Primo Star HDcam and Primovert HDcam |

Recommended for Documentation and convenient image processing:

- Suitable ●
- Partly suitable •

Axiocam 105 color | Axiocam 503 mono | Axiocam 503 color | Axiocam 506 mono | Axiocam 506 color |

- 5.07 megapixels | 2.8 megapixels | 2.8 megapixels | 6 megapixels | 6 megapixels |
- 2464 × 2056 | 1936 × 1460 | 1936 × 1460 | 2752 × 2208 | 2752 × 2208 |
- 3.45 µm | 4.54 µm | 4.54 µm | 4.54 µm | 4.54 µm |
- 2/3” | 2/3” | 1” | 1” |
- 11.1 mm | 11 mm | 11 mm | 16 mm | 16 mm |
- 67 fps at 2752 × 2208 | 38 fps at 1920 × 1080 | 38 fps at 1936 × 1460 | 19 fps at 2752 × 2208 | 19 fps at 2752 × 2208 |
- USB 3.0 | USB 3.0 | USB 3.0 | USB 3.0 | USB 3.0 |
With ZEN lite, you profit from the functionality of the full ZEN versions and you can, for instance, ideally modify the user interface design to the predominant lighting conditions. As you wish, you can use ZEN lite in compact mode for a clear overview, or you can use the full view for quick access to all functions. ZEN lite saves your experiments together with the metadata in .czi file format.

- Control your Axiocam microscope cameras.
- Create, manage, and export images and videos.
- Measure lengths and contours interactively.
- Read metadata from .czi image files.
- You can use report functions.
You can use the classic multidiscussion system for training and consultation situations as well as in the medical world, for example when training students or when jointly assessing difficult specimens. With the multidiscussion unit from ZEISS, depending on the microscope and illumination used, up to 20 people can see the same image in the same orientation as the main viewer. This avoids irritation resulting from rotated or mirrored images. The main viewer and the additional viewers all profit from the homogeneously illuminated field of view. For specimens stained with different colors, you can smoothly adjust the intensity of the light pointer between white, green, and red. This helps with orientation.

**Multidiscussion from ZEISS**
Share your images with other viewers.

**Configured to Your Requirements**

**Microscopes**
- Axiolab 5: at least up to ten additional viewers (LED)
- Axioscope 5: at least up to ten additional viewers (LED)
- or up to 20 additional viewers (HAL 100)
- Axio Imager.A2: up to 20 additional viewers (HAL 100)

**Accessories**
- Central part, tube holder, tubes, eyepieces
Experience service that lives up to its name.
Your microscope system from ZEISS is one of your most important tools. For over 160 years, the ZEISS brand and our experience have stood for reliable equipment with a long life in the field of microscopy.

You can rely on us to ensure that you can always use your microscope’s full performance. With repair services and spare and replacement parts, our skilled ZEISS service team makes sure that your microscope is always ready for use. Our experts keep on working even after you have chosen ZEISS, with a wide range of additional services to ensure that you can experience those special moments – those special moments that inspire your work.

Maintenance and optimization
Your ZEISS Protect service agreement provides all-around security for your microscope system. There are no unexpected operating costs, and the availability of your system is increased. With preventative maintenance as a fundamental part of the service agreements, you benefit from optimized system performance. We’ll work with you to select the service package that best meets your needs, that corresponds to the equipment that you have, and that is tailored to the specific requirements of your applications.

Enhance your microscope system
Your ZEISS microscope is designed to be future-proof. Open interfaces allow you to extend your system. You can add your choice of accessories to keep up with the state of the art and thus extend your microscope’s useful life.

We would be happy to help you to find which accessories are available for your microscope that ideally match your application.

Service and support for your ZEISS microscope system.

ZEISS moments are about passion. It is this passion with which we service and optimize your ZEISS microscope and keep it at the latest state of the art, so that your work can systematically lead to success.