

PRESS RELEASE

July 7, 2014

Leica Microsystems Introduces Stereo Microscope Objective for Imaging Specimens in Aqueous Solution

Leica Planapo 2.0x CORR Objective Compensates Different Refractive Indices

Wetzlar, Germany. Leica Microsystems introduces the new Leica Planapo 2.0x CORR objective for the Leica M series stereo microscope, specifically for the use with specimens immersed in aqueous solution. With this objective, users can obtain pin sharp visualization of specimens with up to a 5 mm water column between the specimen and the objective. The objective solves a problem many stereo microscope users have: Observing specimens in aqueous solution deteriorates image quality due to the refractive index mismatch between water and the air surrounding the microscope objective. As the refractive index can be compensated with the Leica Planapo 2.0x CORR objective, interesting structures cannot be misread due to aberrations any more. Image quality is further enhanced by the objective's high numerical aperture of up to 0.35.

Many stereo microscope applications like zebra fish research, in vitro fertilization or transgenics require aqueous solution to optimize the preparation process or to keep the specimen alive. Especially at high magnifications this poses an aberration problem, which results in blurred images with lower information content. The Leica Planapo 2.0x CORR objective overcomes this problem with the help of an adjustable correction ring. Turning the ring to the specified position enables users adapt the optic to the correct refractive index according to the water column above the specimen. If users wish to observe specimens in an airy surrounding, they simply return the correction ring to the home position.

"With our new objective we provide a high-quality tool for imaging specimens in liquid solution," comments Jennifer Horner, Product Manager for Stereo Microscopes at Leica Microsystems. "It enables users to observe and document specimens as if the water was not there. So misinterpretations due to optical aberrations with water-immersed specimens are now things of the past. In addition, a numerical aperture of up to 0.35 is an outstanding value for objectives in this category. This, too, considerably boosts image quality."

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A working distance of 20 mm allows for easy access to the specimen. A quick-start guide comes with the Leica Planapo 2.0x CORR objective and helps users to quickly understand how to use the objective.



Caption: Studying Vascular Development using Zebrafish (somites). Left: without correction. Right: optics adapted to the refractive index of the water column by using the correction ring of the Leica Planapo 2.0x CORR objective. Image courtesy of Mailin J. Hamm, Angiogenesis Laboratory, University of Muenster, Germany.



Caption: Studying Vascular Development using Zebrafish (eye). Left: without correction. Right: optics adapted to the refractive index of the water column by using the correction ring of the Leica Planapo 2.0x CORR objective. Image courtesy of Mailin J. Hamm, Angiogenesis Laboratory, University of Muenster, Germany.

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Leica Microsystems is a world leader in microscopes and scientific instruments. Founded as a family business in the nineteenth century, the company's history was marked by unparalleled innovation on its way to becoming a global enterprise.

Its historically close cooperation with the scientific community is the key to Leica Microsystems' tradition of innovation, which draws on users' ideas and creates solutions tailored to their requirements. At the global level, Leica Microsystems is organized in three divisions, all of which are among the leaders in their respective fields: the Life Science Division, Industry Division and Medical Division.

The company is represented in over 100 countries with 6 manufacturing facilities in 5 countries, sales and service organizations in 20 countries, and an international network of dealers. The company is headquartered in Wetzlar, Germany.