



NEWS RELEASE

Bruker Introduces Advanced Illumination for Next-Generation Lattice Light-Sheet Microscopy

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New Luxendo SPIM AIM Provides Adjustable Beam Patterns for Flexible Lattice Light-Sheet or Structured Illumination of Live Samples

SAN DIEGO, Dec. 10, 2018 /PRNewswire/ -- At the 2018 American Society of Cell Biology Meeting (ASCB), Bruker today announced the launch of the new **Luxendo InVi SPIM AIM** next-generation lattice light-sheet microscope, which features an advanced illumination module (AIM) for lowest phototoxicity light-sheet fluorescence microscopy of live samples. Leveraging the general benefits of single-plane illumination microscopy (SPIM) with high-photon efficiency and short illumination times, the new module enables the user to interactively customize the light-sheet shape to tailor the system to a particular specimen's requirements. A variety of illumination patterns, including single or multiple variable Bessel beams, lattice light sheets, and structured illumination, provide a much greater range of single-instrument research possibilities for rapid, higher resolution 3D imaging of living cells.

The **Luxendo InVi SPIM AIM** uses the high-performance **InVi** platform for gentle long-term imaging with precise control of physiological conditions. It has been designed to combine the advantages of several different illumination approaches to deliver the flexibility required to further optimize bioimaging experiments, from a large field-of-view and extraordinarily high temporal sampling to spatial resolution at the physical limit.

"The new Advanced Illumination Module dramatically expands the capabilities of our **InVi** SPIM systems with a choice for the optimal light-sheet for the experimental requirements, leading to better resolved images," said Dr. Andreas Pfuhl, Vice President and General Manager of Bruker's Luxendo business. "This next-generation, lattice light-sheet microscope gives researchers, for the first time, the freedom to customize the light sheet and tune the microscope to a specific biological application, providing advantages in live-cell investigations with higher



resolution."

About the Luxendo InVi SPIM AIM

The **Luxendo InVi SPIM AIM** is a next-generation, lattice light-sheet fluorescence microscope based on the InVi platform. It provides all the necessary capabilities to improve spatial resolution and further reduce photodamage in live-cell imaging of delicate samples to resolve subcellular structures and dynamics. The system maintains the ease of use and stability of the **InVi** SPIM, while enabling illumination of the sample with flexible light-sheet patterns. These patterns include the classical static Gaussian light-sheet and the scanned Gaussian beam, as well as sophisticated illumination schemes like Bessel beams or lattice light-sheets, improving the microscope's resolution in time and space, while minimizing phototoxic effects. The light-sheet geometry can be adapted to the sample in an easy, completely computer-controlled manner to offer cutting-edge, high-resolution imaging in an unprecedented user-friendly framework.

About Luxendo

Headquartered in Heidelberg, Germany, Luxendo was founded in September 2015 as a spin-off of the European Molecular Biology Laboratory (EMBL). Luxendo was able to rapidly develop robust product solutions based on the patented SPIM technology. Now, as part of Bruker Corporation, Luxendo's light-sheet microscopes join Bruker's existing portfolio of swept-field confocal, super-resolution, and multiphoton fluorescence microscope product lines, enabling new research advances in small organism embryology, live-cell imaging, brain development and cleared brain tissue, and optogenetics applications. For more information, please visit www.luxendo.eu.

About Bruker Corporation (NASDAQ: BRKR)

Bruker is enabling scientists to make breakthrough discoveries and develop new applications that improve the quality of human life. Bruker's high-performance scientific instruments and high-value analytical and diagnostic solutions enable scientists to explore life and materials at molecular, cellular and microscopic levels. In close cooperation with our customers, Bruker is enabling innovation, improved productivity and customer success in life science molecular research, in applied and pharma applications, in microscopy and nanoanalysis, and in industrial applications, as well as in cell biology, preclinical imaging, clinical phenomics and proteomics research and clinical microbiology. For more information, please visit: www.bruker.com.

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