

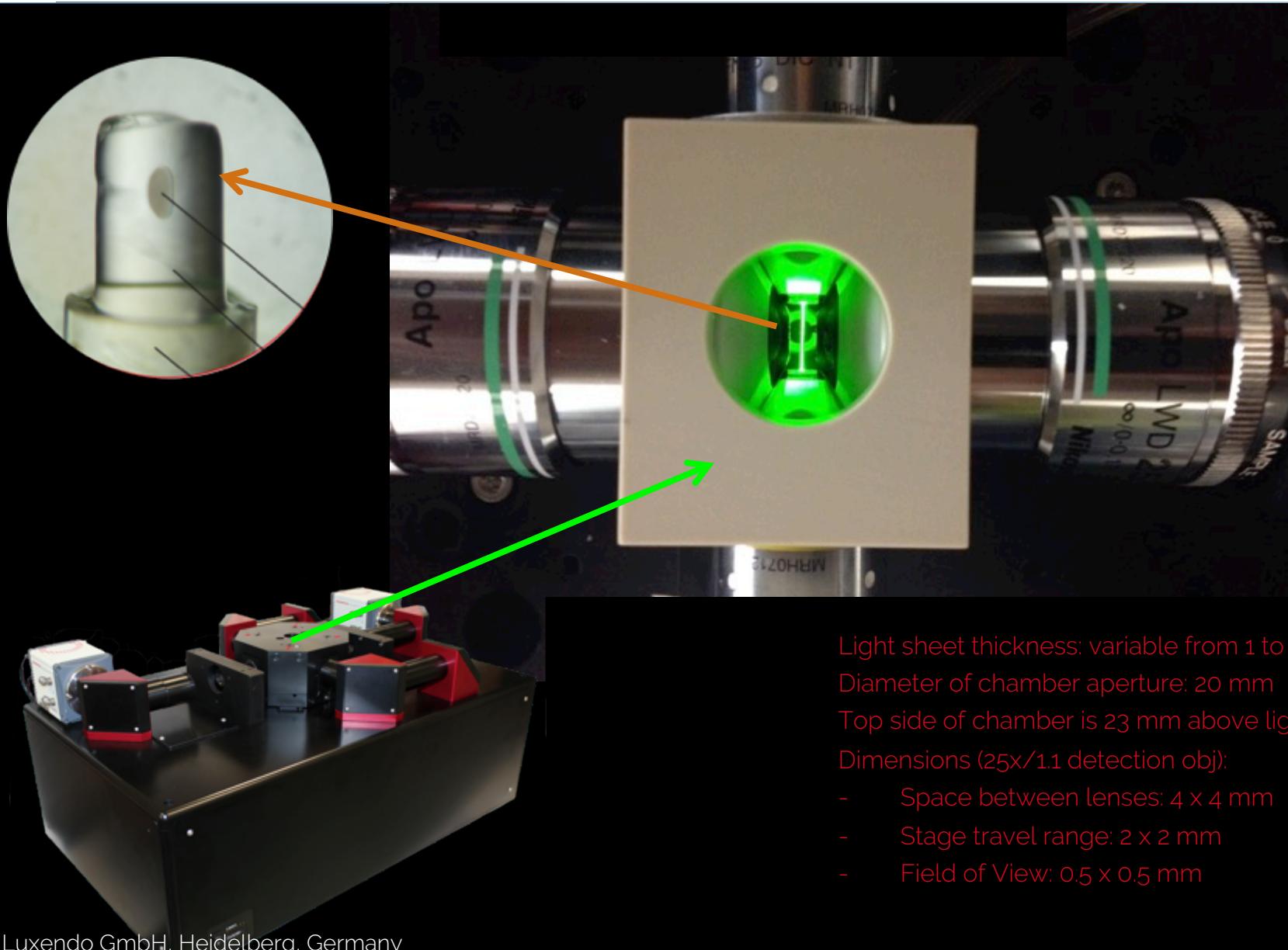


revolutionizing bioimaging with light-sheets



LUXENDO GmbH, Heidelberg, Germany (www.luxendo.eu)

MuVi-SPIM setup



Light sheet thickness: variable from 1 to 8 μm

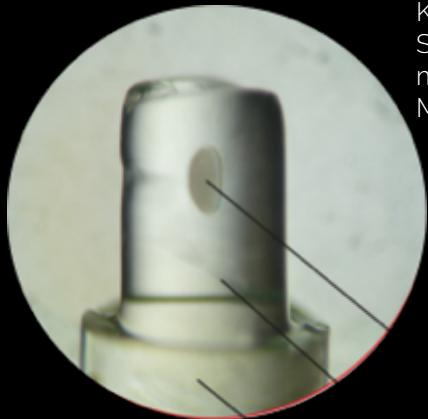
Diameter of chamber aperture: 20 mm

Top side of chamber is 23 mm above light sheet

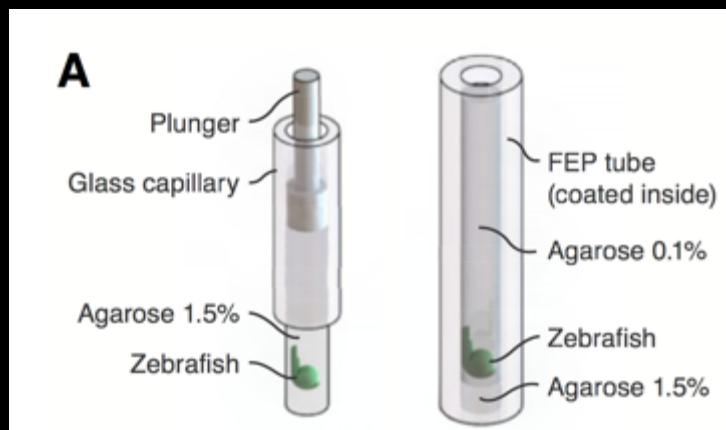
Dimensions (25x/1.1 detection obj):

- Space between lenses: 4 x 4 mm
- Stage travel range: 2 x 2 mm
- Field of View: 0.5 x 0.5 mm

MuVi-SPIM sample mounting



Krzic U, Gunther S, Saunders TE, Streichan SJ & Hufnagel L. Multiview light-sheet microscope for rapid *in toto* imaging. *Nat. Methods* 9, 730 (2012).

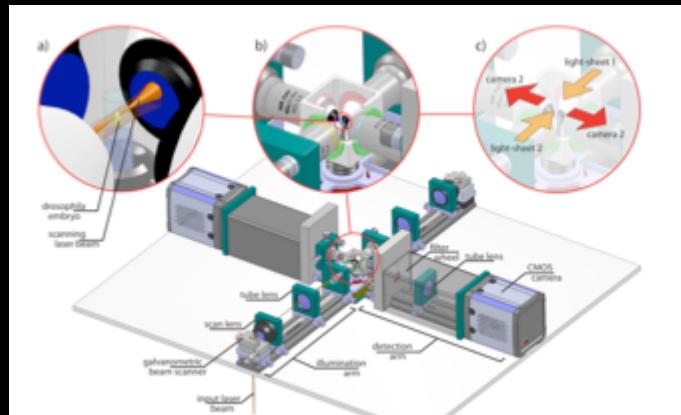


Kaufmann, A., Mickoleit, M., Weber, M. & Huisken, J. Multilayer mounting enables long-term imaging of zebrafish development in a light sheet microscope. *Development* 139, 3242–3247 (2012).

- Samples of up to approx 1.2 mm
- Embedded in polymer (agarose, gelrite, ...)
- or presented in a egg-cup-style dent on the top of a polymer cylinder
- Sample mounting in FEP tubes possible
- Polymer cylinder supported from below!
- Sample in water, Fish medium , PBS, etc (refractive index close to 1.33)
- Successfully used for imaging
 - Zebrafish embryos up to 4 days old (*in toto* imaging of early embryos and, e.g., brain, kidney, heart development in later embryos)
 - Drosophila embryos
 - C.elegans (challenge of anesthetic similar to other microscopes)
 - Organoids, Spheroids
 - Arabidopsis root growth imaging (and other plants)

In toto imaging without sample rotation

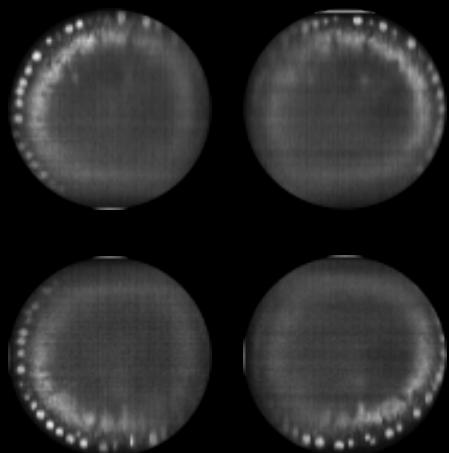
MuVi-SPIM



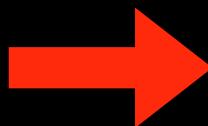
Benefits

- In toto imaging without rotation
- Fast 3d imaging >200 planes/second
- Realtime data processing
- Stage below sample for high stability and sample access from above

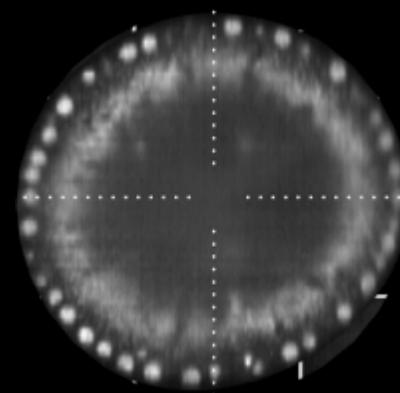
Data processing



realtime data
registration and fusion



single high resolution
3D data set



U. Krzic, T. Saunders, S. Guenther, S. Streichan, and L. Hufnagel, Nat. Meth, 2012