**PicoQuant releases STED add-on for the time-resolved confocal microscope MicroTime 200**

**The new MicroTime 200 STED reaches super-resolution below 50 nm**

**Berlin (Germany), 5 September 2014** – PicoQuant has released a STED (stimulated emission depletion) add-on for the time-resolved confocal microscope MicroTime 200. This new super-resolution extension allows the MicroTime 200 to perform measurements that break the diffraction limit of light reaching lateral resolutions below 50 nm.

The STED add-on for the MicroTime 200 is based on the easy-STED pinciple. Excitation and STED laser are first coupled through a common fiber to ensure perfect alignment and shape of the beams. An optical element then changes the STED laser focus to the required donut-shape, while leaving the excitation laser unaffected. This simple implementation makes spatial alignment of the two laser beams unnecessary. Gated STED in which the excitation laser and detection is pulsed and synchronised and the STED depletion is continuous is also supported by the MicroTime 200 STED to enhance resolution in images even more. Test users of the new STED add-on appreciate the easy concept in a microscope that is still accessible by the researcher and open for modification. “This is simple super-resolution microscopy: We attached a STED-dye with click-chemistry and got impressive high resolution images of the E. coli chromosome,” says Mike Heilemann, professor at the Goethe-University Frankfurt.

The STED add-on also extends the FCS (Fluorescence Correlation Spectroscopy) capabilities of the MicroTime 200 as it influences the effective observation volume. This allows to perform FCS at higher fluorophore concentrations as well as helps to disentangle complex 2D diffusion scenarios in heterogeneous samples such as biological membranes.

The STED microscope was demonstrated to the public for the first time during the 20th anniversary of PicoQuant's International Single Molecule Workshop which took place on September 2-5, 2014 in Berlin, Germany. During the workshop, many scientists from all over the world exchanged ideas and discussed new strategies for their research. The new STED add-on was the topic of lively discussions, and the enhanced optical resolution was well appreciated.

The MicroTime 200 is a versatile FLIM and FCS platform that enables the user to perform fluorescence lifetime, fluorescence correlations, and imaging measurements. The high timing accuracy is based on PicoQuant's unique TCSPC electronics and fast detectors. As an open platform, the MicroTime 200 can be combined with other devices such as a spectrometer or an AFM, allowing for extremely sensitive multidimensional data acquisition.

**About PicoQuant**

PicoQuant GmbH is a research and development company in the field of optoelectronics. The company was founded in 1996 and is based in the science and technology park Berlin-Adlershof, Germany. The company is a worldwide leader in the field of single photon counting applications. The product line includes pulsed diode lasers and LEDs, photon counting instrumentation, fluorescence lifetime spectrometers and time-resolved confocal microscopes. PicoQuant employs currently around 50 people. Since April 2008 Sales and Support in North America is handled by PicoQuant Photonics North America Inc.

**Attachment**

Picture 1: image of Tubulin

Caption: The image shows part of a Vero cell labeled for Tubulin with Abberior STAR 635P

Picture 2: MicroTime 200 STED

Caption: The time-resolved confocal microscope MicroTime 200 STED enables spatial resolutions below 50 nm.

**Contact**

Nicole Bornemann

Team Leader Marketing

Tel.: +49-30-6392-6942

[mkt@picoquant.com](mailto:mkt@picoquant.com)

www.picoquant.com