Einladung
zum Kolloquium des Adolf-Martens-Fonds e.V.

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NANOSCOPY WITH FOCUSED LIGHT

In STED microscopy, fluorescent features are switched off by the STED beam, which confines the fluorophores to the ground state everywhere in the focal region except at a subdiffraction area of extent \( d = \lambda / \left( 2 N A \sqrt{I_1 + I_s / I_s} \right) \). In RESOLFT microscopy, the principles of STED have been expanded to fluorescence on-off-switching at low intensities \( I_s \) by resorting to molecular switching mechanisms that entail low switching thresholds \( I_s \). An \( I_s \) lower by many orders of magnitude is provided by reversibly switching the fluorophore to a long-lived dark (triplet) state or between a long-lived ‘fluorescence activated’ and ‘deactivated’ state. These alternative switching mechanisms entail an \( I_s \) that is several orders of magnitude lower than in STED. In imaging applications, STED/RESOLFT enables fast recordings and the application to living cells, tissues, and even living animals.

Starting from the basic principles of nanoscopy we will discuss recent developments with particular attention to RESOLFT and the recent nanoscale imaging of the brain of living mice by STED.

Mittwoch, 23. Oktober 2013, 15:00 Uhr
BAM Bundesanstalt für Materialforschung und -prüfung
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Gäste sind willkommen, der Eintritt ist frei!