IAP Seminar

ANNOUNCEMENT

Date:	**Tuesday, 9th October 2018**
Time:	**16:00 s.t.**
Location:	**TU Wien, Institut für Angewandte Physik, E134**
	1040 Wien, Wiedner Hauptstraße 8-10
	Yellow Tower B, 5th floor, SEM.R. DB gelb 05 B

Lecturer:	**Dipl.-Ing. Benedikt Rossboth**
	TU Wien, IAP
Subject:	**Novel analysis and simulation tools for super-resolution microscopy**
Abstract:	The advent of single-molecule localization microscopy methods gave rise to the concept of membrane protein clustering at the nano-scale with cluster radii of 20-100 nm. Recently, our group developed an alternative approach to investigate this topic, termed label-titration microscopy. We applied this method to re-investigate the spatial distribution of several plasma membrane proteins and included novel data analysis and simulation tools. Additionally, we also performed STED microscopy, a conceptually different super-resolution microscopy method. We found that the T cell receptor, a central receptor within the immune system, is distributed randomly on the membrane of non-activated T cells.

Lecturer:	**Dipl.-Ing. Andreas Arnold**
	TU Wien, IAP
Subject:	**Overcoming blinking artifacts in nanocluster detection with two-color STORM**
Abstract:	Concerns about the existence of nanoclusters have been fueled by the notion that virtually all fluorescent probes show complex blinking behavior including long-lived dark states. This results in artificial localization clusters due to the repeated observation of single molecules. Here, we present a new approach to detect real molecular clustering using information from two-color STORM experiments. Molecular clusters exhibit a characteristic bias towards short nearest neighbor distances between localizations of different color. Shifts of one color channel provides intrinsic controls, thus allowing for statistical significance tests without the necessity of additional calibration.

All interested colleagues are welcome to this seminar lecture (45 min. presentation followed by discussion).

Friedrich Aumayr	Gerhard Schütz
(LVA-Leiter)	(Seminar Chair)