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Single-molecule spectroscopy

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Im Neuenheimer Feld 267, BioQuant
Seminarraum SR44

Monday 11 – 13:00

The lectures are intended to provide fundamental understanding of different single-molecule techniques and their applications in biology and chemistry. Different microscopic techniques will be covered by the lectures as well as dedicated techniques, like fluorescence correlation spectroscopy (FCS), single particle tracking (SPT), single-pair fluorescence resonance energy transfer (spFRET), stochastic optical reconstruction microscopy (STORM), photo-activation localization microscopy (PALM) and stimulated emission depletion microscopy (STED).

Date	Title	Topic
12.10.	**Introduction / Overview**	
2.11.	**First steps ...**	Single-molecule absorption
9.11.	**Getting closer!**	Near-field methods
16.11.	**New standards**	Single-molecule fluorescence spectroscopy
23.11.	**What's that?**	Photon statistics & data analysis
30.11.	**Let there be light!**	Labels & photo-physics
14.12.	**Move it**	Molecular motors: conformation & binding
21.12.	**Walk this way**	Molecular transport: diffusion & binding
11.1.	**Working class hero**	Enzymes / DNA sequencing
18.1.	**Nothing else matters**	Material sciences & chemistry
1.2.	**Even more details**	Microscopy / Nanoscopy