



Münchner Physik- Kolloquium

Winter
2019/20

There and back again – confocal microscopy to quantify diffusion and molecular structure

Prof. Dr. Jelle Hendrix, *Universiteit Hasselt, Belgium*

Monday, 2 December 2019, 17:15 h

Hörsaal H 030, Fakultät für Physik der LMU, Schellingstraße 4, München

Many researchers use the visually stunning images that confocal microscopes provide as such. We try to determine physical parameters of the fluorescently labeled sample from the seemingly random signal fluctuations that confocal data contain. I will introduce raster image correlation spectroscopy, a confocal image analysis method that allows extracting information on mobility, concentration and binding ratio (stoichiometry) of fluorescently labeled molecules in non-fixed (solutions, live cells or tissues) samples. I will discuss applications of RICS and some key variations we have developed in recent years. Then, I will introduce Förster resonance energy transfer, a method by which the distance between two fluorescent probes can be measured with Ångstrom precision. I will give an overview of what the FRET method can be used for and will discuss how we use FRET to quantify molecular structural dynamics in realtime at the level of single molecules.

Student event: Meet the speaker

We invite you to a **student-only** discussion-round with Prof. Dr. Jelle Hendrix before his Munich Physics Colloquium talk.

Be curious and feel free to ask any question.

Monday, 2 December 2019, 16:00 h,

Room H 522 (5th floor), Fakultät für Physik der LMU, Schellingstraße 4, München

