



28th December 2019, 10:00–11:00h
CFEL – Building 99, seminar room I and II (ground floor)

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Laser-based imaging of molecules and nanoparticles

Watching a molecule at work, the so-called making a molecular movie, is a long standing goal in the physical chemistry community. With the recent advent of X-ray free electron lasers and relativistic electron guns, femtosecond diffractive imaging studies with intense short-wavelength pulses and with ultrashort electron bunches became possible. In our talk, we will discuss alternative routes based on strong field ionization by intense femtosecond laser pulses to image molecular structures and dynamics. Three techniques, namely laser-induced Coulomb explosion imaging, laser-induced electron diffraction and laser-based coherent diffractive imaging, will be presented and recent applications of these techniques to the retrieval of molecular structure and ultrafast molecular dynamics will be provided.