Single molecules in soft matter : a study of biomolecular conformation, heterogeneity and plasmon enhanced fluorescence

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List of Publications

- H. Yuan, T. Xia, B. Schuler, and M. Orrit. "Temperature-cycle single-molecule FRET microscopy on polyprolines", *Phys. Chem. Chem. Phys.* **13** (2011) 1762–1769.

- H. Yuan, and M. Orrit. "Reaction pathways from single-molecule trajectories", *ChemPhysChem* **13** (2012) 681–683.

- H. Yuan, T. Xia, M. Plazanet, B. Demé and M. Orrit. "Crystallite nucleation in supercooled glycerol near the glass transition", *J. Chem. Phys.* **136** (2012) 041102.

- H. Yuan, S. Khatua, P. Zijlstra, M. Yorulmaz, and M. Orrit. "Thousand-fold enhancement of single-molecule fluorescence near a single gold nanorod", *Angew. Chem. Int. Ed.* **52** (2013) 1217–1221.

- H. Yuan, S. Khatua, P. Zijlstra, and M. Orrit.
"Individual gold nanorods report on dynamical heterogeneity in supercooled glycerol", *Faraday Discuss.* (2013) (DOI): 10.1039/C3FD00091E.

Curriculum Vitae

of Haifeng Yuan, born in Ningxia Hui Autonomous Region (China) on 14^{th} July, 1985.

Haifeng Yuan obtained his BSc degree in Electronics and Information Science and Technology at Shandong University (Ji'nan, China) from September 2003 to July 2007. He then enrolled in the MSc programme in Molecular Nano- and Bio-Photonics at the École Normale Supérieure de Cachan (ENS de Cachan, Cachan, France). During his MSc study, he spent three semesters at the ENS de Cachan, Universidad Complutense de Madrid (Madrid, Spain) and Politechnika Wrocławska (Wrocław, Poland). Afterwards, he joined the MoNOS group at the Universiteit Leiden (Leiden, the Netherlands) for a one-semster master project on temperature-cycle microscopy of FRET-labeled polyprolines in glycerol, under the supervision of Dr. Ted Xia and Prof. Michel Orrit.

He then joined the same group at Leiden as a PhD candidate in September 2009 under supervision of Prof. Michel Orrit. He studied dynamics of single molecules and single gold nanoparticles in soft matter. His PhD research is summarized in this thesis. During his PhD period, he assisted the third-year bachelor course on "Atomic and Molecular Physics" and supervised a master project.

Soon after his promotion, he will join Johan Hofkens' group at KU Leuven as a postdoc researcher.

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