# 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.

# Acknowledgements

Though it bears only my name, this thesis would not have been possible without the help from many people. At the end of this thesis, I acknowledge people who have helped me in many ways. Foremost, I would like to express my sincere gratitude to my supervisor Prof. Michel Orrit for the continuous support of my Ph.D. study, for his guidance, patience, enthusiasm, and immense knowledge. I am very grateful to Dr. Ted Xia and Dr. Alexander Gaiduk, from whom I learned many things in the beginning of my research. I thank Dr. Joanna Siekierzycka for her help in the lab. A special thanks goes out to Dr. Saumyakanti Khatua, and Dr. Peter Zijlstra, who brought gold nanorods into the scope of research. I thank Dr. Mustafa Yorulmaz for sharing the experimental setup. Many thanks go to our collaborators. I acknowledge Prof. Claus Seidel and Prof. Benjamin Schuler for providing us FRET samples. I acknowledge Dr. Michio Matsushita for lending us the single-component reflecting objective. I am thankful to Dr. Marie Plazanet and Dr. Bruno Demé for their help in the neutron scattering work in Grenoble. I thank Nina Ryan for her contribution in experiments during her master project in the group.

I must also thank many other colleagues for their constant help. I appreciate Harmen van de Meer, Jos Disselhorst and Arno van Amersfoort for their constant technical support. I thank Henriëtte van Leeuwen for her kind help with all administrative matters. I want to thank Dr. Peter Gast, Dr. Maryam Shabestari, Pedro Navarro and Martin van Son for organizing the chemical room. I appreciate helpful discussions with Dr. Paul Ruijgrok, Dr. Yuxi Tian, Nico Verhart, Aquiles Carattino and Lei Hou. I thank Prof. Edgar Groenen for his kind help to improve my thesis.

I would like to thank my friends at Leiden for the memorable moments that we shared, and for their encouragement. At the end, I would like to express my deepest appreciation to my family for their love and support throughout my entire life. In particular, my profound thanks to my wife Henna. In the end it was her love, support and encouragement that made this dissertation possible.