Hot Nanoparticles

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Acknowledgements

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Biography

I was born on 31 October 1990 in Starnberg, near Munich, and grew up in the nearby market town of Wolfratshausen. After completing my secondary education with the *Abitur* at Gymnasium Geretsried in 2010, I served at a workshop for people with a handicap, the Oberland-Werkstätten in Geretsried, for my *Zivildienst*.

In 2011, I joined Mansfield College, University of Oxford, to read Physics. Between my first and third year at Oxford, I spent several vacations working as a software developer at Mobile Software AG in Munich. My final year Master's project, entitled *'Developing a method for detecting influenza using wide-field fluorescence microscopy'*, was performed in the group of Professor Achillefs Kapanidis as a test case for the *Nanoimager*, a compact TIRF microscope — then a prototype, now produced and sold commercially by Oxford Nanoimaging Ltd — demonstrating its use for a sensing application. In July 2015, I graduated with a Master of Physics degree (MPhys, first class).

In October 2015 I joined the Single-Molecule Optics group at the Leiden Institute of Physics, Leiden University, as a PhD candidate supervised by Professor Michel Orrit, on a project financed through the NanoFront consortium, to study the behaviour of single vapour nanobubbles. Over the course of my time there, the scope of my work widened to include chirality and luminescence, and this thesis is the result. In 2016, I assisted in teaching the 'Molecular Physics' course in the 'Life Science & Technology' BSc, 2nd year, taught by Dr Martina Huber. In 2017, 2018 and 2019, I taught in the optics and electromagnetism practicals in the 1st year of the Physics BSc degree course under Professor Thomas Schmidt. From 2017 to 2019 I served as a delegate on the Institute Council.

List of Publications

- T. Jollans and M. Orrit, ‘Een interferentie-experiment in je badkamer’, Nederlandse Tijdschrift voor Natuurkunde **84**, 226–227 (2018).
- T. Jollans, M. D. Baaske, and M. Orrit, ‘Nonfluorescent Optical Probing of Single Molecules and Nanoparticles’, J. Phys. Chem. C **123**, 14107–14117 (2019).
- T. Jollans and M. Orrit, ‘Explosive, oscillatory, and Leidenfrost boiling at the nanoscale’, Phys. Rev. E **99**, 063110 (2019).
- P. Spaeth, S. Adhikari, L. Le, T. Jollans, S. Pud, W. Albrecht, T. Bauer, M. Caldarola, L. Kuipers, and M. Orrit, ‘Circular Dichroism Measurement of Single Metal Nanoparticles Using Photothermal Imaging’, Nano Lett. `10.1021/acs.nanolett.9b03853` (2019).

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