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## Universiteit Leiden



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Author: Vlieg, R.C. Title: Two-photon multifocal microscopy for in vivo single-molecule and single-particle imaging Issue Date: 2020-12-14

## List of publications

Van Pomeren, M., Peijnenburg, W. J. G. M., Vlieg, R. C., van Noort, J. & Vijver, M. G. The biodistribution and immuno-responses of differently shaped non-modified gold particles in zebrafish embryos. *Nanotoxicology* **13**, 558–571 (2019).

Arias-Alpizar, G., Kong, L., Vlieg, R. C., Rabe, A., Papadopoulou, P., Meijer, M. S., Bonnet, S., Vogel, S., van Noort, J., Kros A., Campbell, F., Light-triggered switching of liposome surface charge directs delivery of membrane impermeable payloads in vivo. *Nat. Commun.* **11**, 1–14 (2020).

Brinkmann, B. W., Beijk, W.F., Vlieg, R.C., Mejia, J., Lamers, G., van Noort, J., Peijnenburg, W. J. G. M., and Vijver, M. G. Adsorption of titanium dioxide nanoparticles onto zebrafish eggs affects colonizing microbiota. *Aquatic Toxicology*, (submitted).

Vlieg, R.C., Pham, C., van Noort, J., Multiplexed two-photon excitation spectroscopy of single gold nanorods for single molecule biosensing. (In preparation).

Vlieg, R. C., Siemons, C., Arias-Alpizar, G., Papadopoulou, P., Boutilier, K., van Noort, J., Two-photon multifocal microscopy for *in vivo* single particle tracking. (In preparation).

## Curriculum vitae

Redmar Cornelis Vlieg was born on 9 April 1992 in Blaricum, The Netherlands. After receiving his VWO diploma from the Nijmeegse Scholengemeenschap Groenewoud in 2010, he went to the University of Twente to study biomedical engineering. In 2013 he obtained the Bachelor of Science and continued at the University of Twente for a Msc. degree in biomedical engineering. During this time, he spent five months at AOM-labs at the Australia National University in Canberra under supervision of Dr. Steve Lee, where he chemically cleared mouse tissue and imaged the results using two-photon microscopy. For his final internship, Redmar worked on a photo-acoustic setup for early detection of rheumatoid arthritis at the biomedical photonic imaging group, Twente University, under supervision of Prof. Srirang Manohar.

After obtaining his Msc. degree in 2016 and being interested in research and the development of new imaging modalities, Redmar started his PhD at the group of Prof. John van Noort at Leiden University. His PhD research revolved around the development of a two-photon multifocal microscope, and how that could be used for single-molecule and single-particle tracking in live samples. During his time in Leiden, Redmar also joined the board of the 'Leids Promovendi Overleg', where, as an external affairs officer and secretary, he was involved in representing PhDs of Leiden in local and national matters, and the organization of events for the social well-being of PhDs.

Upon completing his PhD in 2020, Redmar started at MILabs in Utrecht, The Netherlands, where he works on the development of an optical module for the imaging of mice for pre-clinical research.