Glow with the flow: Quantifying blood flow and photoluminescence signal in biological tissue
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Glow With The Flow.
A thesis that contributes to the
development of optical techniques to
assess microcirculation functionality for the
diagnosis, monitoring, therapy guidance and
understanding of many diseases ranging from
the onset of septic shock to the delivery of drugs to
tumours. The first part of this thesis aims to develop a
non-invasive technique to quantify microcirculatory blood
flow velocity based on laser speckle flowmetry.
The second part is devoted to the quantification of
optical signals arising from photoluminescent
upconversion nanoparticles for sensitive detection
in biomedical tissues.
The combination of these techniques is particularly
useful in the context of tumour therapy by
providing information on tumour angiogenesis,
enabling molecular contrast and
delivering nanoparticle-based drugs.
Glow with the flow: Quantifying blood flow and photoluminescence signal in biological tissue

Annemarie Nadort
Glow with the flow: Quantifying blood flow and photoluminescence signal in biological tissue

ACADEMISCH PROEFSCHRIFT

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ten overstaan van een door het College voor Promoties ingestelde
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Annemarie Nadort

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Promotores: prof. dr. A.G.J.M. van Leeuwen, prof. dr. M.C.G. Aalders

Co-promotor: dr. ir. D.J. Faber


Universiteit van Amsterdam

Universiteit van Amsterdam

Faculteit der Geneeskunde
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