VRIJE
UNIVERSITEIT
BRUSSEL

PhD in Medical Sciences
2020-2021

INVITATION to the Public defence of

Pieter NELIS

To obtain the academic degree of '**DOCTOR OF MEDICAL SCIENCES**'

**Different physiological and pathological conditions
in relation to morphological retinal vasculature data
measured with optical coherence tomography angiography**

The defence will take place on **Friday, 30 April 2021 at 3 p.m.**

and will be organised **online** accessible through the following link:

klik hier om deel te nemen aan de vergadering (als publiek)

Summary of the dissertation

Since the invention of the ophthalmoscope, scientists and clinicians have consistently tried to use the eye as a window to monitor systemic conditions. For instance, studies based on colour fundus photography revealed the value of retinal arteriolar-to-venular ratio to predict stroke or cerebral small vessel disease risk. Fluorescein angiography has become the standard method to analyze retinal and optic nerve vasculature and diagnose vascular diseases of the retina. With the advent of Optical Coherence Tomography Angiography (OCTA), a non-invasive diagnostic technique came available, which changed the indications of classic invasive fluorescein angiography and added additional features to the plethora of multimodal imaging known in present-day ophthalmology.

Using OCTA, vessel maps of retinal layers can be produced. The surface that these vessels cover, may be quantified into a measure called vessel density.

The present thesis examines vessel density changes observed in physiology (dark and light adaptation) and pathology (patients with diabetes and cerebral autosomal-dominant arteriopathy with subcortical infarcts and leukoencephalopathy) and the value of OCTA in these disorders.

Curriculum Vitae

Education and training

- 2020-present   Universitair Ziekenhuis Brussel
  Resident - Ophthalmology
- 2018-2020 University of Muenster
  Master of Business Administration
- 2014-2019 University of Muenster Medical Center
  Ophthalmologist in training
- 2010-2014   Catholic University of Leuven
  Master of Medicine with great distinction
- 2007-2010   Catholic University of Leuven
  Bachelor of Medicine with great distinction
- 2001-2007   Institute Holy Heart of Mary, Berlaar
  Latin-Sciences-Mathematics