

A U S H A N G

FREIE UNIVERSITÄT BERLIN
Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Dienstag, 19. April 2016, 10.00 Uhr

Ort: Raum 108/109, Arnimallee 6, 14195 Berlin

Disputation über die Doktorarbeit von

Frau Ella Maria Kadas

Thema der Dissertation:

**Methods to extract and quantify retinal blood vessels
and optic nerve head from optical coherence tomography data
in neurological disorders**

Thema der Disputation:

**Concepts of scale-space theory in digital image processing
and methods for the detection of curvilinear structures**

Die Arbeit wurde unter der Betreuung von **Prof. Dr. K. Polthier** durchgeführt.

Abstract: Although several methods have been developed in medical image processing for the enhancement and extraction of different structures, segmentation of curvilinear structures, like blood vessel still remains a challenging problem. This presentation aims at giving an overview of some of the main concepts from the theory of scale-space representation and to highlight current methods in the segmentation of blood vessels in the multi-scale context.

In the second part I will present the main results in my PhD work on the development of segmentation and analysis methods to quantify two major components of the retina, the retinal blood vessels, and the optic nerve head in several neurodegenerative disorders from confocal scanning laser ophthalmoscopy 2D images and in 3D optical coherence tomography data.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. K. Polthier