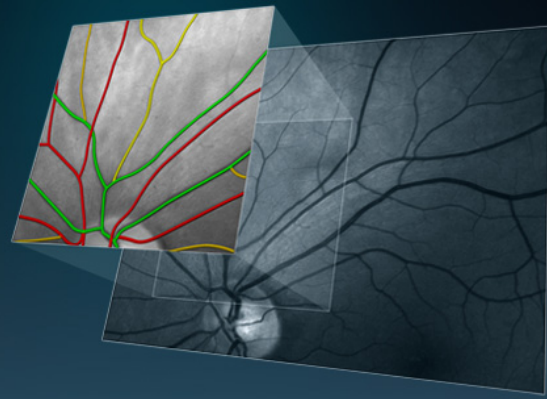
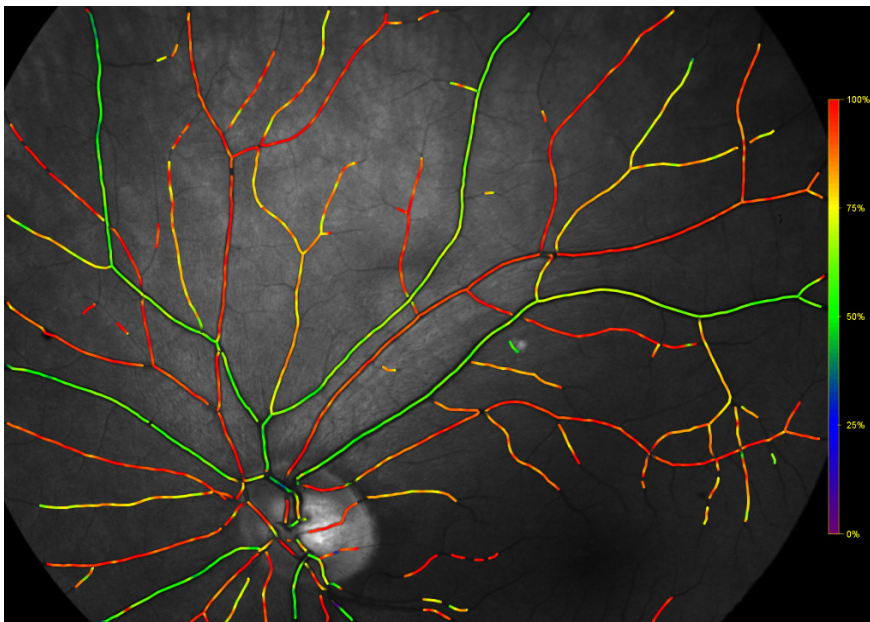


Oxymap T1

Oximeter for Assessment
of Retinal Metabolism



The Oxymap T1 measures relative retinal-vessel-oxygen-saturation and vessel-width. It allows metabolic and structural imaging of the retina and evaluation of the pathophysiology of common eye diseases such as retinal vascular occlusions, glaucoma, diabetic retinopathy and age-related macular degeneration.



Automatically generated colour-coded map of retinal vessel oxygen saturation.

The Oxymap Digitizer is an add-on for the Topcon TRC-50DX fundus camera. It is composed of two digital cameras (1600 x 1200 pixels) and a custom-made optical adapter. It produces quality images with high pixel-resolution across the vessels in a 50° field of view.

The Oxymap Analyzer software stores the images with subjects' data in a database thus allowing users to compare retinal-oxygenation and vessel-width in groups of individuals or to compare oxygenation before and after treatment. Colour-coded saturation values give a quick overview of the oxygenation of the retina. Users can also select vessel segments of interest and obtain detailed analyses and record numerical results.

Performance

The same vessel segment was measured twice in normal subjects and ANOVA was used to calculate the standard deviations between repeated measurements (Palsson et al. IOVS 2012, Blondal R. et al. Graefes Arch Clin Exp Ophthalmol 2011). The standard deviations are given in the following table:

Vessel type	Standard deviation between repeated measurements of the same vessel	
	SatO ₂ [% oxygen], n=26	Vessel diameter[pixel], n=12
Arterioles	0.8%	0.43 - 0.65
Venules	1.3%	0.46 - 0.60



The Oxymap T1 includes

- Oxymap Digitizer: composed of an optical adapter, two digital cameras and a control box
- Oxymap Analyzer: software for image capturing and analysis with unlimited licenses for users within the institution which purchases the Oxymap T1
- Desktop computer with installed Windows 7 (32-bit) operating system
- Wide screen monitor
- Power supply and power cords
- 2x IEEE 1394 data cables, DB-9 data cable
- Filter (passes wavelengths 545 nm to 625 nm) to be inserted into the fundus camera. It reduces exposure to light of wavelengths which are not used for measurements
- USB stick with the Oxymap Analyzer software and documentation

The Oxymap T1 does not include

- Topcon fundus camera

Specifications

Dimensions:	100 mm (W) x 225 mm (D) x 350 mm (H)
Weight:	2.9 kg
Compatible fundus cameras:	Topcon TRC-50DX/EX/IX
Power requirements:	230V, 50Hz.
Topcon angle of coverage:	50° only
Measurement wavelengths:	570 nm (isobestic) and 600 nm (oxygen sensitive)
Image dimensions:	1200 x 1600 pixels

Minimum system requirements for viewing stations not connected to the oximeter

- 4 GB of RAM
- 1 TB hard disk
- 2.67 GHz dual or quad core Intel CPU (e.g. i5-750)
- 21" wide screen monitor or larger (minimum 1680 x 1050 pixels)