



CENTRE FOR NEW TECHNOLOGIES IN MEDICINE

OUR FOCUS

Develop new medical diagnostic techniques with special emphasis on the area of eye fundus imaging

Goals:

- Improve eye imaging analysis
- Development of software to identify biomarkers of disease progression
- Non-invasive methodologies for retinal vessel evaluation

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VISIT US



Centro Interface

RESEARCH FOCUS

- **Multimodal imaging** of diabetic retinal disease
- **Artificial intelligence** for characterization of retinal biomarkers
- **OCT-Leakage:** Layer by layer fluid analysis of the retina
- **Morphological characterization** of response to anti-VEGF treatment in Diabetic Macular Edema

PRODUCTS



PATENTS

- US 7,856,135 .
- US 2011/0129133

CLASS IIA MEDICAL DEVICE

- for decision support



Number of MAs found in the first visit.

Number of MAs found in a follow-up visit; Identifying which ones are NEW, OLD or DISAPPEARED in this visit.

Inter-eye ratio: MA formation late & MA disappearance late.

EMA LETTER OF SUPPORT

- 1st Biomarker of DR Progression

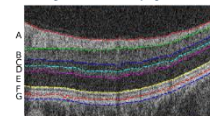
OCT - LEAKAGE

PATENT APPLICATIONS

- US 15/568,161
- EU 16727840.7

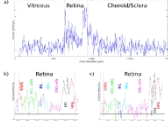
A NEW, NON-INVASIVE, METHOD TO MEASURE ABNORMAL FLUID IN THE RETINA AND DETECT BRB BREAKDOWN (LEAKAGE)

B-Scan Segmentation Identifying 7 retinal layers



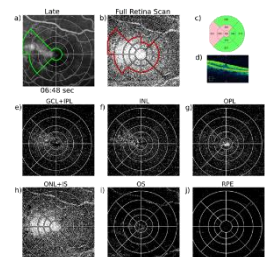
A) Retinal Nerve Fiber Layer, B) Ganglion Cell and Inner Plexiform Layer, C) Inner Nuclear Layer, D) Outer Nuclear Layer, E) Outer Nuclear Layer and inner segments, F) Outer segment, G) Retinal Pigment Epithelium

OCT A-Scan reflectivity profiles



a) Full length 3D-OCT A-Scan from a healthy volunteer (top). Detail of the 3D-OCT A-scan in the retina from healthy subject (bottom left) and a diabetic patient with clinical macular edema (bottom right).

Fluorescein Angiography and OCT-Leakage maps



Angiogram OCT A-LEAK maps for a subject with well defined leakage on Fluorescein Angiography. a) FA, with leakage areas identified by graders, outlined in green. b) Full retina scan (LE map) with low identified areas of LEK outlined in red. c) Retinal thickness. d) 5% cut-point on the lower 95% of LEK maps layer by layer for the GCL, IPL, INL, OPL, ONL, OS and RPE, respectively. Locations of low reflectivity are identified in white.

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