Optical Coherence Tomography (OCT) for Ocular Safety Assessment in Göttingen Minipigs

Nora Denk nora.denk@roche.com
Pharma Research and Early Development (pRED),

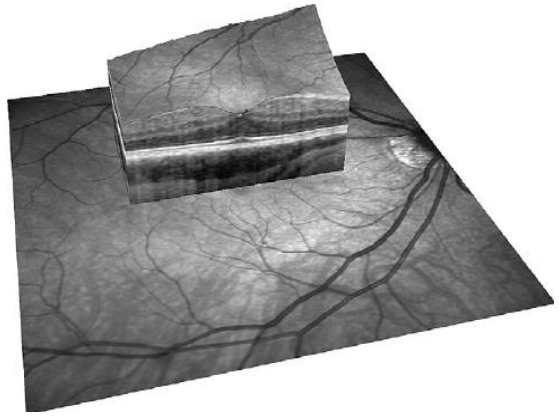
Roche pRED

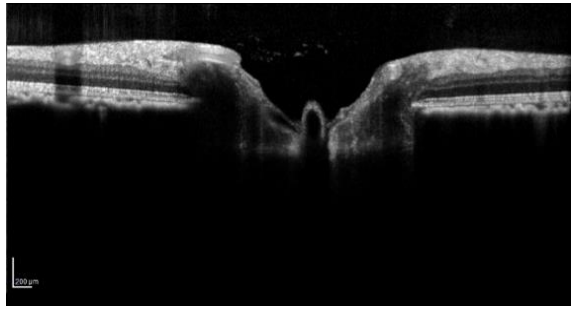
The Minipig Eye

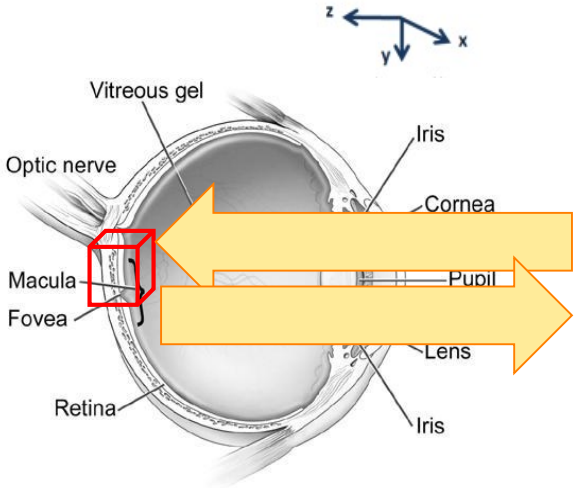
Choosing the «right» species

OCT Basics

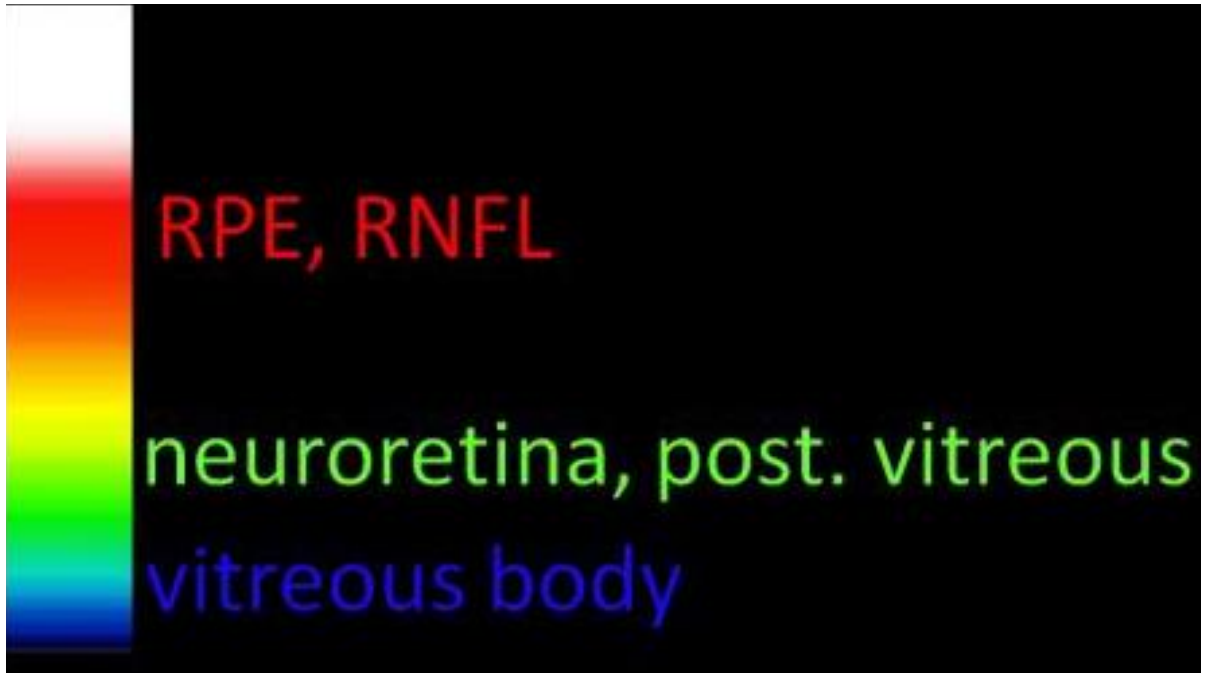
Optical Coherence Tomography (OCT)

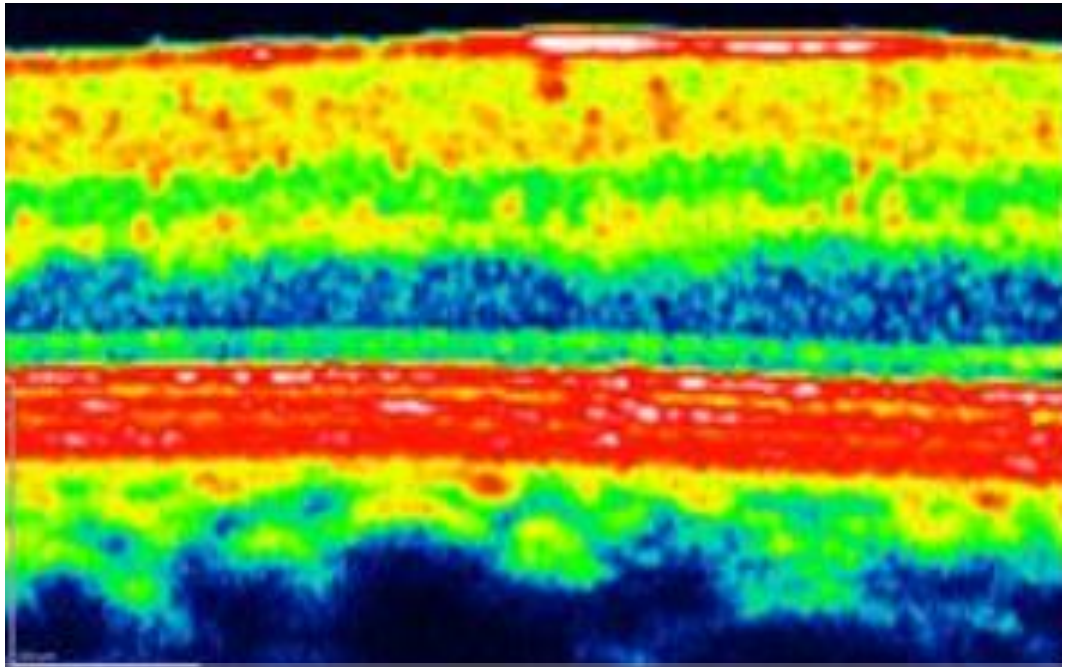




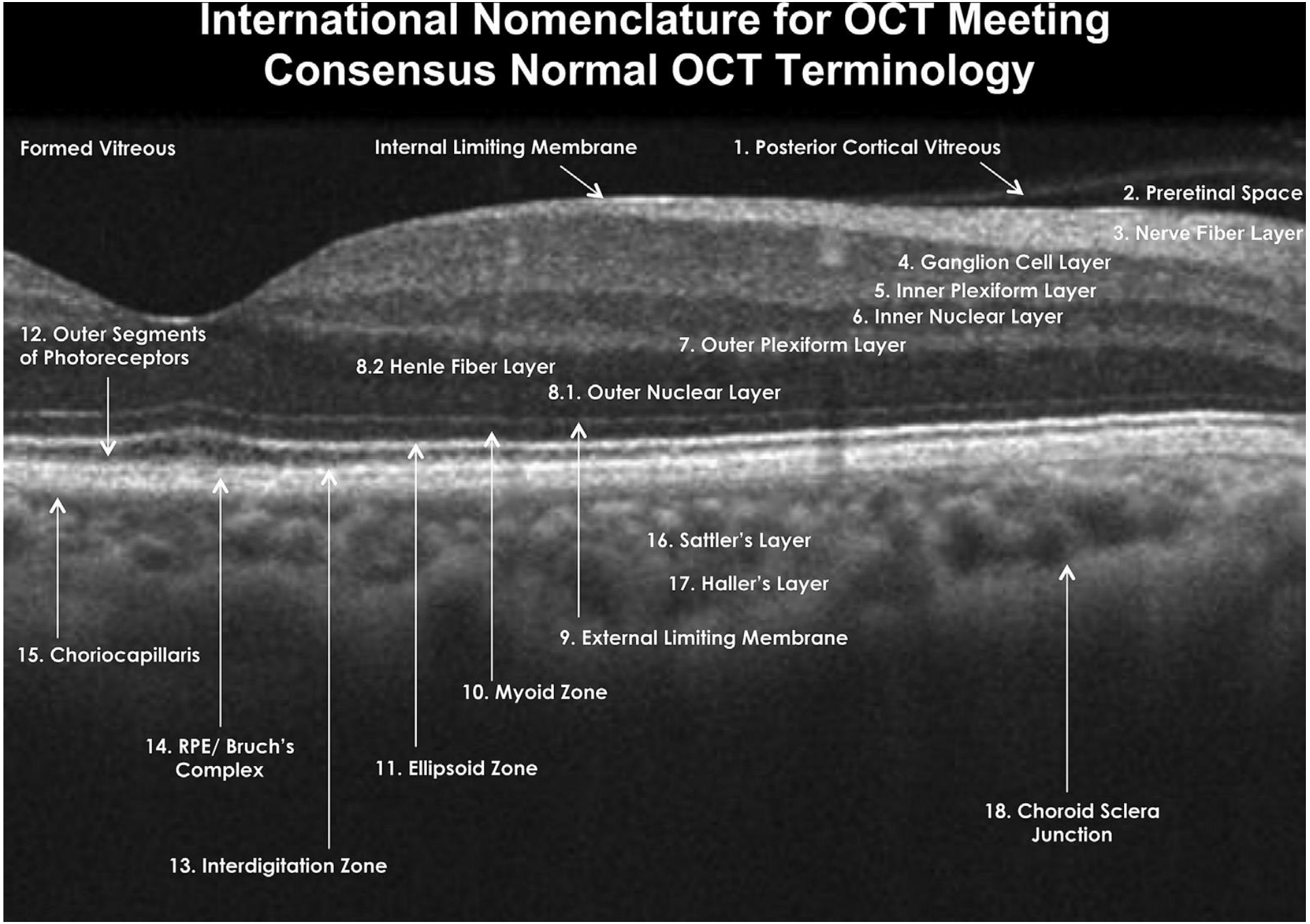


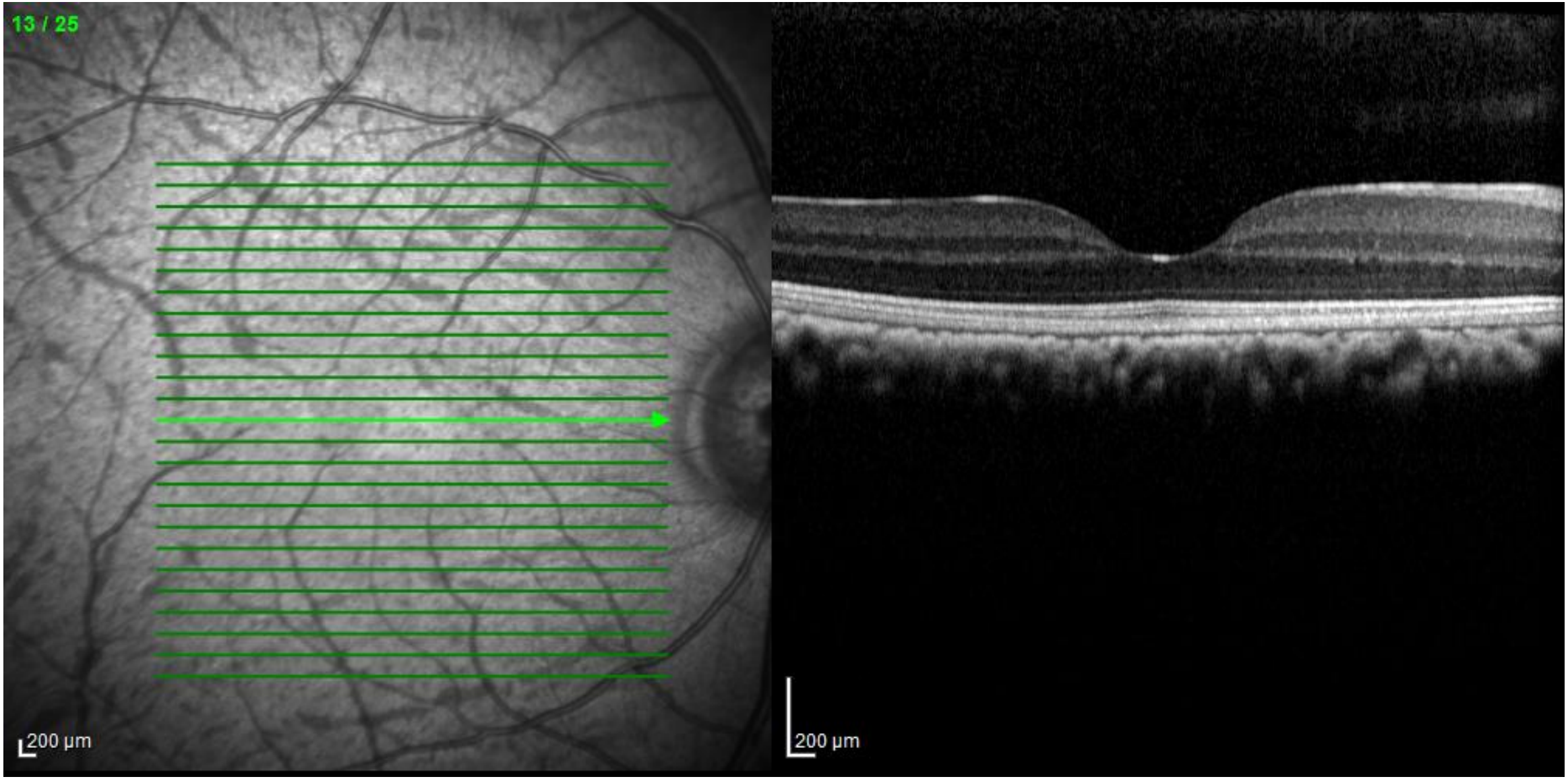
Terminology: Reflectivity

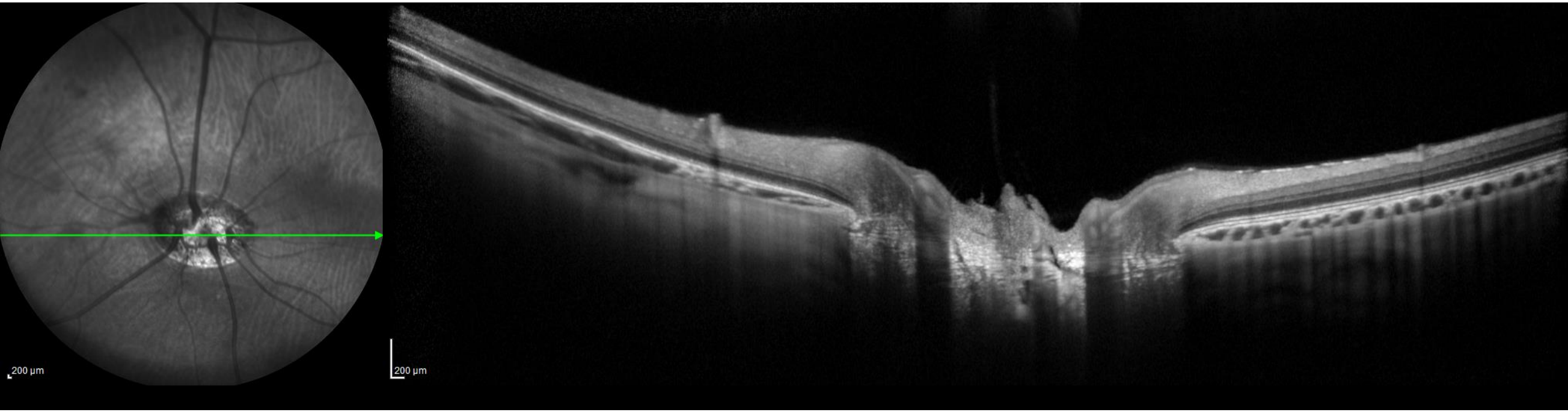




International Nomenclature for OCT Meeting
Consensus Normal OCT Terminology




13 / 25
200 µm
200 µm


200 µm
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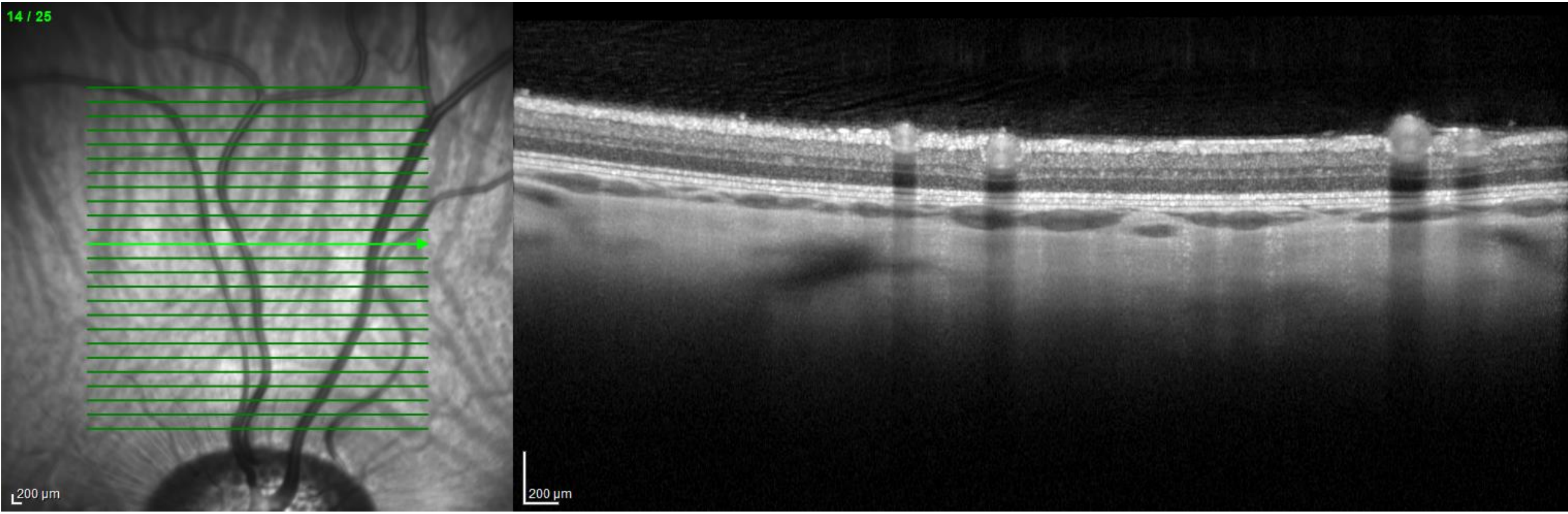
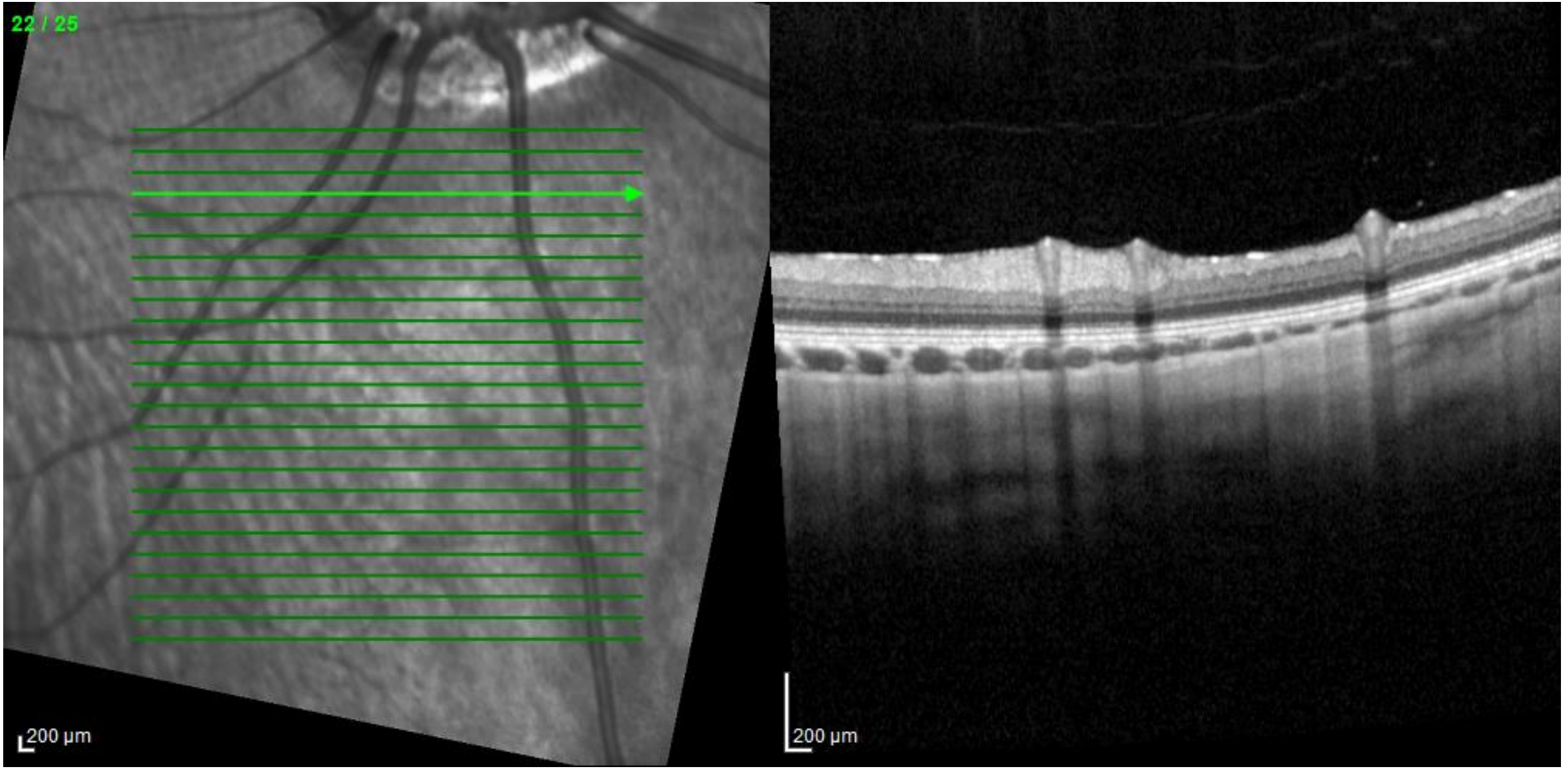
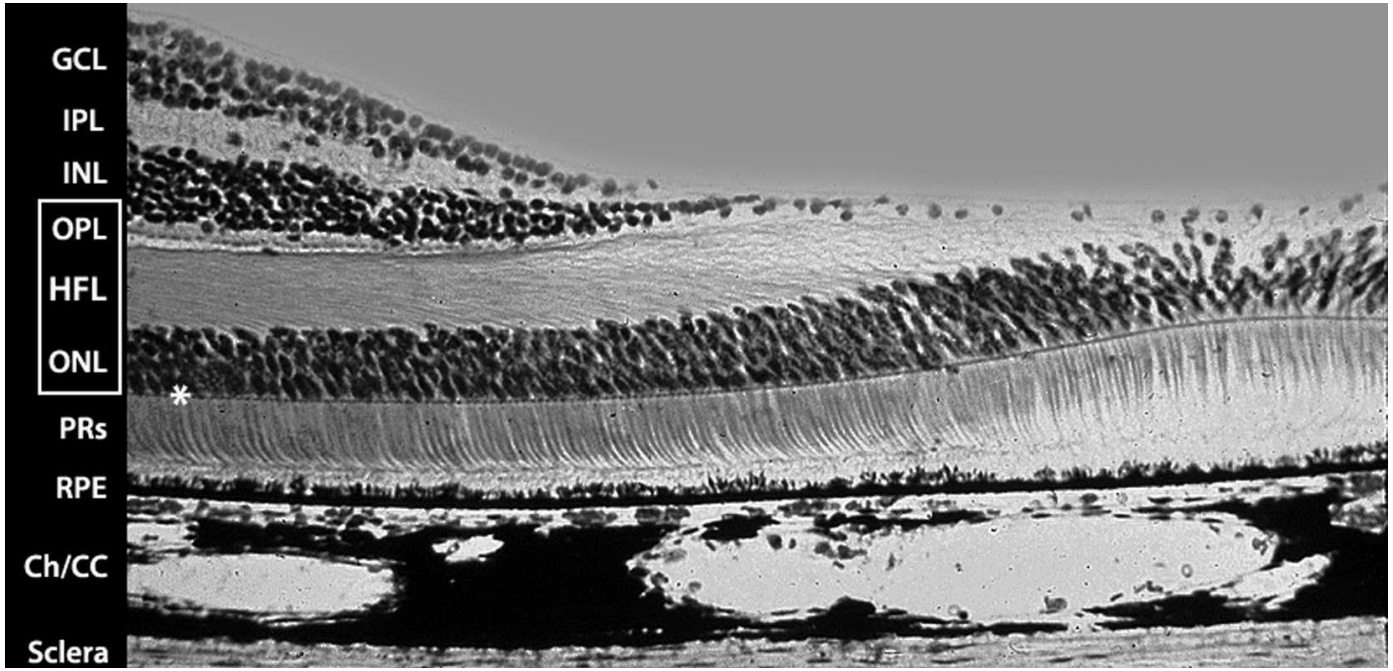
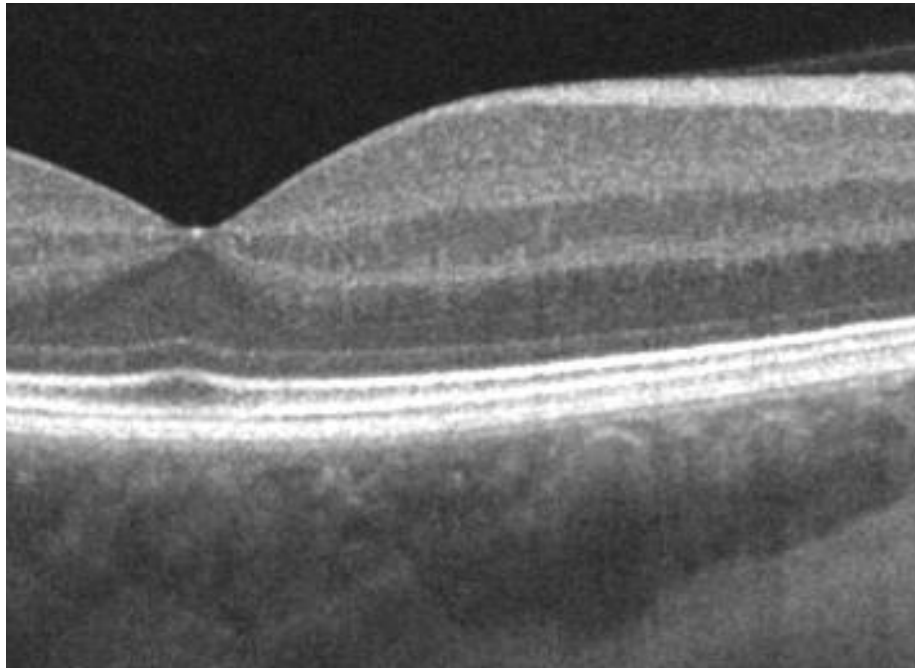

14 / 25
200 µm
200 µm

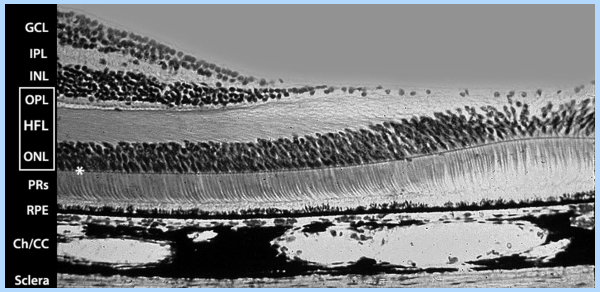

22 / 25
200 µm
200 µm

OCT and Histology – Twinbrothers?





OCT and Histology – Twinbrothers?



- Ex vivo, fixation
- One fix time point
- Coloured, different targets by immunhistology
- Exact location and orientation is not clear
- Excellent resolution

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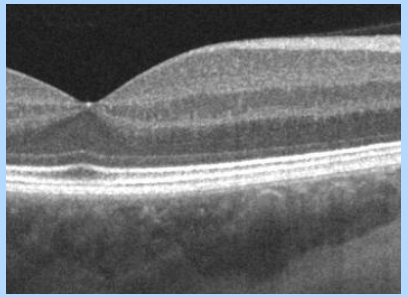
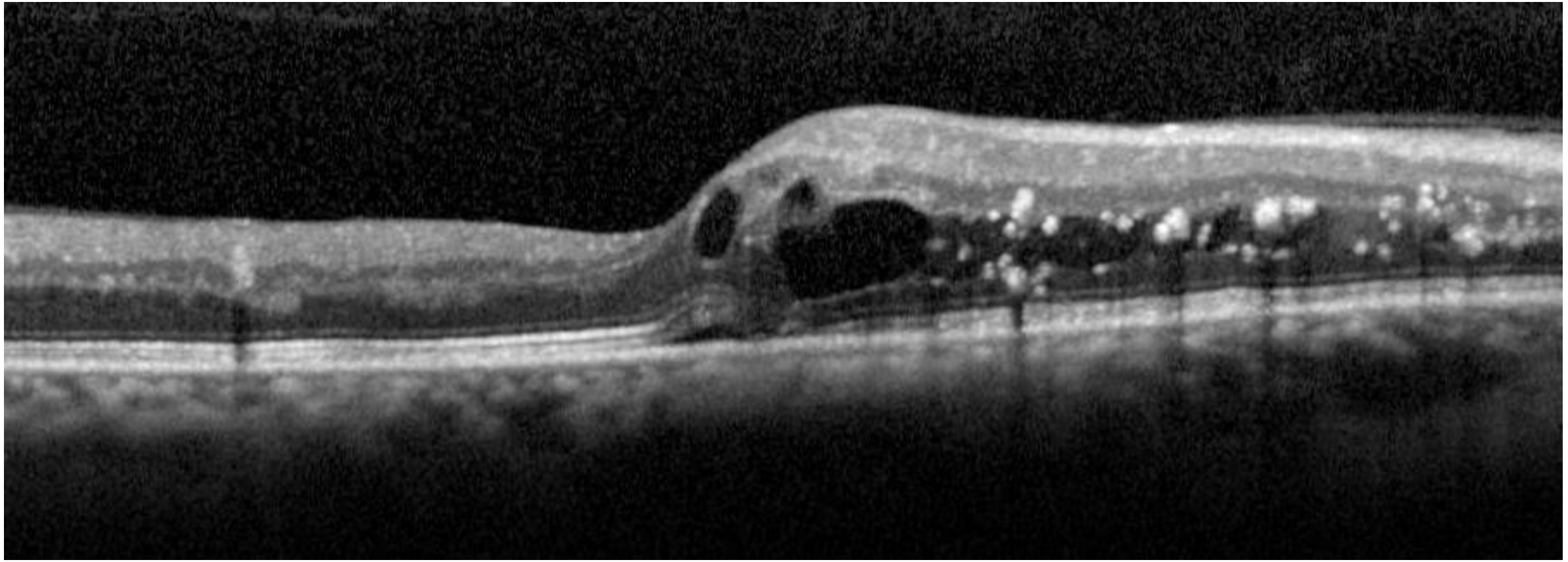
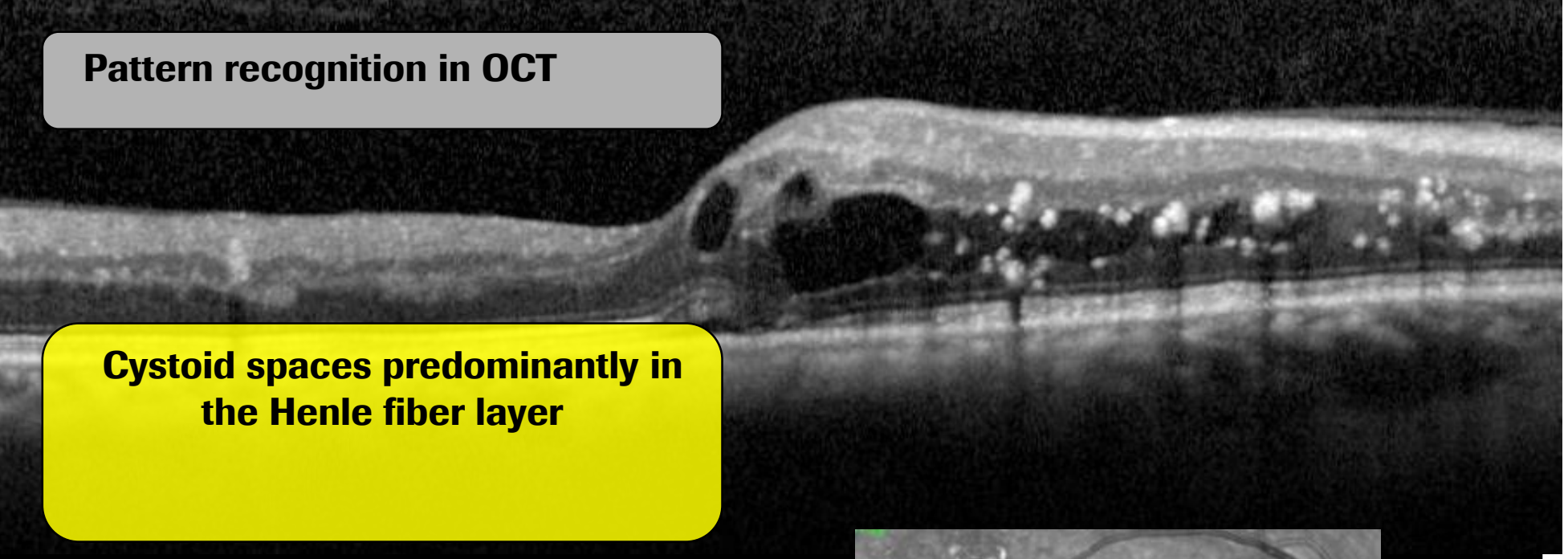


- In vivo, no fixation
- One time point, but repeatable at other
- Reflectivity and distortion
- Exact location and orientation
- Relatively low resolution
- Quality dependence



Pattern recognition in OCT

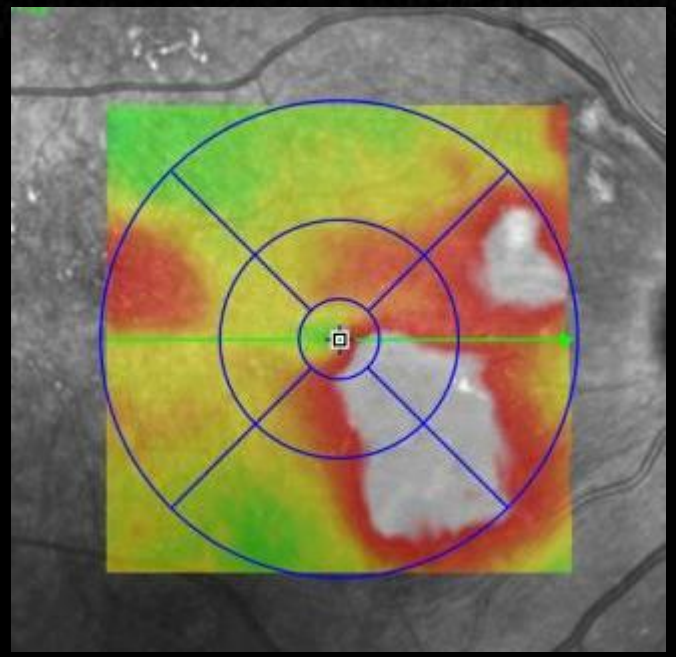


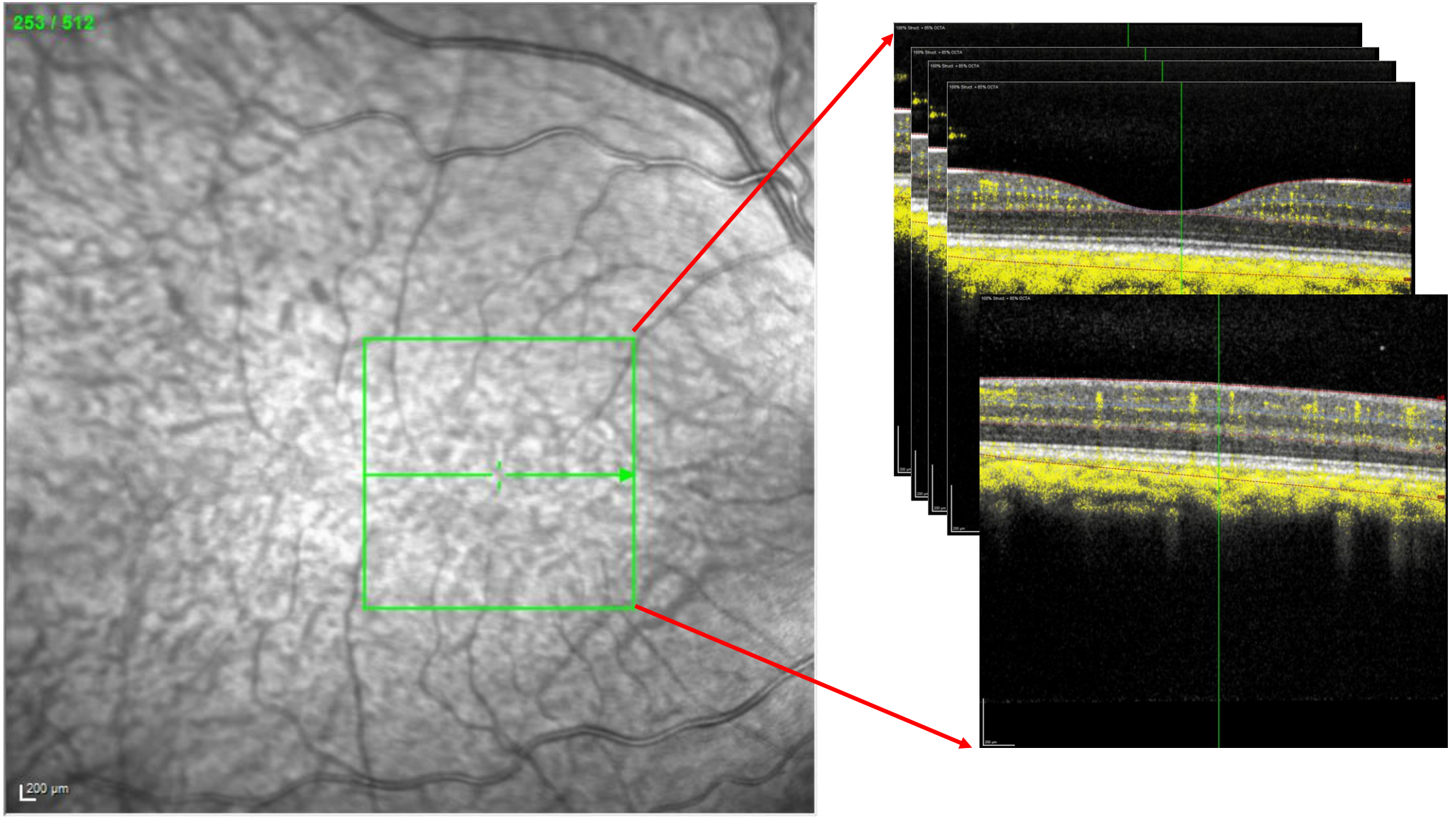
Cystoid spaces predominantly in the Henle fiber layer

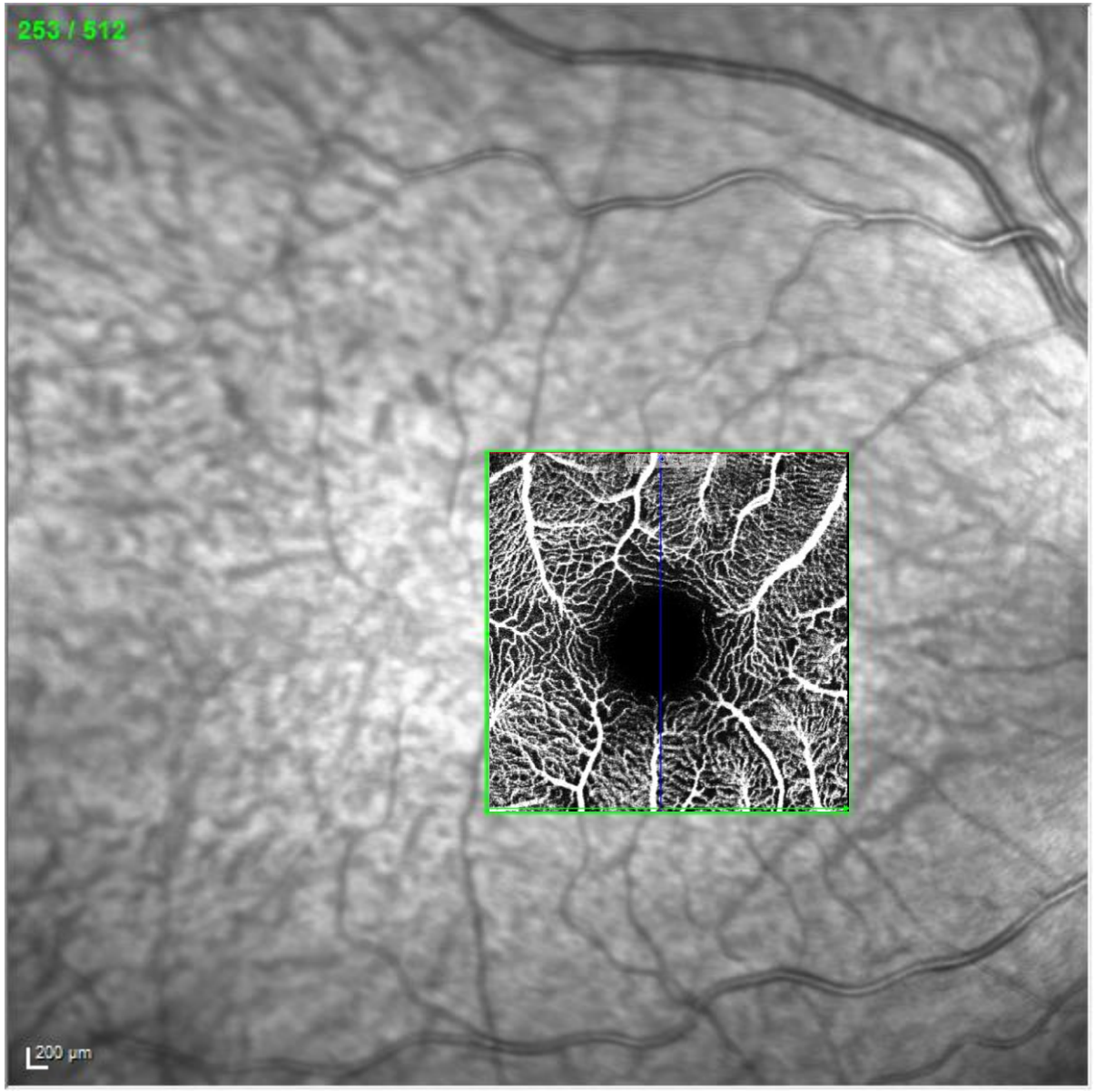
Hyperreflective dots in the retina

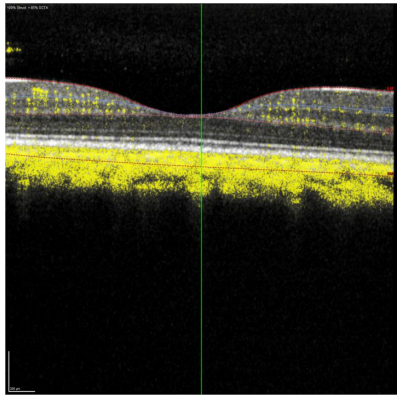
Subretinal fluid accumulation

Lesions not all over the macula, but localized

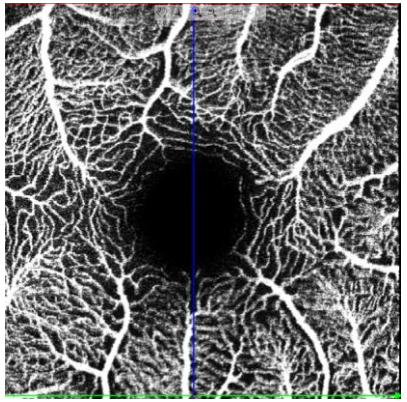



253 / 512
200 µm



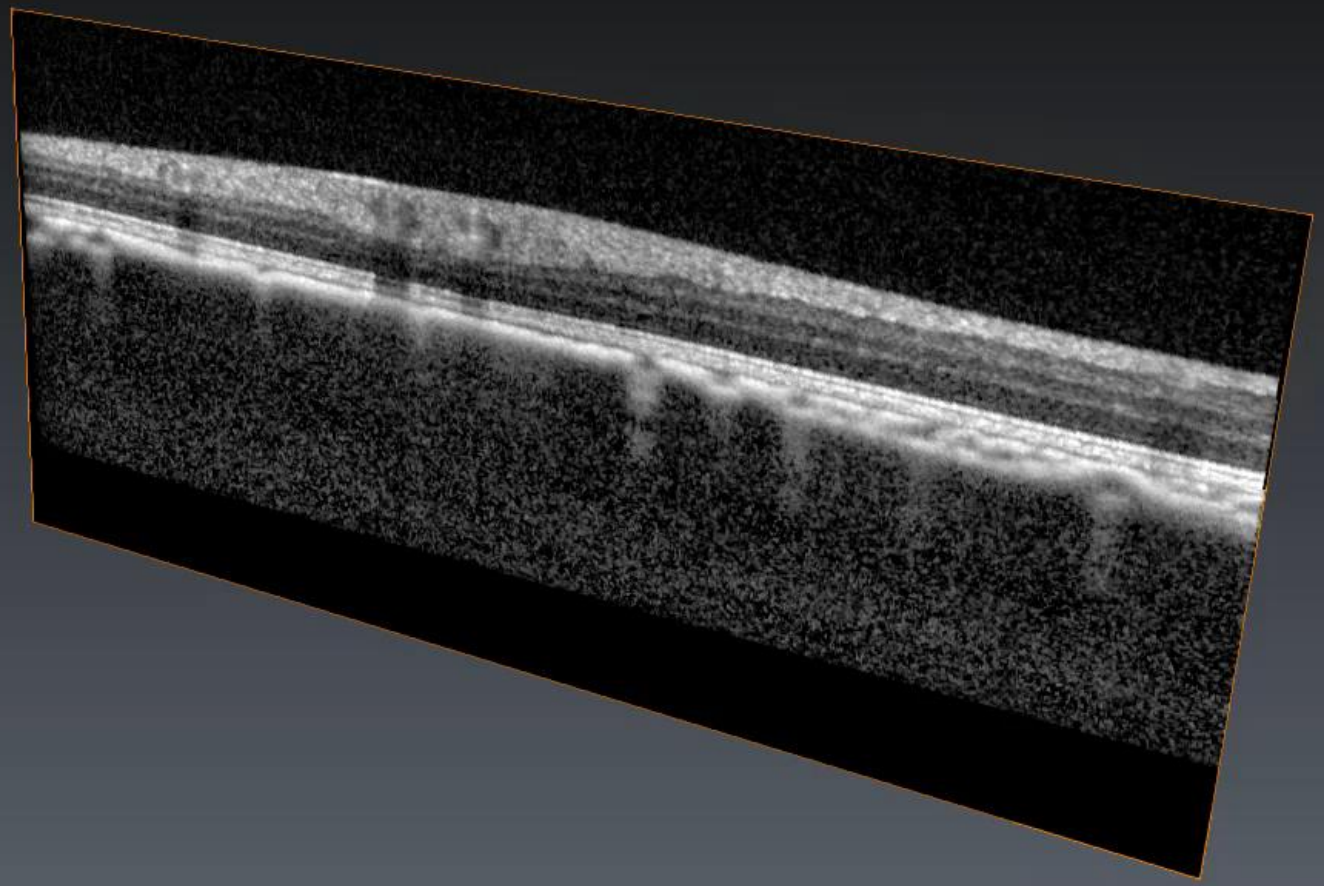


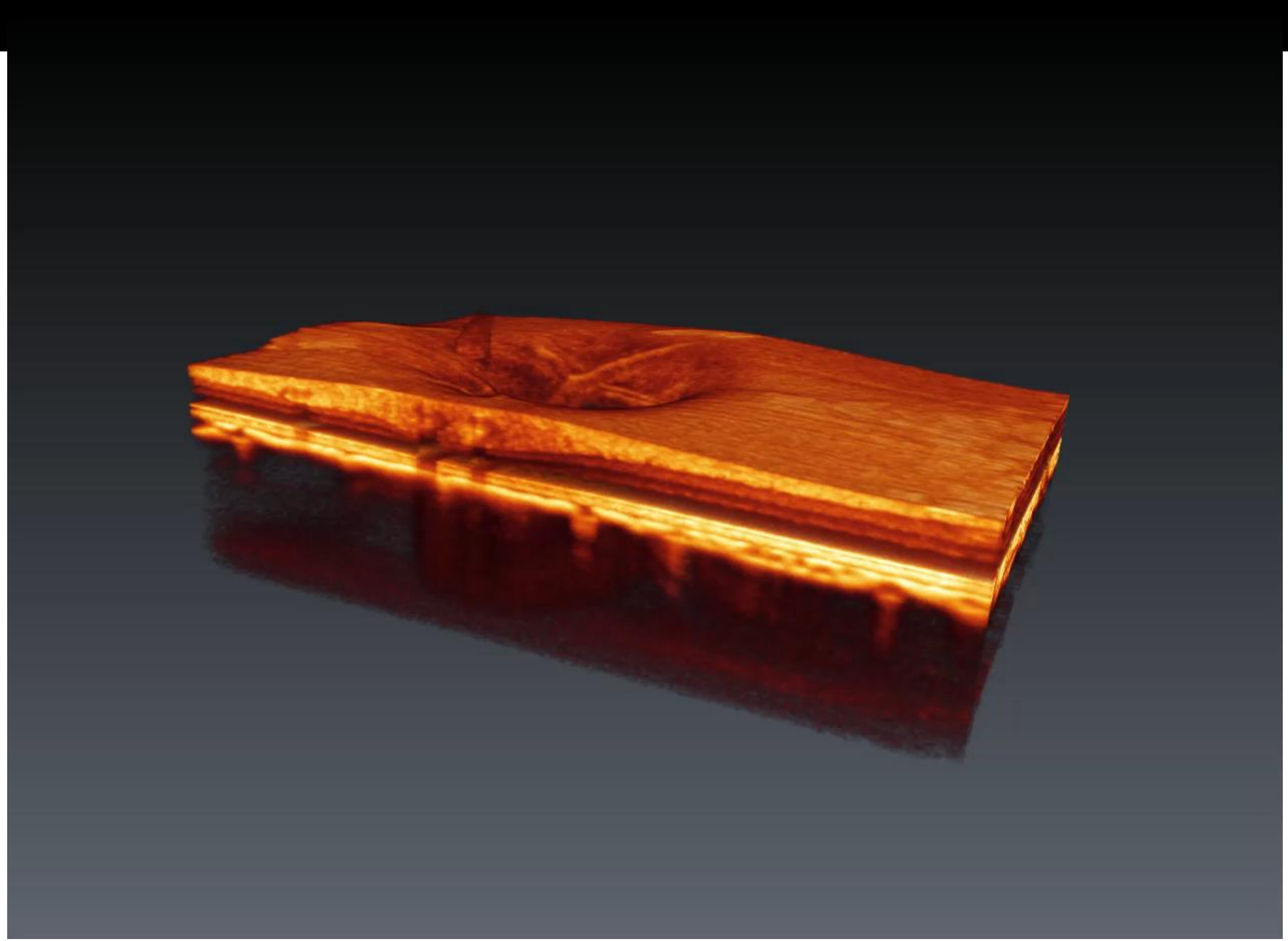
side-view

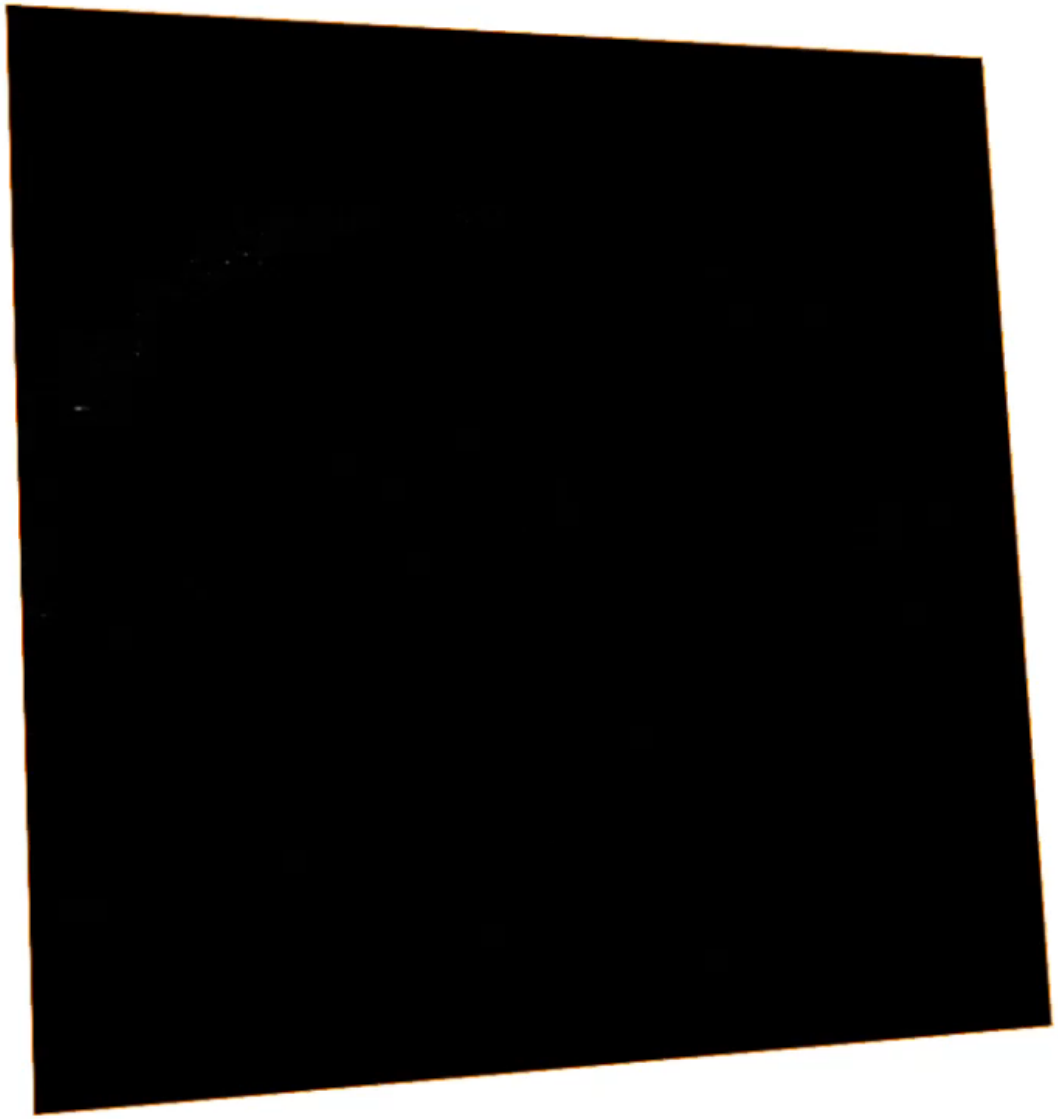


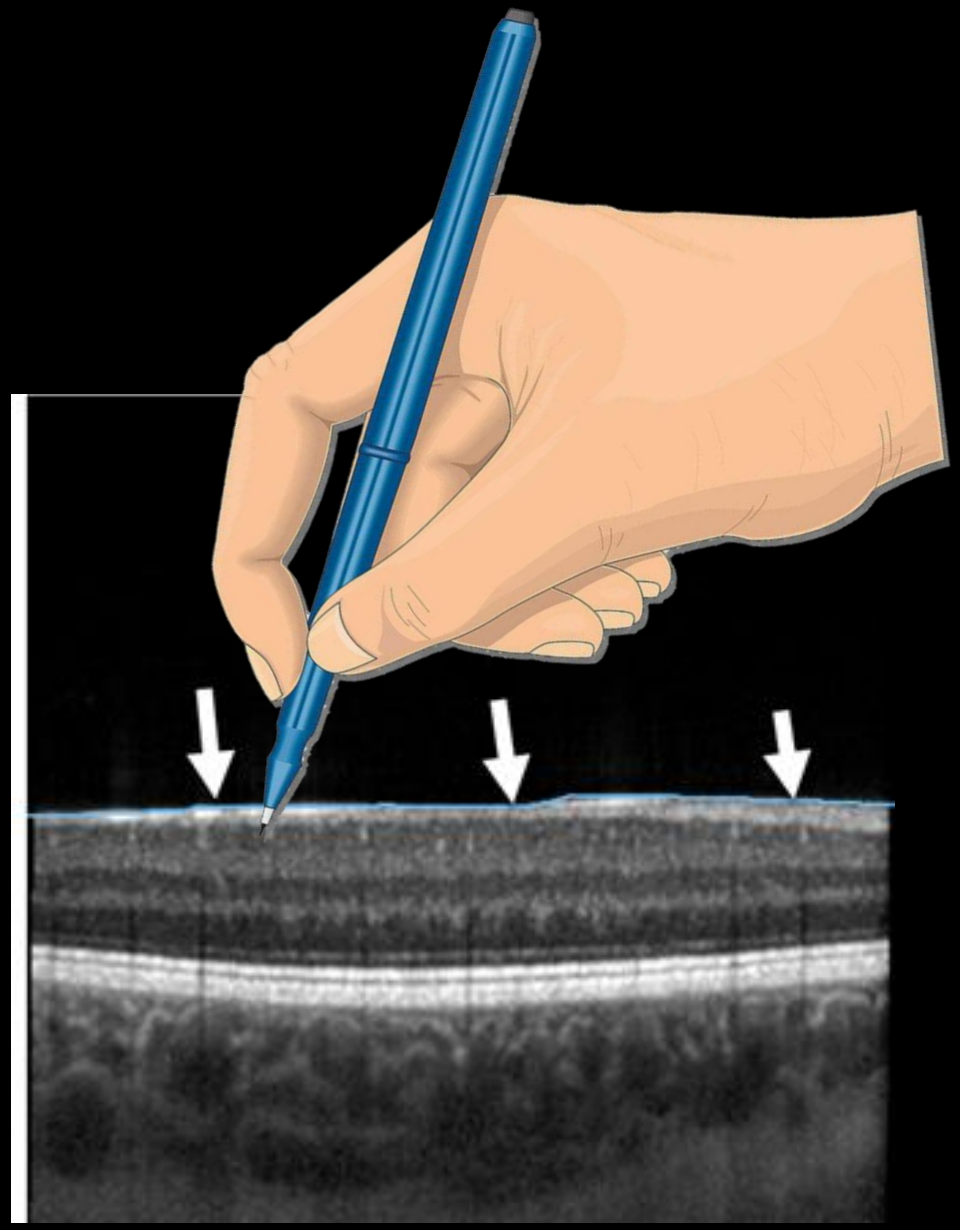
en-face view

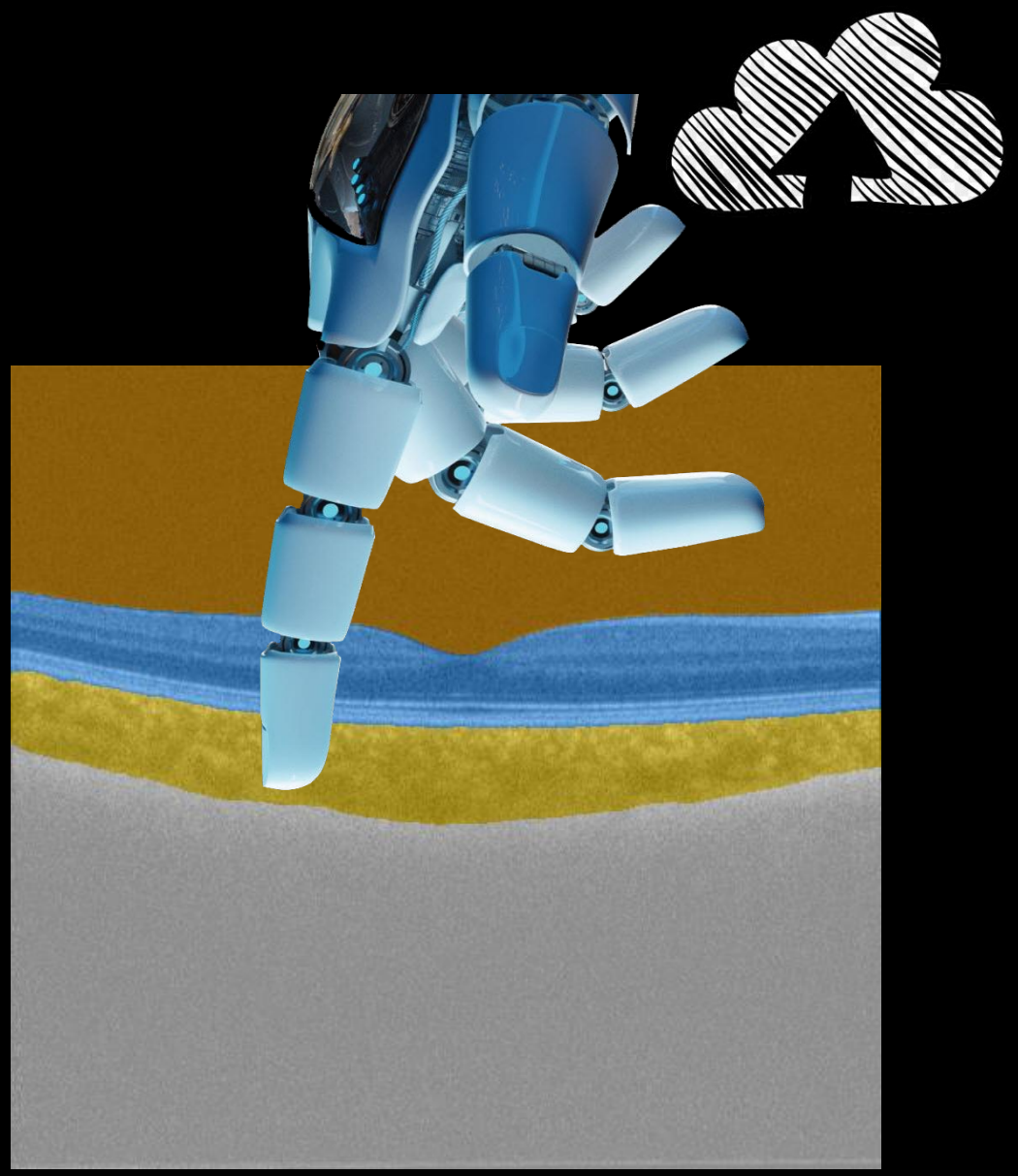
New technologies: OCTlab

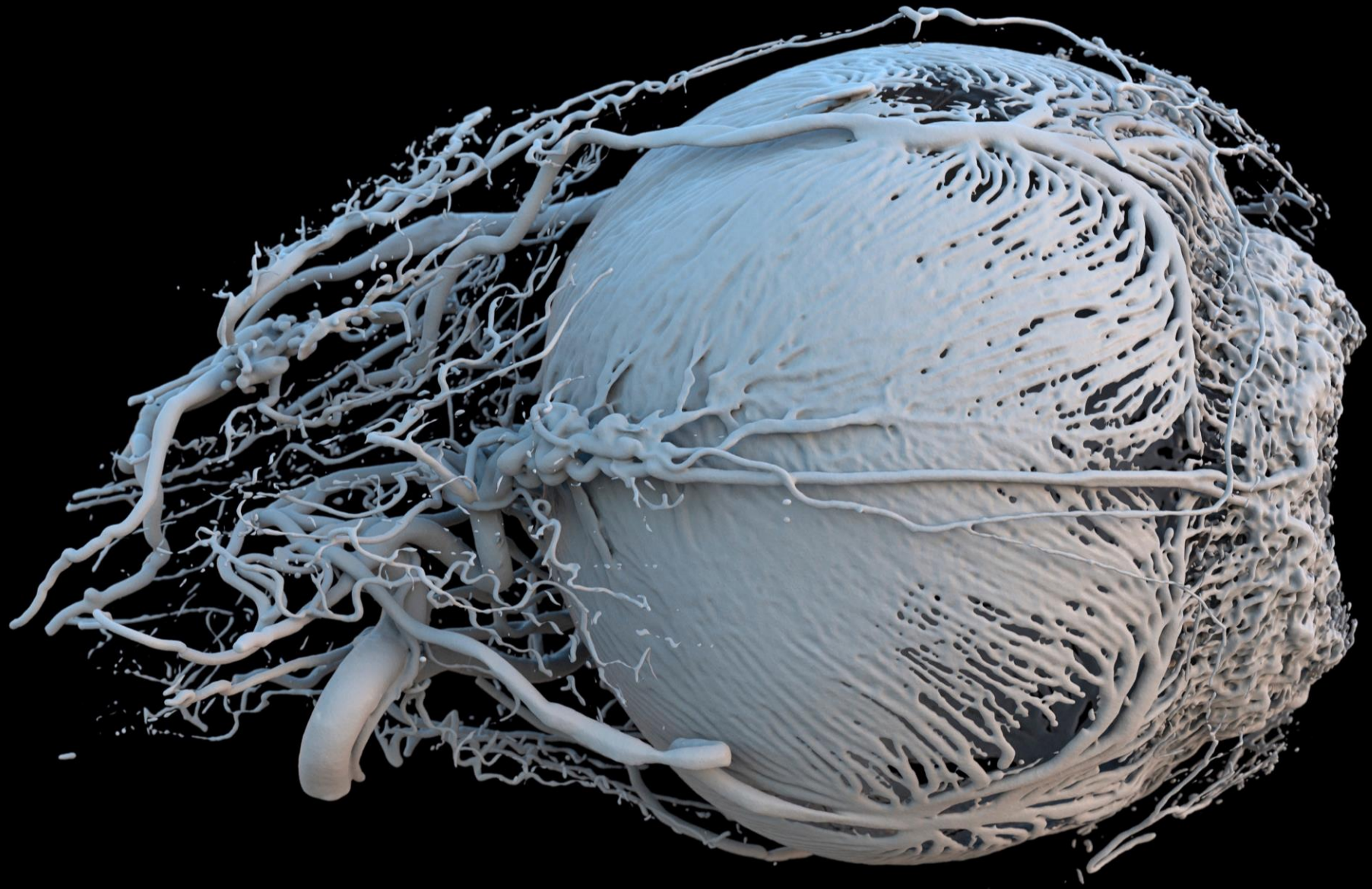












Credit: PD P. Maloca, IOB Basel

Doing now what patients need next