

High resolution retinal imaging

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HIGH-RESOLUTION RETINAL IMAGING

SUPRIYA DABIR GAUTAM

1. Cone density decreases with eccentricity from the centre of fovea and shows a significant inverse relation with axial length (Thesis).
2. Retinal capillary perfusion and vascular density in the superficial capillary plexus increase significantly after cataract surgery, even after adjusting for the proportionally increased signal strength due to cataract removal (Thesis).
3. In diabetic macular edema, foveal avascular size and vascular and perfusion densities decrease in response to anti-vascular endothelial growth factor therapy (Thesis).
4. Manual segmentation of optical coherence tomography angiography images is a pre-requisite to detect choroidal neovascular membranes in eyes with age-related macular degeneration (Thesis).
5. New treatment modalities in ophthalmology (i.e., gene therapy, stem cell therapy, nano-targeted drug delivery devices and micro-pulsed lasers) require sensitive and accurate diagnostic and monitoring tools.
6. Advances in both software and hardware make ophthalmic equipment easier and less time consuming to use, enabling routine use in clinics.
7. Deep learning and machine learning enable screening, automated detection of disease activity, quantification of treatment effects and identification of relevant targets for novel therapeutic approaches.
8. During the COVID era, with restricted clinic options and the need to maintain social distance and reduce both staff and patient volume, ophthalmic imaging devices and telemedicine have found an expanding niche.
9. One of the perks of doing an international PhD is the chance to broaden your global network and get a fresh perspective.
10. "Vision is the art of seeing the invisible."—Jonathan Swift