Bio-Imaging of the Eye

Identifying and classifying the risk of progression in age-related macular degeneration (AMD) by applying pattern recognition to multi-modal images of the retina, changes in which can also be used to diagnose and analyse the progression of other retinal and optic nerve diseases.

Competitive advantage

- Uses different spectrally-derived retinal images or en-face optical coherence images to identify changes to, and different types of, drusen – fatty deposits which develop in the retina, associated with the early stages of AMD – as well as their location and size, to determine the risk of disease progression
- Accurate because it detects features not obvious to the naked eye, not subject to human biases, fatigue, inexperience, education etc
- Cost effective. It saves time for clinicians as there are fewer images to assess – the technology produces one simple, composite image from multiple images and has the potential to automate comparisons in follow up visits
- Has the potential for immediate integration into current devices as it is accessible to existing, commercially available imaging technologies

More Information

Professor Michael Kalloniatis

Centre for Eye Health, School of Optometry and Vision Science

T: +61 (0) 400 711 060
E: m.kalloniatis@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61 (2) 9385 5008

Impact

- Improving the diagnosis of retinal and optic nerve disease to assist clinical decision making.

Successful outcomes

- Patent filing: PCT/AU2019/050270
- Start-up in development

Capabilities and facilities

- The Centre for Eye Health (CFEH) provides clinical service to around 10,000 patients each year, more than 3,000 of whom have macular disease
- CFEH has clinical files of around 35,000 patients, many of whom have had multiple clinical visits over the 10-year existence of the Centre
- Dedicated research-focused staff with expertise in image analysis and a team of expert clinicians