



**UNSW**  
SYDNEY



## 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

### 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

### More Information

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