

Dear friends and supporters,

Firstly, my grateful thanks to all the generous people who continue to support our vision science research.

It's always very humbling to see the names of those who have passed away during the year, some of whom have received sight-saving treatments, and who are named in this copy. Legacy gifts and memory donations made by friends and family are a huge help in pushing projects forward and I'd like to pass on my personal thanks to those of you who have helped us in this way.

In February I attended the Macula Society meeting in Florida, which included giving an update on the PINNACLE study and presenting a paper titled "Specialist vision-language models for clinical ophthalmology" within a session on Artificial Intelligence (AI). I also recently spoke at a UK Macular Society webinar on new drugs becoming available for macular degeneration, which attracted patients from around the globe.

ChatGPT is an online portal that interacts conversationally with users and can quickly analyse data. This technology is becoming useful in analysing patient scans, however our research indicates that eye doctors are still needed to identify urgent cases of macular degeneration. We are therefore involving them in the development of computer algorithms to create a new programme that will help opticians provide an accurate diagnosis to patients who need to be referred to hospital. I've been asked to present this work virtually at the 5th Annual Ophthalmic Artificial Intelligence Summit.

Dr Arjuna Ratnayaka, an expert in Retinal Cell Biology and Neurodegeneration, has contributed his research update overleaf. We're thrilled to share news of a partnership with a pharmaceutical company to investigate the effectiveness of an existing Alzheimer's treatment in repairing vital cell functions in the retina. This represents an important step towards repurposing an approved drug as a potential treatment for dry age-related macular degeneration.

Our next Gift of Sight Lecture will be held on the 14<sup>th</sup> May. Details are on the back page. I'll look forward to meeting some of you in person on the evening and am pleased to be able to share some of our current and future projects with you.

It was lovely to chat with those of you who were with Jon Newman, Andrew Hayman and Bach Winchester Voices at the performance of Bach's Christmas Oratorio in January. One guest said "I didn't know that such wonderful music was available so near to home" and I wholeheartedly agree. My thanks again to Jon for his altruism in suggesting a 'leaving collection' for Gift of Sight and to everyone who contributes to support our work in so many ways. It means a great deal to myself and all of us who are working hard to introduce new treatments for blinding eye diseases.

Thank you again.



Andrew Lotery MD, FRCOphth  
Professor of Ophthalmology  
University of Southampton

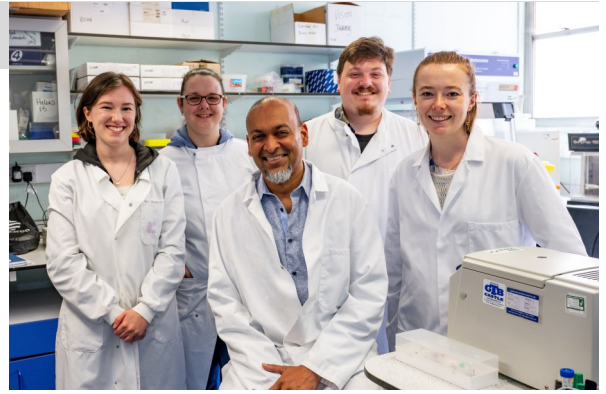


Prof Lotery presenting at the Macula Society

## Dr Arjuna Ratnayaka, Associate Professor

Current projects in my group have led to some exciting new discoveries.

We have been working together with a US drug discovery firm to test repurposed anti-Alzheimer's drugs as a potential new treatment for age-related macular degeneration (AMD). Our studies showed that AMD-linked defects in retinal pigment epithelial (RPE) cells could be rescued by treatment with this drug. These complex experiments were carried out by Dr Ellie Keeling during her postdoctoral work in my group, and were published in *Nature Scientific Reports* in February this year (<https://pubmed.ncbi.nlm.nih.gov/39929889/>).



Dr Ratnayaka with his team of PhD students

Our findings contributed to this experimental drug being tested in a US clinical trial for geographic atrophy (dry) AMD. Analyses of the data after six months of treatment, which was announced by the company at the end of February 2025, showed that participants receiving oral doses of the drug experienced slower lesion growth compared to participants receiving placebo. A full analysis is anticipated in the second quarter of 2025. This is a promising outcome as it represents a potential new approach for treating AMD which has not been previously explored.

I am delighted that this type of trial supports our reasoning that degenerative diseases in the retina and brain share many similarities, and that leveraging discoveries and potential treatments in one could benefit the other. Amyloid-beta ( $A\beta$ ) proteins are thought to be an important driver of Alzheimer's pathology in the brain, but discoveries of this kind also support our track-record of investigating  $A\beta$  effects in the retina, where it collects with age and is associated with AMD.

Another project in my group studies how cells in the retina become damaged through the accumulation of waste products. Failure to remove waste leads to the eventual death of RPE cells in a clinically well-defined pathway linked with dry AMD. A key player in removing waste from cells is the lysosome. These are small, bag-like structures inside cells, which digest and recycle cellular waste. Typically, cells have less than 100 lysosomes, but our studies have shown that RPE cells contain several hundred lysosomes to help them manage stress associated with the demanding physiology of the retina. Our studies of lysosomes have led us to describe three computational methods to identify and report their number, size and shape, which has been accepted for publication in *Springer Methods in Molecular Biology*.

This was the work of Charlie Ellis who is undertaking PhD studies in my laboratory. In equally exciting news, Rebecca Miller, who completed her PhD studies in my group, has submitted her doctoral thesis for examination in April. We wish her the best of luck in defending her work which will be scrutinised by two independent examiners.

We are also looking forward to attending the world's largest eye meeting (ARVO) which will be held in May at Salt Lake City, Utah. Work by two PhD students from my group (Anna Muir and Charlie Ellis) have been selected for presentation at this prestigious conference. I will also be presenting some new findings: an Alzheimer's disease mouse model which has been used to gain further insights into how  $A\beta$  damages the retina.

I would like to thank our donors who support these exciting studies. Anna's work is currently supported by the Gift of Sight Appeal, and both Anna and Charlie were awarded travel grants from Gift of Sight to help meet conference costs in the US.

## MEMORY DONATIONS 2024

We would like to thank everyone who helped our research through gifts in wills and donations in memory of friends and family who have left us. We fondly remember:



Margaret Adams · Iris Edwards · Jacqueline Fenton · Alan Greensides  
Pearl Hansford · I N M Hardy · John Higgs · Gill John · Sylvia Kennedy  
Sheila McGrath · Derek Ralls · Ann Salkeld · Hugo Thomas  
Garry Twinane · Sandra Vines · Zelda Whitehorn



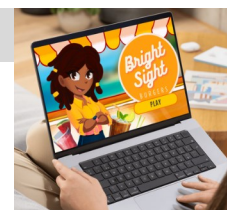
### Wessex Regional Ophthalmology Audit Day, 29th January 2025

We were delighted to attend the Audit Day and hear updates on current clinical studies from doctors throughout the Wessex region. The winner of the Gift of Sight Clinical Award this year was Dr Tasos Sepetis, who works in Southampton Eye Unit. His talk “Comparison of the socioeconomic status of glaucoma patients undergoing different types of surgery” was presented online from India where he was teaching cataract removal techniques. Our photograph shows Drs Rory Nicholson and Helena Lee who organise the event each year with help from many colleagues in the region. Our warmest congratulations to Tasos.



### Can you help test a new online game for Dr Jay Self?

Jay's team are trialling online games designed to assess the success of treatment for nystagmus in children. We need as many people as possible to try out the games online (using a computer with a mouse, rather than a tablet) and complete the short survey. Please help by visiting [www.giftofsight.org.uk/surveys-and-studies](http://www.giftofsight.org.uk/surveys-and-studies).



### Fundraising news: thank you for your ongoing support!



Our grateful thanks to all members of **Southampton Archery Club** for their enthusiastic and ongoing fundraising for Gift of Sight as their 'Charity of the Year 2024'. Dr Helena Lee enjoyed an evening at the Club's Christmas event, receiving a cheque representing the funds raised during the year. The final total was an amazing £7331.

Members of the vision research team held a **Festive Cake Sale** at University Hospital Southampton on the 6th December 2024. With plenty of cakes to sell a total of £447 was raised and many people stopped to discuss research projects being undertaken. Cake sales are always a great way to catch the interest of patients and clinical colleagues throughout the hospital and we're hoping to organise more events like this during 2025.



Bach enthusiast, Jon Newman organised a performance of **Bach's Christmas Oratorio** at St. Paul's Church, Winchester on the 19th January 2025. He generously offered a retiring collection for Gift of Sight. The music was directed by Andrew Hayman, with soloists Sebastian Hill, Jemima Price, Joy Sutcliffe and Benjamin Watkins, supported by Bach Winchester Voices and Orchestra. With more than 150 guests the Church was full and the feedback was overwhelming. Thank you to everyone who joined us, raising an incredible £2392.



**EVENTS: For the latest information, please visit [www.giftofsight.org.uk/events](http://www.giftofsight.org.uk/events)**

**Beating Blindness Lecture - Wednesday 14th May 2025**

**Concorde Club, Eastleigh, SO50 9HQ**

**In person: 5:45pm - 8:00pm. Online: 6:30pm - 7:30pm**



We're delighted that our highly anticipated lecture is now open for booking! This popular event returns for 2025 as a hybrid experience, allowing you to join us at the Concorde or watch the talks live online. If you're joining us in person, you will have the opportunity to chat with other members of the vision science team and see some examples of their research work. Our speakers:

**Professor Andrew Lotery** specialises in medical retina, age-related macular degeneration (AMD), central serous chorio-retinopathy and inherited retinal diseases.

**Dr Jörn Lakowski's** interests include retinal disease modelling, retinal development, drug screening and genome engineering. His work on human cone photoreceptor development using a special lab-grown eye model is leading to improved methods for producing cells for sight-saving therapies.

**Dr Ellie Keeling** joined the vision science team as a PhD student, studying cell dysfunction in patients with different stages of AMD. She is now a senior research fellow working with Dr Jay Self, investigating new treatments for children with albinism.

**Dr Jay Self** will host the lecture, with a Q&A session moderated by **Dr Helena Lee**.

*There is no charge for this event, but pre-booking is required please. The [booking link](http://www.giftofsight.org.uk/events) can be found at [www.giftofsight.org.uk/events](http://www.giftofsight.org.uk/events). Alternatively please contact us if you're having difficulty online.*



**Live Aid Liverpool, Sunday 13th July 2025.** Through the amazing fundraising of our '7 marathons in 7 days' runner, Joe Marsden, we've been invited to be one of three charities benefiting from proceeds of 'Live Aid Liverpool'. This live music event is being held at the Adelphi Hotel in Liverpool, raising funds for Shelter Merseyside, Zoe's Place and Gift of Sight. All funds raised for Gift of Sight will go directly to supporting the development of treatments for children with albinism. We are not involved in the organising of this event, however there is a [link on our website](#) to purchase tickets if you would like to join us there!



Please support **Ben at the Alma Inn, Upham, Southampton** who is climbing Snowdon (Yr Wyddfa) in July 2025 with his colleague Alex. He's been drumming up support from customers with a sponsorship form at the bar, so do pop in and see him or donate to his JustGiving page: [www.justgiving.com/page/the-alma-inn-mount-snowdon](http://www.justgiving.com/page/the-alma-inn-mount-snowdon).

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