

Dear friends and supporters,

I would like to thank those of you who took the time to send donations in 2021 and for your kind messages of support. We enjoy keeping in touch with you all throughout the year and, as Spring approaches, I have been reflecting on how much vision research has moved on in the last twenty years and how much you have all helped our scientists in the University of Southampton vision research group.



It is only relatively recently that the potential for stem cells was discovered. The Nobel prize for medicine was won in 2012 for showing it is possible to change adult cells into stem cells, which can then become any other type of cell in the body. This means for example that we can take a skin biopsy and turn skin cells into eye cells! We have been doing this to better understand eye diseases and by taking a skin biopsy from a patient with an inherited eye condition we can see what is different in the cells in the back of their eyes compared to people who are not affected.

Even more amazingly we can coax stem cells to differentiate into a full early retina. Dr Jörn Lakowski, who has been supported by Gift of Sight, has done just that. He has grown retinal organoids to understand how cone cells develop. These are the cells that we use for sharp central vision. If we could make them more resistant to disease we could hopefully preserve sight in a wide variety of conditions. Jörn has recently made an outstanding discovery that cone cells migrate from one side of the retina to the other rather than staying in place at the back of the eye. This will have big implications for stem cell transplantation. His work has just been published in a very prestigious journal called *Stem Cells*. We expect this work to be of great interest to researchers worldwide.

I want to emphasise that this breakthrough would not have been possible without support from Gift of Sight initially funding Jörn's salary. A generous donation from a patient also meant that the laboratory he needed was equipped to undertake this ground breaking research.

I am looking forward to undertaking more clinical trials in 2022 to identify better treatments for patients with a variety of eye diseases. We are currently planning studies for patients with dry macular degeneration, central serous chorioretinopathy, wet macular degeneration and retinitis pigmentosa.

Finally, in this newsletter, we give examples of generous supporters completing fundraising challenges. Following two years of Covid induced restrictions it will be exciting for Ailsa and Yvonne to get out into the community once more and I know they will be delighted to hear from you to talk over any plans you may have for any fundraising events. I will be running the ABP Half Marathon in Southampton on the 24 April with my daughter Lizzy — please do join us!

With very best wishes.

Andrew Lotery MD, FRCOphth
Professor of Ophthalmology
University of Southampton

MEMORY DONATIONS 2021

We send our warmest thanks to all who commemorated loved ones by sending Memory gifts to help our research.

We remember the following people who sadly left us in 2021:

Margaret Abraham, Barbara Austin, Vera Blundell, Anthony Chennells, Rosemary Clarke, Syliva Copping, Matt Dudley-Hunter, Veronica Dowdell, Gladys Goring, Brian (Roy) Gover, Eileen Jupe, Richard Kilford, Doris King, Kathleen Pellow, Una Skinner, Eileen Stageman, Peter Ward, Robin White and Annie Wright.

Jay Self—Children's eye research

With 'rare disease' being the most common cause of blindness in children attending eye clinics, it is imperative that we understand what specific conditions children have. Much of the work on Paediatric eye diseases in Southampton is focussed towards getting accurate and timely diagnoses for children to ensure their best care and treatment. For example, the team recently published a paper in the journal [Nature](#) on the use of hand-held OCT imaging equipment for children with Down syndrome. This equipment is only available in a handful of departments in the UK and the outcomes proved that using this method was less stressful for the patient and gave a more accurate test result.



Utilising the power of genomic testing has been a focus of research for the group for many years and this year the team has led on a paper recently published, again in the journal [Nature](#). The work included collaborations with groups in other UK centres, in Pakistan and in Amish populations in the United States. The work pulls together 3 years of research and will lead directly to a genetic diagnosis and access to tailored medical care, for an additional 25-40% of people with Albinism worldwide.

Common conditions form a major part of the work in eye units. The most common condition affecting children is amblyopia (lazy eye) and occlusion therapy (patching) is the only mainstream treatment. We believe that there will always be a role for this traditional method rather than using virtual reality headsets or similar which have been suggested by some. However, its effectiveness is significantly hampered by non-compliance, around 50% of patched children fail to reach target vision. To address this problem we have formed a collaboration with a team in the Maths department at the University of Southampton under Professor Joerg Fliege, with the aim of improving patching therapy through game play on the devices that children use for much of their recreation time. This novel approach is to encourage the child to WANT to wear the patch, rather than being penalised for not doing so. For example, games which use machine learning to recognise when the child is wearing their patch and rewarding them in the game with things such as 'extra lives', 'additional skins' or 'power-ups'. I am tremendously grateful for the generous donation to Gift of Sight which enabled us to set up this study and allowed us to provide early proof of concept. This has led to receiving additional funding after only 2 months work on the project, which is a tremendous achievement. We hope that this approach to help a very common condition will make a significant difference to the effectiveness of patching therapy for children worldwide. Thank you for your donations to Gift of Sight which provide such invaluable support for our work.

THANK YOU

November and December saw two VERY CHALLENGING fundraising events take place.

Mrs Bette Whittle-Baxter set herself the challenge of “Walking 90 miles before her 90th birthday” on the 29 November 2021. With a route taking her in laps around the village of Barrowby, Lincolnshire, she completed her walking with two days to spare. Bette’s husband and brother both have AMD, as do many of her friends.



Bette says *“The tremendous support I received from family, friends and anonymous people near and afar has resulted in the final total of £1550. Everyone has been so generous and I can never thank them enough. It has been quite a journey with stormy wind swept days quickly forgotten by glorious sunrises and sunsets, meeting lovely people along the way. A time I will always remember fondly”*.



Mike Larcombe, who has nystagmus, successfully completed his 17 day, 1,212.5km /753 mile cycle ride around Tasmania. Despite long days, rough terrain, a broken pedal and the challenge of his visual impairment, Mike’s determination won through and got him to the end of the route. This was another HUGE challenge after walking the length of New Zealand’s Te Araroa trail in 2019 raising funds for both Gift of Sight and Nystagmus Network.

Mike says *“This challenge really felt like the norm of living with nystagmus for me. In my usual day to day life I can't drive, so I have to ride around. Whilst I could have booked tours to take me to set places on set schedules and time frames, I took the option to ride around the state and do it my way. And yes, occasionally I need help from others, in my daily life and in Tasmania. When my pedal snapped at Coles Bay, I was extremely fortunate that someone was able to help me out, otherwise I would've been stuck. I am so proud to take on these challenges and do what I can to support such amazing charities. The work/research you guys do to improve the lives of so many blows my mind, and I'm extremely honoured to have the opportunity to help support you in the way I can!”*.

Thanks to **Nystagmus Network** , a national charity who support people living with Nystagmus, who have recently donated the very generous sum of £17,000 to our Paediatric fund. This will purchase a hand-held RETeval device, an imaging tool which will help diagnose changes that may impact a patient’s vision, and 4x Cervical Range-of-Motion instruments (CROM) to measure head postures. Patients with Nystagmus typically move their heads to access the best angle for their sight and measuring this activity will provide further data to study this condition.

Mrs Pearl Hansford celebrated her 90th birthday in February and generously asked for donations to help our research instead of receiving presents, raising an amazing £400. Pearl has age-related macular degeneration and previously received injections at Southampton Eye Unit. She now visits for appointments in the Low Vision clinic and is full of praise for the whole team. Pearl is an absolute inspiration to us with her boundless energy, carrying on her hobbies of playing golf, line dancing, painting and joining in many activities local to her home.

We have recently written to our regular Direct Debit donors to thank them for their considerable support. Your donations and Legacy gifts have made a huge difference to the way we are able to help our research team. **THANK YOU ALL.**

ABP SOUTHAMPTON 24 April 2022 :10k, half and full marathon races

Professor Andrew Lotery and his daughter Lizzy have signed up to run the ABP half marathon. Please do join them and make this a great fundraising day for eye research.

To sponsor Team Lotery: www.justgiving.com/Team-Lotery1

Cheques or on-line donations 'on behalf of Team Lotery' will be greatly appreciated.

To Book your place to run for Gift of Sight : <https://www.southamptonmarathon.co.uk/>



GREAT BIRMINGHAM RUN on 1 May 2022

Thanks to Josephine Bates, a final year medical student in Birmingham with a huge interest in ophthalmology, who is running to help our research . It's fabulous to have someone at the start of their medical career fundraising for us <https://www.justgiving.com/fundraising/josephinebates>

FUNDRAISING EVENT supporting children's eye research 31 July 2022

The Island, Greatbridge, Romsey 2.00—4.30pm

Courtesy of Christopher and Sarah Saunders-Davies

Please add this date to your diary. Full details will be issued in our June Newsletter and posted on our website. The ticket price includes refreshments and we are organising stalls, races and games for children, and a tombola. Our team of scientists and volunteers will get involved to make this a great day for all patients and supporters and we'd love to meet as many of you as possible. Lady Mary Fagan will open the event and pantomime dame 'Granny Bean' will join us to add to the fun.

WE REGRET THAT WE ARE NO LONGER ABLE TO COLLECT MILK BOTTLE TOPS.

If you would like to contact us regarding this please email or telephone us on the number below.

Contact: Ailsa Walter | T:023 8059 9073

Email: info@giftofsight.org.uk | Web: www.giftofsight.org.uk

To donate: By card: Tel. 023 8059 7239

By cheque: Please post to Gift of Sight, Office of Development and Alumni Relations, Building 37, Highfield, Southampton, SO17 1BJ

Online: <https://donate.giftofsight.org.uk/> or use your smartphone camera to scan our QR code



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