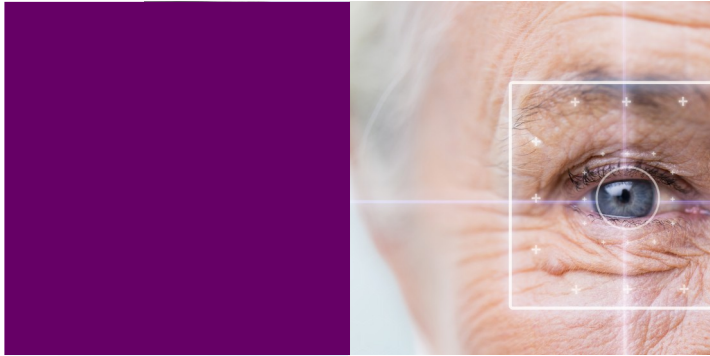


Our Vision

Cambridge Eye Trust Newsletter Spring 2025



Our Vision, a newsletter which highlights the research, innovation, educational and patient best care initiatives that the Cambridge Eye Trust is supporting in Cambridge, East Anglia and around the world.

Helping to save sight!

A New Vision for training: CAMSTARS opens at Addenbrooke's



Thanks to the generous support of the Cambridge Eye Trust (CET) and the Addenbrooke's Charitable Trust (ACT), a state-of-the-art Cambridge Eye Simulation, Training and Research Suite (CAMSTARS) has opened its doors!

This exciting refurbishment, completed in 2024, has transformed what was once a dark, cluttered, and outdated space into a bright, modern, and welcoming facility for ophthalmology trainees. Previously, the room housed a surgical simulator and some basic equipment, but it was cramped and unfit for purpose. Now, following an extensive upgrade - including the safe removal of asbestos - CAMSTARS provides a spacious and well-equipped environment for surgical training, research, and professional development.

The suite now features cutting-edge simulation equipment, a comfortable workspace, and an area where trainees can relax and recharge - all essential for delivering the best possible patient care.



Find out more about new doctors who have joined the Addenbrooke's team • Read about the research programs we are supporting • See updates from the teams • And more...

Cambridge Eye Trust Research Grants - Continuing to support advances in ophthalmic research at Addenbrooke's

Each year Cambridge Eye Trust pledges thousand of pounds to eye research programs and projects led by ophthalmology research and clinical teams based in Cambridge.



Help us to
SAVE VISION!



Grants offered by Charities such as ours is extremely important. Sadly the NHS and Hospital Trusts have insufficient budgets to fund many initiatives which help save sight. Cambridge Eye Trust and other similar organisations step in to assist those with a passion for ophthalmic science uncover pioneering, worldwide firsts in our important field of medicine.

About us

Our Vision

The **Cambridge Eye Trust** was initiated in 1970 by a number of consultants in Cambridge who believed that they had an opportunity to improve eye care through:

- Funding ophthalmic research programmes without the need to rely on other sources, thus expediting discovery.
- Specific financial support of two Associate Clinical Professors of Ophthalmology at Cambridge University by providing departmental grants.
- Giving doctors from worldwide destinations (through the Cambridge Ophthalmological Symposium) an opportunity to learn from, and discuss medical innovation with those at the peak of their research or clinical field.

Why consider supporting eye care?

It would not be an understatement to say that having sight is one of most important senses a person has. That the loss of sight can have a real detrimental impact on that person and their family. While failing sight does comes with age, there are millions of children and adults who are affected early by poor sight or blindness. Why? Because their condition is picked up too late, the cause of the condition is not known about or a successful treatment is not available. Our fundamental aim, in some small way is to be a catalyst for ophthalmic treatment progression.

Meet our Trustees

Mr Cornelius René

Chairman and Addenbrooke's Ophthalmology Consultant

Mr Rod Ashby-Johnson, Trustee

Mr Douglas Newman, Trustee and Addenbrooke's Ophthalmology Consultant

Prof Madhavan Rajan, Trustee and Addenbrooke's Ophthalmology Consultant

Ms Humma Shahid, Trustee and Addenbrooke's Ophthalmology Consultant

Mr Nicholas Sarkies, Trustee and retired Addenbrooke's Consultant

Dr David Wong, Trustee and Ophthalmology Specialty Registrar

New appointment



Miss **Tasneem Khatib** is a glaucoma specialist and clinician-scientist Ophthalmologist. She qualified from Oxford University Medical School and completed her doctorate in gene therapy for glaucoma neuroprotection at Cambridge University alongside her ophthalmic surgical training in the region.



She undertook a surgical glaucoma fellowship at Moorfields Eye Hospital, London followed by an advanced research fellowship at Stanford University focusing on neuroprotective and regenerative strategies for glaucoma, both in the lab and in Phase I and Phase II clinical trials for glaucoma neuroprotection.

Her lab in Cambridge will continue to explore innovative treatments for glaucoma, including the development of new biomarkers to diagnose and monitor disease progression. There will be a focus on how visual information is processed in disease and in response to novel therapeutic approaches. The overall aim is to refine treatment strategies for more efficient and useful functional repair of diseased and damaged neurons and work towards the meaningful restoration of vision.

She continues to mentor junior researchers internationally through ARVO, the largest vision research organisation globally where she previously served on the Board of Trustees, and at Stanford, where she received the Star Mentor Award from Stanford Bio-X, Stanford University's Interdisciplinary Biosciences Institute. She has also been appointed as the Academic Lead for Ophthalmology for the East of England Deanery and the Cambridge lead for CAMentrepreneurs, the University of Cambridge Alumni Enterprise Community.

Welcome back!

New appointment



Miss **Bhairavi Bhatia** has recently joined as a consultant in medical retina and uveitis. She completed her Ophthalmology training in the East of England deanery, followed by a fellowship in medical retina and uveitis at Moorfields Eye Hospital, London. Before deciding to pursue medicine, she completed a PhD in retinal stem cell biology at the UCL Institute of Ophthalmology in London.

In her role, she will be working with both the medical retina and medical ophthalmology teams, contributing to the development of these services, including the training of specialist nurses, allied health professionals, and ophthalmology trainees.

CET says thank you and Happy Retirement to Miss Arabella Poulson



It is with great admiration and warmest wishes that the Cambridge Eye Trust bids farewell to Miss Poulson, a distinguished vitreoretinal consultant who has dedicated over three decades to the field of ophthalmology—22 years of which were spent as a consultant at Addenbrooke’s Hospital.

Miss Poulson’s journey in ophthalmology began in 1992 as a senior house officer, rotating through Addenbrooke’s and hospitals across the East of England before undertaking fellowships in Cambridge and Melbourne to refine her expertise in vitreoretinal surgery. She returned to Addenbrooke’s in 2003 as a locum consultant before being appointed as a permanent consultant in 2005, a position she has held with distinction ever since.

Miss Poulson has always been a doctor first, an ophthalmologist second, and a subspecialist third—a philosophy that shaped her approach to patient care. Her patients were always at the heart of her practice, and her compassion, clinical acumen, and surgical precision made her one of the most respected vitreoretinal surgeons in the region.

From treating complex retinal detachments to playing a key role in the National Stickler Service, where she carried out specialist assessments and performed paediatric vitreoretinal surgery and prophylactic cryotherapy, her contributions to patient care have been immense.

Beyond the operating theatre, Miss Poulson was an exceptional teacher. Her registrars will always remember her vivid and engaging teaching, and her influence continues every time they indent an eye or perform hydrodelineation in cataract surgery - techniques she so effectively taught. Her dedication to training the next generation of surgeons has left an indelible mark on ophthalmology in Cambridge and far beyond.

Miss Poulson was also a great contributor to the Cambridge Vitreoretinal Research Group, contributing to groundbreaking studies on Stickler syndrome, retinal detachment, and novel surgical techniques. Her research has shaped clinical practice worldwide, improving the understanding and management of vitreoretinal diseases.

As she embarks on her well-earned retirement, Miss Poulson is looking forward to spending more time on the golf course - though we suspect she will always keep a keen eye on the latest developments in ophthalmology.

We extend our heartfelt gratitude to Miss Poulson for her decades of service, her unwavering dedication to patients, and her invaluable contributions to teaching and research. Her legacy will continue to inspire generations to come, and she will be greatly missed.

Corneal research at Addenbrookes: iCAM and awards!

The iCAM test - a novel microarray PAN PCR test for rapid diagnosis of microbial keratitis

Microbial keratitis, defined as infection of the cornea by bacteria, viruses, protozoa or fungi, constitutes the commonest non-surgical ophthalmic emergency in the UK with an estimated incidence between 40-52 cases per 100,000 attendances per year. Globally microbial keratitis is thought to cause unilateral blindness in 1.5 to 2 million cases per year annually. In severe infections, a timely diagnosis and appropriate treatment are critical in preventing corneal perforation and loss of vision.

The current microbial methods available to investigate the causative organism in infective keratitis suffer from time delays, multiple tests and poor sensitivity. In order to overcome these limitations we developed a custom TaqMan polymerase chain reaction card (iCAM test) targeted specifically at 96 commonly implicated ocular pathogens with the ability to test for bacterial, fungal, viral and acanthamoeba from a single corneal epithelial sample. This will be the first time that a single diagnostic test could screen for 96 ocular pathogens and provide the clinician with a rapid result to guide early and appropriate therapy. The test has been validated in a clinical research trial at Addenbrookes

Hospital in a collaborative effort with our microbiology experts and industry partners over the last three years. Our peer reviewed publication can now be viewed at the BMJ Open journal. Following on this success, approvals are now in place to extend this to a multi-centre clinical trial involving all ophthalmic units in the East of England region.

In other news, Mr. Rajan was elected the Kersley lecturer to present at the 30th MCLOSA society in London. Mr Rajan addressed the Medical Contact Lens and Ocular Surface Society (MCLOSA) and delivered the Kersley lecture on the 6th Dec 2024 titled "Trials and tribulations in managing the unmet needs in corneal disorders".

By Mr Madhavan Rajan,
Consultant Ophthalmologist
(Cornea)



Abstract submission open until 11th APRIL 2025



Cambridge Eye Trust Research Day

Tuesday 17th June 2025

Li Ka Shing Centre

University of Cambridge, CB2 0RE

cambridge eye trust



cambridgeeyetrust.org.uk/research-day

Registration open
Registration free of charge to Eastern Region attendees.

Thomas Nixon, awarded the Ralph Noble Prize

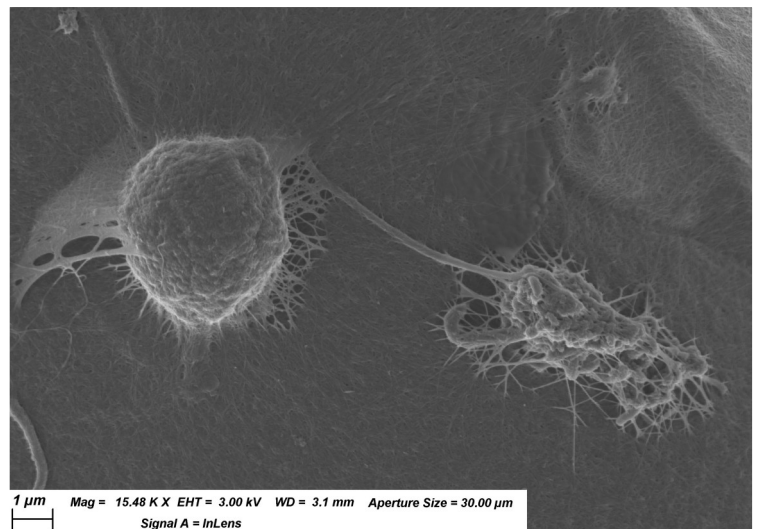
Thomas Nixon was awarded The Ralph Noble prize by the School of Clinical Medicine for his MD dissertation titled “Genetic, Cellular and Ultrastructural Mechanisms in Retinal Detachment”.

His thesis covered three themes. Firstly, in examining two families with phenotypic Stickler syndrome with unusual genotypes, he was able to identify a novel causative gene in one family, BMP4, and reported the severe phenotype associated with compound heterozygote of COL11A1. This work led to the addition of BMP4 to the Genomics England Stickler gene panel. Secondly, by analysing the transcriptome of the sparse cells in preretinal membranes removed at surgery, he identified the upregulation of integrins in epiretinal membrane, suggesting a possible therapeutic target for a condition currently only treated surgically. Thirdly, he demonstrated ultrastructural features of the posterior hyaloid membrane, which separates from the retina in vitreous detachment, and its associated cell population. Together this work makes significant contribution to the understanding the pathophysiology of posterior vitreous detachment, retinal detachment, and associated vitreoretinal pathologies.

There are two categories for this prize: the first is for an MD dissertation in the fields of psychiatry, psychological medicine or neurology, and the second is for a dissertation of a clinical nature.

The Prize is the generous gift of Mrs Noble and her family in memory of her husband Ralph Athelstane Noble, formerly of King's College, Cambridge and Senior Consultant Psychiatrist at Addenbrooke's Hospital and earlier Professor of Psychiatry at Yale University.

Right: Scanning electron microscope image of lamino-cytes associated with the posterior hyaloid membrane in eyes with posterior vitreous detachment, with fibres extending from the cell into the membrane.



Mel Maranian was awarded the Founders Cup (best laboratory research) 2024 by the Oxford Ophthalmological Congress for her presentation “Transcriptional changes in physiological and pathological posterior vitreous detachment”. Competition was fierce with over a 100 entries. The work was supported in part by a generous grant from the Cambridge Eye Trust.

Martin Snead was awarded the Middlemore lectureship for 2025. These prestigious addresses were established and endowed by Richard Middlemore in 1889.

<https://midophth.com/middlemore-lectures/>



Legg-Calve-Perthes Disease – an opportunity to prevent blindness?

In collaboration with the University of Liverpool and Stickler Syndrome UK charity, and funded by generous awards from Addenbrookes Charitable Trust, Cambridge Trust, and Churchill College (University of Cambridge), Dr Robert Smyth has joined the Vitreoretinal Research Group as an MPhil student to seek to develop a screening tool to identify Stickler syndrome in children with Perthes disease, offering prophylactic treatment to prevent retinal detachment and sight loss in those affected. Stickler syndrome is the most common cause of familial retinal detachment, and a particularly important cause of visual loss in children due to delayed presentation. It is however preventable, with the Vitreoretinal Service at CUH pioneering a prophylactic cryoretinopexy technique that shows a 5-10 fold reduction in retinal detachment in the most common Stickler syndrome type 1. A recent case series in this Stickler population has shown an association with childhood Perthes disease, a degenerative hip disease that was typically diagnosed before any retinal detachment. This therefore presents an opportunity to achieve early diagnosis via screening of the Perthes disease population, using family and past medical history to identify those at risk of Stickler syndrome type 1, and genetic testing of patient's COL2A1 gene to confirm undiagnosed Stickler syndrome. Patients can then be offered the prophylactic treatment before any retinal detachment and sight loss occurs.

Spatial transcriptomics of physiological and pathological posterior vitreous detachment

Posterior vitreous detachment (PVD) is a common physiological ocular event in the aging population, referred to as physiological PVD (PHPVD). However, PVD can also serve as a precursor to more serious sight-threatening conditions, including cellophane maculopathy (CM), macular hole (MH), and retinal detachment (RD), collectively termed pathological PVD. The factors distinguishing PHPVD from pathological PVD remain poorly understood.

Our research has identified a novel cell population, laminocytes, which are present at low density in PHPVD but at significantly higher density in pathological PVD. This research project, generously funded by the Cambridge Eye Trust is investigating transcriptional differences between PHPVD and pathological PVD using bulk RNA sequencing. So far over 120 vitrectomy samples from patients with PHPVD, CM, MH, and RD have been collected and analysed performing pairwise differential gene expression and gene ontology analyses.

Our findings reveal upregulation of immune cell responses in PHPVD, while neuron development and differentiation pathways are upregulated in MH and RD, respectively. Despite the challenges posed by

Retinal Detachment vs Cellophane Maculopathy

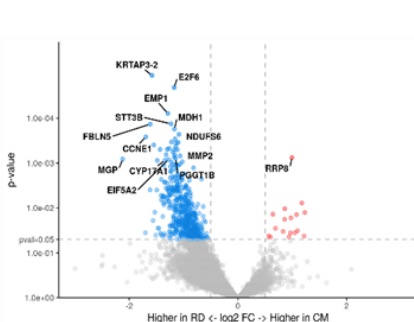


Figure 1: Volcano plot indicating differentially expressed genes between RD and CM from spatial transcriptomic data analysis

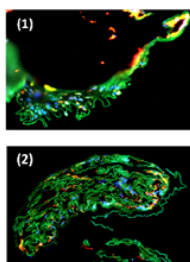


Figure 2: FFPE sections for spatial transcriptomics. (1) = RD (2) = CM Morphological markers determine regions of interest prior to hybridisation with WTA probes.

microscopic, paucicellular samples, we also explored spatial whole transcriptomic analysis (WTA) of inner limiting membrane (ILM) samples from CM and RD. Among these, 40 genes in RD and 2 genes in CM were upregulated in both bulk and spatial datasets (Figures 1 & 2).

With access to fresh post-mortem samples, we aim to conduct single-cell RNA sequencing to establish laminocyte profiles in pathological PVD and confirm or refute their presence in PHPVD. This will further elucidate the molecular changes associated with disease progression and help identify targets to prevent these sight-threatening conditions.

Vitreoretinal Research Group: Pathogenesis, prevention and surgical repair of retinal detachment

PhD Student Andrew te Water Naude – Surface-driven emulsification of silicone oil tamponades in post-retinal repair surgery

This work is a collaborative study between the Department of Chemical Engineering and Biotechnology and Vitreoretinal Research Group and funded by a grant from the WD Armstrong Trust.

When a silicone oil tamponade is used to maintain retinal stability after vitrectomy surgery, the eye continues to produce an aqueous phase. These immiscible fluids form an emulsion in approximately 5% of cases [1], but the mechanism by which silicone oil droplets form has not been identified. Previous research in the Department of Chemical Engineering and Biotechnology has established that the bulk interface between the two fluids remains stable as the eye rotates, not forming droplets as the interface deforms [2]. Droplet formation was observed on the surface of the eye model used, indicating that silicone oil droplets might form through a surface-driven mechanism. My work focuses on this surface-driven emulsification, and currently comprises three angles of investigation. Firstly, manufacturing and testing new eye models, to establish which surface features cause emulsification under physiological motions. Secondly, investigating how satellite droplets can be formed by the breakup of a silicone oil filament in an aqueous medium. Thirdly, measurements of the surface tension and rheological properties of vitreous humour removed during vitrectomy will indicate whether inter-patient variation in fluid properties correlate with patient outcomes and explains the varying reported incidence rates of silicone oil emulsification.

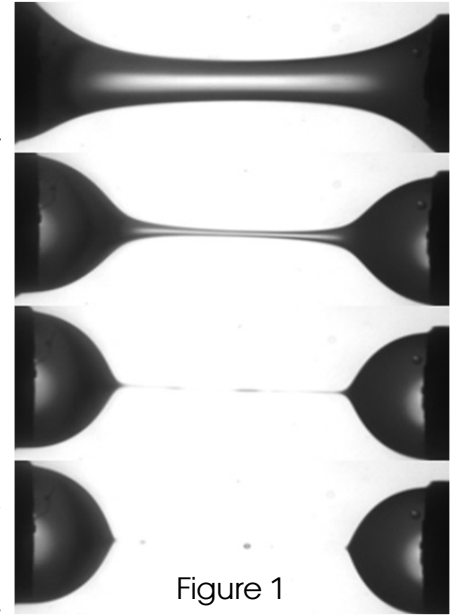


Figure 1

[1] DeSimone, J.D., Williamson III, J.E., Mahmoudzadeh, R., Wakabayashi, T., Anderson, H.E., DeYoung, C., and Makkena, A.C. (2023). "Incidence and Complications of Silicone Oil Emulsification After Vitrectomy for Complex Retina Diseases: Comparison of 1000- versus 5000-centistoke Silicone Oil". In: Invest. Ophthalmol. Vis. Sci. 64.8.

[2] Wang, R., Tsai, J.H., Snead, M.P., Alexander, P., and Wilson, D.I. (2021). "Stability of the Interface Between Two Immiscible Liquids in a Model Eye Subject to Saccadic Motion". In: Journal of Biomechanical Engineering 144.5, p. 051004.

Figure 2

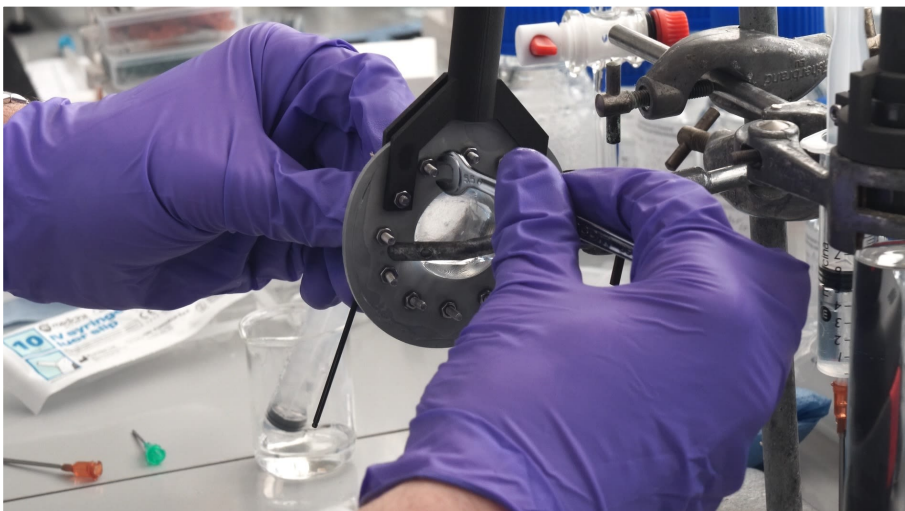


Figure 1 (above) - Progression of a silicone oil filament thinning in water, showing formation of two satellite droplets.

Figure 2 (left) - Assembling an eye model prototype before testing it with saccadic motion. Image credit: to Dept. of Chemical Engineering & Biotechnology, University of Cambridge.

Advancing Research in Vision Science



CAMBRIDGE CLINICAL VISION LABORATORY



The Cambridge Clinical Vision Laboratory (CCVL), established in 2021 on the Cambridge Biomedical Campus, is driving cutting-edge research into vision disorders and advanced therapeutics. This state-of-the-art facility was made possible through the generous investment of the Cambridge Eye Trust (CET) alongside the NIHR Cambridge Biomedical Research Centre, demonstrating the vital role of donor support in accelerating medical breakthroughs.

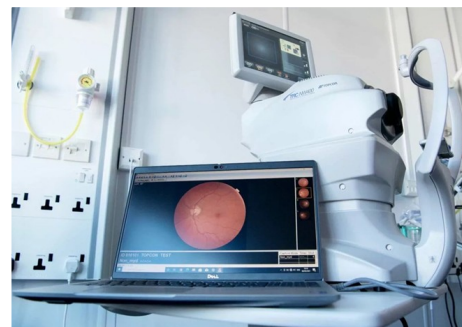
Under the leadership of Professor Patrick Yu Wai Man, Director of the CCVL, the laboratory has rapidly expanded its capabilities, offering comprehensive structural and functional assessments of the visual pathways using advanced imaging and electrophysiology. Key ongoing studies include:

The ORION Study – An observational study tracking the natural history of inherited optic neuropathies to identify novel biomarkers of disease progression. This includes Leber Hereditary Optic Neuropathy (LHON), a mitochondrial disorder that leads to sudden, painless vision loss in young adults, and Autosomal Dominant Optic Atrophy (ADOA), a genetic condition causing progressive vision deterioration over time.

The NIHR BioResource RNA Phenotyping Study – A nationwide sequencing project investigating genomic, transcriptomic, and proteomic factors driving disease variability in people with inherited optic neuropathies, with the goal of discovering new therapeutic targets.

The ION-PROM Study – Developing patient-reported outcome measures to better assess the impact of inherited optic neuropathies on daily life.

Since its launch, the CCVL has successfully completed three clinical studies, with seven more in progress, including commercially sponsored interventional trials. These projects play a critical role in translating scientific discoveries into real-world treatments for patients affected by blinding and neurodegenerative conditions.



A Lasting Impact, Thanks to Donors

The Cambridge Eye Trust is immensely proud to have directly supported the establishment of the CCVL and remains committed to fostering ground-breaking vision research. This progress would not be possible without the generosity of our donors, whose contributions are driving innovations that bring us closer to life-changing treatments for those with vision loss.

With continued support, the CCVL is shaping the future of eye care, ensuring that patients with rare and complex eye conditions have access to cutting-edge research and emerging therapies.

Major Boost for Rare Mitochondrial Disease Research in Cambridge

The Cambridge Eye Trust is delighted to share that LifeArc has awarded £7.5 million over five years to establish the LifeArc Centre for Rare Mitochondrial Diseases. This centre will drive cutting-edge research into mitochondrial disorders, which currently have limited treatment options and can cause severe neurological and visual impairment.



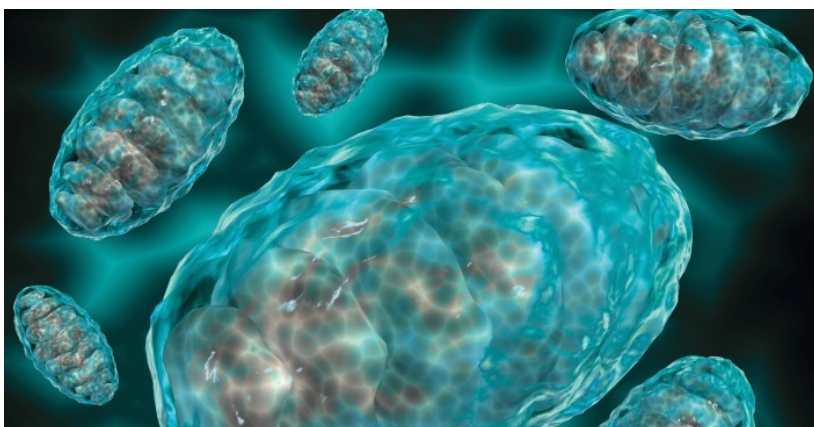
Rare
Mitochondrial
Diseases

Mitochondrial diseases affect around 1 in 5,000 individuals, leading to progressive damage to the brain, eyes, muscles, heart, and liver. The newly funded centre is a national partnership with The Lily Foundation and Muscular Dystrophy UK, aiming to fast-track the development of new treatments for these devastating conditions.

The centre will be led by Professor Patrick Chinnery, Professor of Neurology at the University of Cambridge and Honorary Consultant Neurologist at Cambridge University Hospitals NHS Trust, alongside key partners at University College London, Newcastle University, and three other centres in Oxford, Birmingham, and Manchester.

Mitochondrial diseases affect around 1 in 5,000 individuals, leading to progressive damage to the brain, eyes, muscles, heart, and liver.

A major focus of the research will be inherited optic neuropathies, including Leber Hereditary Optic Neuropathy (LHON), Autosomal Dominant Optic Atrophy (ADOA), and Wolfram Syndrome. Professor Patrick Yu Wai Man, a leading expert in this field, heads a large research group composed of lab-based scientists and clinical academics. Their work focuses on studying the natural history of these conditions and developing new treatments, including gene therapy, to help preserve and restore vision.



The establishment of the LifeArc Centre for Rare Mitochondrial Diseases represents an exciting opportunity to translate discoveries into real-world treatments. By bringing together expertise from multiple disciplines—including genetics, ophthalmology, and neuroscience—this initiative positions Cambridge at the forefront of mitochondrial disease research.



By Prof Patrick Yu-Wai-Man

Digital innovations in neonatal cataract screening, emergency eye care and vision testing

Cataract (cloudiness of the lens of the eye – Figure 1) can be present at birth and is the commonest preventable cause of global child blindness.

Surgery is needed within the first three months so that babies can “learn to see” in this critical period. The current screening technique misses a third of cases and Louise has invented a new digital camera which may be more accurate.

A large NIHR funded national study (25,000 babies recruited to date) is testing the camera -called neocam. The work has recently featured on ITV Anglia and the international press. <https://www.itv.com/watch/news/new-device-which-could-help-to-prevent-sight-loss-in-babies-pioneered-at-hospitals-across-uk/3f5fy79>

Louise is working with a local technology company to develop a Machine Learning model using the images collected to date. If the research confirms preliminary studies, a commercial device will be developed which could improve newborn eye screening worldwide.

Over 70% of patients attending Emergency Departments with eye problems could have had their care in the community Minor Eye Condition Service. Louise has developed an innovative online symptom questionnaire, sent by SMS or email, to support triage by non-specialists and direct patients to the right service in the right timeframe. An NIHR funded validation study has shown that the app -eye+dot- can improve the accuracy of triage and may reduce pressure in hard pressed Emergency Departments. Eye+dot was awarded first prize at the British Emergency Eyecare Society Conference in 2023.

Ophthalmology clinics are incredibly busy and unfortunately many patients have a long wait to be seen. Louise has developed DigiVis DVA, an online vision test which enables patients from the age of 4 years to accurately test their own vision at home and in clinic. DigiVis DVA has won three innovation awards and been awarded an NIHR grant to study to its implementation in three NHS trusts. DigiVis DVA is increasingly being used for patient care at Addenbrooke’s and can reduce the need for patients to take time off school and work to attend clinic in person. <https://www.youtube.com/watch?v=objxSg9NsCE&t=71s>

DigiVis DVA also has a potential future role in shops and pharmacies, enabling individuals to check they reach visual standards, such as DVLA requirements for safe driving – without a trip to Barnard Castle!

By Miss Louise Allen – Consultant Paediatric Ophthalmologist

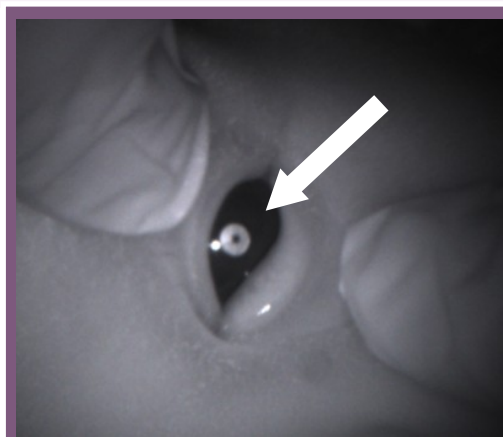
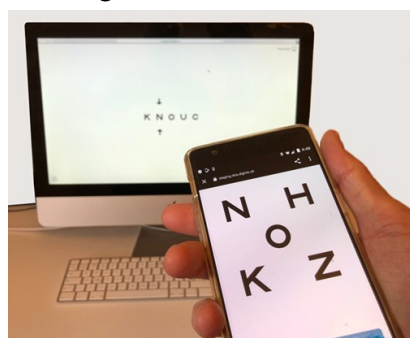


Figure 1: Central cataract (indicated by an arrow) missed by standard screening but detected by neocam

Over 70% of patients attending Emergency Departments with eye problems could have had their care in the community Minor Eye Condition Service.

Ophthalmology Made Easy: Simplifying Eye Care for Practitioners

As clinicians, we understand the challenge of mastering ophthalmic care, especially in environments with limited access to specialist support. With this in mind, we authored *Ophthalmology Made Easy*: a concise yet comprehensive book designed to make the triage, diagnosis and management of common eye conditions accessible for medical students, general practitioners, advanced nurses, emergency clinicians and resident ophthalmologists.

The idea for this guide arose from our experience of how daunting ophthalmology can appear to non-specialists. Our goal was to create an accessible resource that balances clarity with clinical depth without overwhelming readers. The book breaks down complex topics into digestible chapters which not only explain the underlying principles but also provide practical guidance on diagnosis and management, illustrated with helpful visuals and real-world clinical context.

What we hope sets *Ophthalmology Made Easy* apart is its practical tutorial-style focus. Rather than overwhelming readers with rare conditions, we prioritised common problems seen in everyday practice. This approach makes the guide particularly valuable for primary care practitioners, who are often the first point of contact for patients with eye complaints. By emphasising real-life scenarios and offering clear referral pathways, the book equips readers to identify serious issues early and act decisively.

We also included tips on examination techniques and the use of diagnostic tools inside and outside the ophthalmic clinic, ensuring that the guide is not just theoretical but a hands-on resource for clinical practice. Feedback from users has highlighted its ability to build confidence in managing ophthalmic conditions, even for those with little prior exposure to the specialty.

While our focus was on clarity and practicality, we ensured the content retains enough nuance for accurate diagnosis and treatment. The response has been overwhelmingly positive, with reviewers commending the book's ability to simplify ophthalmology without oversimplifying, making it a trusted resource for early career ophthalmologists, nurse practitioners, emergency clinicians or for consultants to use as a teaching tool.

We are proud that *Ophthalmology Made Easy* aligns with the Cambridge Eye Trust's mission to inspire and support the advancement of ophthalmic care. By demystifying this complex field, we hope to empower healthcare professionals to deliver better outcomes for their patients and look forward to seeing this resource support the next generation of clinicians and help bridge the gap between primary and specialist eye care.

Link: *Ophthalmology Made Easy*, M Attzs, T Sheth. <https://amzn.eu/d/bWQqeuf>



By Twishaa Sheth, ST7 Ophthalmology Registrar, Addenbrooke's Hospital 2024-2025

The Cambridge Eye Research Centre goes from strength to strength



The past year has seen steady growth in the portfolio of NIHR (National Institute for Health and Care Research) clinical research studies conducted at CERC. Our senior clinical trials coordinator, Muslema (“Mossy”) Mustoe has done an excellent job in supporting the open ophthalmic studies that include those involving juvenile idiopathic arthritis (Principal Investigator, PI: Brinda Muthusamy), autoimmune uveitis (Erika Damato), genetic susceptibility to hydroxychloroquine toxicity (Liam Sullivan), glaucoma studies involving neuroprotection with nicotinamide, novel sustained release treatment delivery, and antiscarring modulation of trabeculectomy (Rupert Bourne), sickle cell retinopathy (Douglas Newman). Several new studies of thyroid eye disease are in set up and all the while, CERC provides ophthalmic evaluations for 44 non-ophthalmic studies across multiple specialties such as cancer, vasculitis and rheumatology. This impressive activity by CERC is against a background of very limited clinical space in which the staff can work, which hopefully can be resolved. Research optometrists Madeleine Pearson and Megan Vaughan, support the PIs with the majority of the study visits and these posts are generously funded by the NIHR Eastern Research Delivery Network. Professor Rupert Bourne set up CERC in 2018 and has directed it since. He is leaving CUH in May 2025 (while continuing as the regional NIHR R&D Ophthalmology co-lead) and will be succeeded by Tasneem Khatib and Erika Damato who will share the role.



Professor Rupert Bourne, Director of CERC 2018-2025

Two trainees appointed as Associate Principal Investigators

The NIHR Associate Principal Investigator Scheme is a six month in-work training opportunity for any healthcare professional who wants to develop their research experience.



Dr Toby al-Mugheiri,
Associate PI

Doctors Toby al-Mugheiri and Hammad Malik, both Specialty Trainees in Ophthalmology were successful in being appointed as Associate PIs to the ACE study and NAMING studies, respectively. The ACE study investigates how anterior segment optical coherence tomography and limbal anterior chamber depth measurement compare to gonioscopy in the diagnosis of angle closure glaucoma, a form of glaucoma that is

associated with a higher prevalence of vision impairment than open angle glaucoma, which is more common.

The NAMING study investigates whether nicotinamide (Vitamin B3), given as an adjunct to standard glaucoma medical treatment, protects the nerve

fibre layer and visual field of patients with glaucoma. Both studies, like the majority on the NIHR portfolio of commercial and non-commercial studies, are strongly related to patient outcomes, and these associate PIs benefit from taking responsibility for the studies alongside the Principal Investigator (Prof R. Bourne) and being part of a the wider NIHR Associate PI network which offers training in how to be a PI, an invaluable part of career development for consultants of the future.



Dr Hammad Malik,
Associate PI

UK National Eye Health and Hearing Study uknehs.org.uk

For several years a group of ophthalmic epidemiologists, clinicians, hearing and cognition researchers have been planning a nationally representative study of eye disease and hearing in the UK. Population-based studies, such as Health Survey England, are crucial if we are to understand what level of unmet need there is in the population, and will help us plan services in the future.

The only population-based data we have on vision status comes from local studies performed 40 years ago and we have no nationally-representative data for those aged 50+ years, relying instead on extrapolations from other high income countries. The situation for hearing is marginally better with a national MRC study conducted 50 years ago! The CI of that study, Professor Adrian Davis OBE is an active member of a project team headed by Professor Rupert Bourne, involving audiologists, ophthalmic technicians, and optometrists (led by Sarah Farrell), who examined residents of randomly selected care homes across the Cambridgeshire & Peterborough Integrated Care System (ICS) in 2024. Given that 4% of those aged 65+ live in care homes, this is important information to capture, and between October 2024 and the end of March 2025, the team have since moved between 15 different locations across the ICS, enumerating hundreds of randomly chosen households and inviting those eligible to a comprehensive ophthalmic/audiological/cognitive assessment in a 'pop-up' nearby clinic. Both studies are NIHR portfolio studies that bring research recognition to the Cambridge Eye Research Centre but also to Anglia Ruskin University (ARU) that is the host institution for the UKNEHS.

Professor Bourne, who has himself conducted similar national studies in countries in South Asia and more recently Trinidad & Tobago, noted the "innovative nature of the UKNEHS that includes digital engagement with communities and advanced diagnostic technologies. Twenty medical students from both medical schools of UoC and ARU have been involved in its delivery, as has a Trainee Research Network, coordinated by one of our Registrars, Hammad Malik. This is a great example of local collaboration and support by the major sensory impairment charities for this pilot will provide the momentum for the campaign for a national study soon."



Sarah Farrell and her team at one of the care homes visited by the UKNEHS.



Retinal imaging of a care home resident at one of the care homes visited by the UKNEHS.

Read more at the BBC: <https://www.bbc.co.uk/news/articles/cp873k64651o>

Cambridge Ophthalmological Symposium

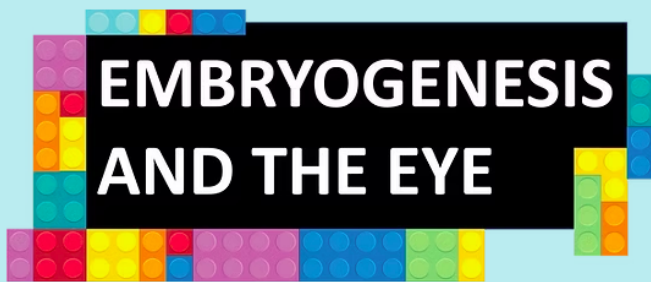


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53rd Cambridge Ophthalmological Symposium



4-5 September 2025

Co-Chairs:

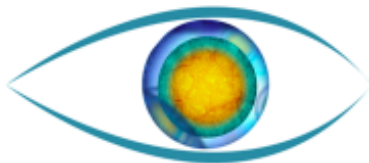
Mr Manoj Parulekar, Oxford and Birmingham, UK

Prof Tony Moore, London, UK

Topic: Embryogenesis and the Eye

CPD points - 18

2024 Evolution and the Eye



Symposium Chairs

Prof Tien Yin Wong, Beijing, China and Singapore, Rep. of Singapore (pictured left) &

Dr David William, Cambridge, UK (pictured right)

Held 5th - 6th September 2024 at St John's College, Cambridge



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