

# eyecure.

## WELCOME.

This latest review of QEI's research efforts reminds me once again that the organisation punches well above its weight. For a relatively small institute, QEI's scientists and clinicians are internationally renowned as leaders in their fields, pioneering new treatments in Australia, attracting learned colleagues and international students to learn from us, and travelling the world to share research findings and clinical experiences made here in Meanjin, Woolloongabba.


Enjoy this snapshot of QEI research activities over the past eight months and be proud of Queensland's contribution to sight-saving science.

Professor Mark Radford  
CEO and Executive Director  
Queensland Eye Institute




## Presented Posters



 Dr David Gunn presenting to the European Society of Cataract and Refractive Surgeons in Spain

# SARAH'S JOURNEY WITH KERATOCONUS.

Instinctively, people don't enjoy having their eyes poked and prodded. They certainly avoid having foreign bodies placed under their eyelids. So it's not surprising that for many people, wearing contact lenses can be uncomfortable, even distressing.

Sarah Oakleigh's journey with impaired vision is typical of many young people and includes an episode with painful contact lenses.

The 38-year-old social worker was diagnosed with keratoconus in primary school, when she struggled to read the blackboard.

Keratoconus is a degenerative condition where the cornea - the clear, dome-shaped tissue covering the front of the eye - gradually thins and bulges outward into a cone shape. The changing shape can cause distorted and blurred vision, leading to significant visual impairment over time.

Vision changes can be managed with spectacles initially, but as the distortion and irregularity progress, glasses become less effective.

Through her teenage years and as a young adult, Sarah stopped wearing glasses and having her eyes checked.

As she became responsible for her own health care, she decided to "just wing it".

She only returned to the optometrist in her mid-20's when a colleague commented on her constant squinting. For the next five years Sarah was busy, starting a family and living in Germany, managing her sight with vision-correcting glasses. Finally, back in Australia, Sarah's condition reached the stage where glasses couldn't help, and she turned to rigid contact lenses.


"I found them really painful," Sarah says. "They caused me a lot of anxiety. So I didn't go back to the optometrist for probably another four or five years, using glasses that weren't good for me."

Sarah knew she had to do something but her experience with rigid contact lenses proved a mental barrier.

"I got help from a psychologist to get me back to the optometrist," Sarah says, "because I needed my eyes to be better".

Sarah's journey with keratoconus highlights the limitations of spectacles and rigid contact lenses for managing keratoconus. Fortunately, a new surgical treatment offers new hope to people like Sarah living with deteriorating vision.



 Sarah Oakleigh

## CAIRS – A NEW TREATMENT FOR KERATOCONUS.

Corneal Allogenic Intrastromal Ring Segment (CAIRS) surgery uses donor tissue to create a scaffolding to reshape the cornea. The surgery reshapes the cornea by adding tissue to its outer edges. Channels are formed in the patient's cornea with a laser, then donor tissue is cut to precise, customised dimensions based on the shape of the patient's cornea and stitched into place.

Since CAIRS was developed nearly 10 years ago, scientific journals have reported significant improvement in uncorrected and best-corrected visual acuities, topographic parameters, and quality of vision for patients.

In Australia, CAIRS was pioneered by QEI ophthalmologists David Gunn and Brendan Cronin. Dr Cronin says CAIRS is a huge advance in the treatment of the disease. "I am so proud that the Queensland Eye Institute was the first Australian facility to offer this procedure to people suffering from poor vision due to keratoconus," he says.



## QEI RESEARCH AND EDUCATION SUPPORTING CAIRS.

Drs Gunn and Cronin continue to lead the field in advancing treatment for keratoconus and ectasia through their research and teaching related to CAIRS, supporting more clinicians to perform the surgery. In 2023 they launched a dedicated website about CAIRS, including a tool for ophthalmologists to plan surgeries.

Both doctors regularly host visiting specialists in their theatres to give instruction. They also publish and present their findings at scientific meetings in Australia and overseas.



# IMPORTANT FINDINGS BY QEI SCIENTISTS.

Promising findings by QEI researchers have been published internationally in the journal of The American Society of Ophthalmic Plastic and Reconstructive Surgery.

QEI researchers are working on materials to treat or replace damaged or diseased tissue in the eye, focusing on therapies for floppy eyelid syndrome.

The research investigates how to strengthen collagen naturally occurring in the eye, using light energy to promote chemical and structural changes to the collagen and make it more resilient.

After seeing promising results with animal collagen, the QEI research team began studying this method's effects on human tissue. Their findings show that using ultraviolet-A light on eyelid tissue is a safe and effective way to reduce eyelid laxity in human patients.

Although these early results are encouraging, there are still challenges in making this crosslinking method a safe and reliable clinical treatment.



# DR PANE PUBLISHED AGAIN.

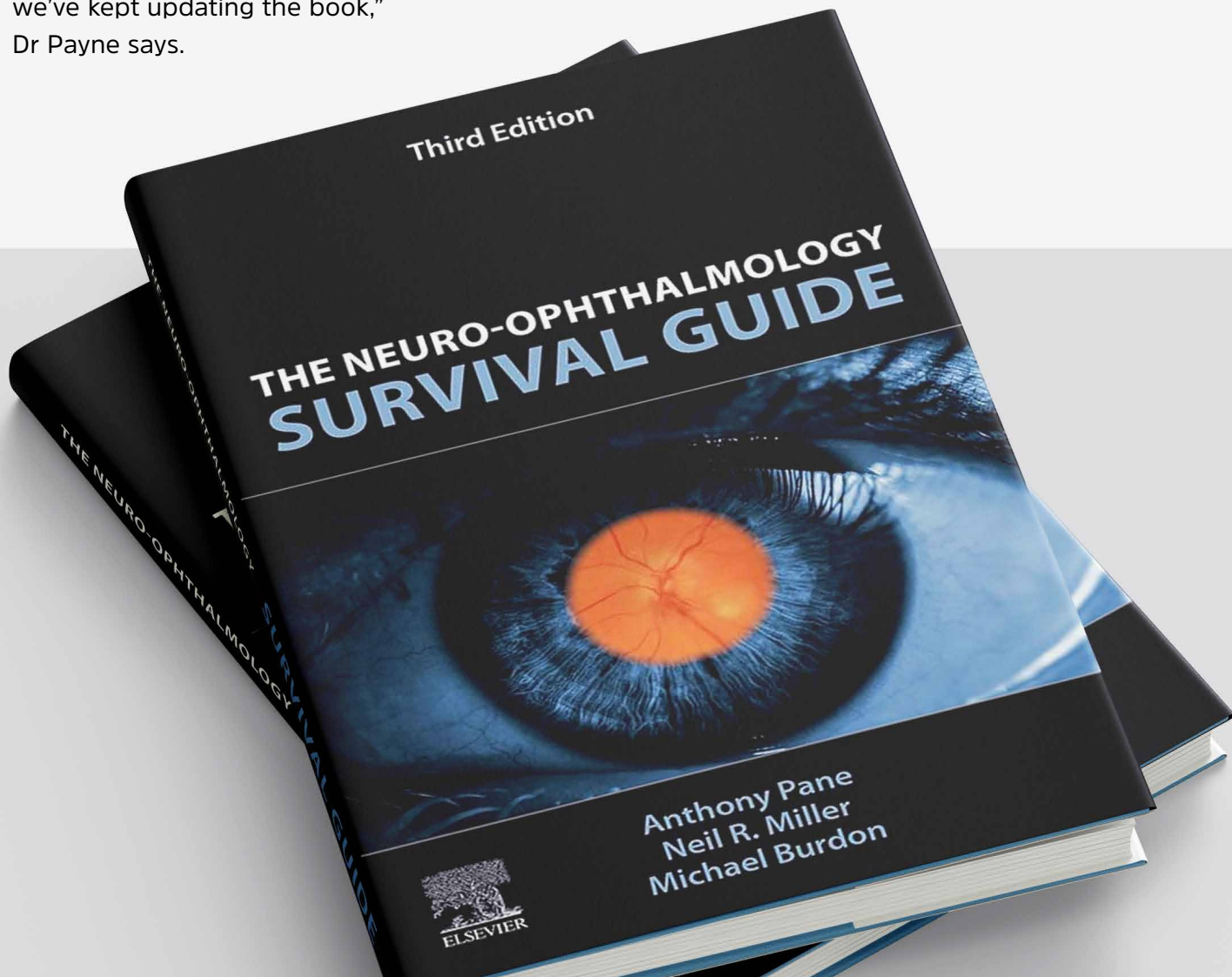
QEI's Dr Anthony Pane continues to make lasting contributions to vision care, recently publishing an updated edition of his textbook *The Neuro-Ophthalmology Survival Guide*.

Now in its third edition, the textbook was first published in 2007 and has featured on the bookshelves of trainee and practising eye professionals around the world ever since.

Dr Pane says the book filled a big gap in vision care training at the time.

"When I started my advanced training 20 years ago, I realised there were plenty of textbooks for doctors once they'd diagnosed a disease of the optic nerve or brain that affected vision, but no books about how to make the diagnosis in the first place," Dr Payne says.

"Because medical knowledge keeps evolving, we've kept updating the book," Dr Payne says.



# WHAT'S NEW IN MACULAR TREATMENTS.



One in seven Australians over the age of 50 show some signs of age-related macular degeneration, and as the population ages, the incidence of macular disease is increasing. But losing sight as we age doesn't have to be inevitable.

QEI's Associate Professor Anthony Kwan says Australia is at the forefront of macular disease developments, pointing to the wide availability of treatments and clinical trials, and improving patient outcomes thanks to significant breakthroughs over the past 20 years.

## Earlier diagnosis and treatment

- Technological advances are leading to earlier diagnosis for more people, providing a hopeful outlook for disease management. More optometry practices are including optical coherence tomography (OCT) in their examinations, which allows for non-invasive, cross-sectional images of the macula earlier and for more people.

## Next generation therapies for neovascular ("wet") AMD

- Clinical trials are focusing on improving durability with longer-acting agents and sustained delivery systems, and better vision outcomes with new and combination therapies.

## New treatment hopes for atrophic ("dry") AMD

- Many new agents designed to treat atrophic disease are now subject to clinical trials. Neuroprotection, retinal pigment epithelium transplantation and subretinal gene therapy are also being investigated.

## Patient support

- The Australian Macula Disease Foundation has launched a new free support service for people living with macular disease. Eye Connect serves as a safety net for patients in between clinic visits, offering health information, practical advice and emotional support. Talk to your QEI doctor about accessing Eye Connect.

 QEI's Associate Professor Anthony Kwan [pictured top right] is chair of the research committee of Macular Disease Foundation Australia. Currently, QEI is recruiting patients to clinical trials for treatments targeting **Diabetic Macular Oedema**, **Geographic Atrophy** and **Neovascular Age-Related Macular Degeneration**.

# IT'S OFFICIAL.

The Queensland Eye Institute Foundation has marked the latest milestone in its long history of saving sight, with Her Excellency the Honourable Doctor Jeannette Young AC PSM, Governor of Queensland, officially opening its new home at 87 Ipswich Road Woolloongabba on 20th August 2024.

After some formalities, past and present staff members mingled with supporters in the foyer and toured the research laboratories and clinical areas of the new building.





# REMEMBER WHEN?

The official opening prompted QEI to reflect on its history, digging into the archives for old photos and stories. Take a walk down memory lane with this online article showcasing how far the Queensland Eye Institute Foundation has come since 1965.

SCAN ME!



# DR DAVID GUNN'S GOLD MEDAL PERFORMANCE.



QEI's Dr David Gunn earned a gold medal for services to ophthalmology from the Indian Intraocular Implant and Refractive Surgery Society, awarded in Chennai in July.

It's a well-deserved accolade. A quick glance at Dr Gunn's contributions in 2024 reveals a dedicated clinician committed to gathering data and investigating clinical processes.

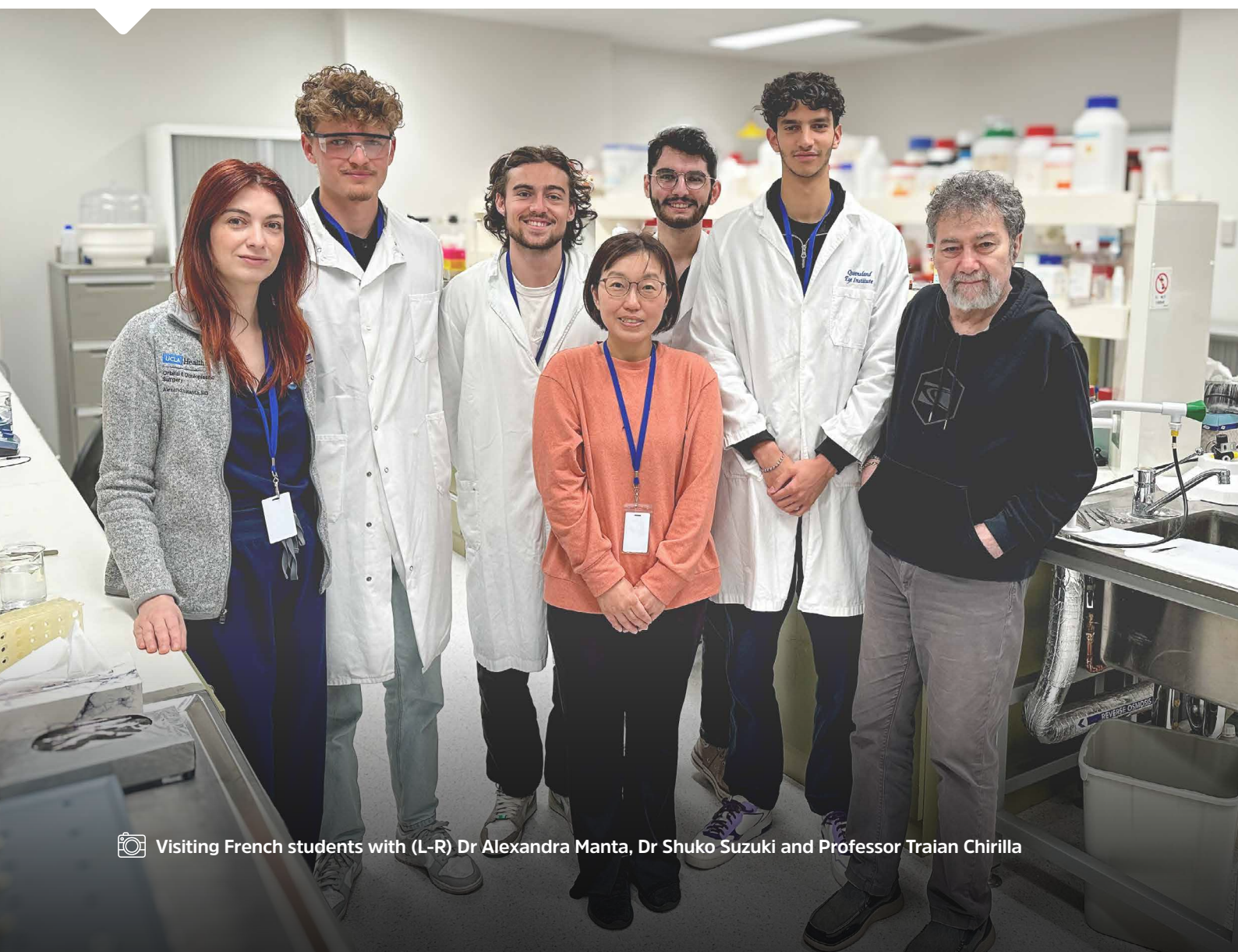
So far this year, Dr Gunn has presented findings at conferences in India, Spain, Sydney, Melbourne and Hamilton Island. In India he was an invited faculty member and delivered four talks over two days.

# INTERNATIONAL STUDENTS LEARN FROM THE BEST.

QEI researchers hosted four students from Aix-Marseille Université, Marseille this past winter.

Sofiene, Marc, Noah and Leo studied at QEI for three months under the tutelage of QEI's Chief Scientist, Professor Traian Chirila, assisted by Drs Shuko Suzuki and Alexandra Manta.

Professor Chirila is a world-renowned expert in polymer science and leads QEI's research projects under the ophthalmic biomaterials and tissue engineering umbrella.



📷 Visiting French students with (L-R) Dr Alexandra Manta, Dr Shuko Suzuki and Professor Traian Chirilla

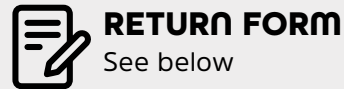
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SCAN ME!



## HELP THE FIGHT TO SAVE SIGHT.

With your support, QEI can continue to invest in people and programs addressing preventable blindness. Your donation directly funds QEI researchers and scientists, giving long-term certainty in their fight to save sight. **All donations \$2.00 and above are tax-deductible and are issued a receipt.**



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