



CENTRE FOR
Eye Research
Australia

visionary

AUTUMN 2016

Saving sight. Changing lives.



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in focus

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finally in sight

Eye spy a good reason
to play outside



5 minutes with... Prof Darren Kelly

CEO/Managing Director of OccuRx and
Head of Strategy and Mentoring at
CERA

What is OccuRx?

OccuRx is a biopharmaceutical company that develops innovative therapeutic strategies for the treatment of eye diseases associated with retinal fibrosis.

We develop novel anti-fibrotics to enhance visual acuity and prevent vision loss associated with diabetic retinopathy (DR).

What did you do before you came to CERA?

I began my academic career at the University of Melbourne, where I undertook a PhD in Translational Medicine.

While working in the area of cardiovascular and endocrinology research at St Vincent's Hospital, I started a biotechnology company called Fibrotech Therapeutics to develop orally active anti-fibrotic inhibitors to treat fibrosis in kidney and heart failure. In 2014, Fibrotech Therapeutics was acquired by Shire Plc for a record 75 million USD upfront including milestone payments up to 600 million USD.

I founded OccuRx in 2014 with venture funding from the Medical Research Commercialisation Fund, Brandon Capital Partners and Uniseed.

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Letter from the MD

I hope this latest edition of Visionary finds you well.

You may not have heard from us in a while but I assure you, we have been working just as hard as ever to save sight and change lives through research that matters.

2015 was one of the most exciting and challenging years so far for the Centre for Eye Research Australia (CERA). In addition to our primary site at the Royal Victorian Eye and Ear Hospital, we opened a new campus at the Baker IDI premises in Melbourne. The scientists are enjoying spacious, state-of-the-art laboratories built specifically for our research, and are working alongside commercial enterprises such as OccuRx, led by our new Head of Strategy and Mentoring, Prof Darren Kelly.

With our partners at Vision 2020 Australia, we launched the National Eye Health Survey last July – the most ambitious and comprehensive eye survey ever undertaken in Australia. You can read more about the success of the project so far on page 4.

We look forward to sharing more exciting news in eye research with you throughout the course of 2016. Please stay in touch and take note of the events calendar on the back cover of this magazine – we would love to see you at one of our events this year.

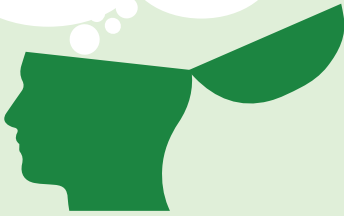
Jonathan Crowston
Managing Director
Centre for Eye Research Australia



Annual Review Snapshot 2015

Research

12 research commercialisation projects



192 research papers published in sci journals



19 clinical trials



34 competitive grants totalling over



Education & community



SUCCESSFUL EVENTS

- ★ **4** community information forums attended by **300+** guests
- ★ CERA Scientific Exchange
- ★ Annual Gerard Crock lecture



7 students graduated with post-graduate degrees



315 linkedin connections



3,173 facebook followers

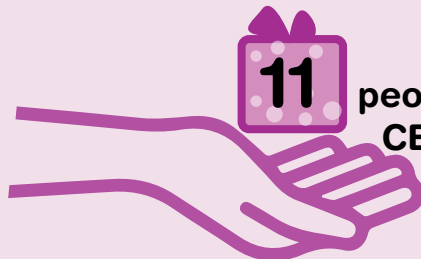


370 twitter followers

Philanthropy



1,442 donors gave **\$1,885,935** to save sight and change lives



11 people left a gift for CERA in their will



Operations



Royal Victorian Eye and Ear Hospital

30%

of CERA researchers moved into our new campus within Baker IDI



Baker IDI

135 staff
18 students

Restructure of executive team to increase our focus on research commercialisation & mentoring/development

Australia's eye health in focus



Dr Mohamed Dirani

- **How many Australians have vision loss?**
- **Which areas are most in need of extra services?**
- **What will be the impact of vision loss and eye disease on our country in the next 5, 10 or 20 years?**

These are just some of the questions researchers hope to answer by conducting the first National Eye Health Survey.

In 2014, the Australian Government announced \$1.126 million in funding for a comprehensive research project on eye health in Australia, followed by an additional \$650,000 in 2015. The project is a collaboration between the Centre for Eye Research Australia (CERA) and the national peak body for eye health advocacy, Vision 2020 Australia, to identify the gaps in eye health at a population level, as well as provide baseline figures for eye disease prevalence.

In the last year, researchers from CERA have travelled all across Australia to survey people from urban, regional, rural, remote and very remote locations. By June this year, they will have surveyed 3,500 non-Indigenous Australians over 50 years of age and 1,500 Indigenous Australians over 40 years of age.

Researchers ask the participants questions about their eye health and medical history, as well as conducting eye tests such as visual acuity testing, anterior segment assessment (to assess general ocular health), visual field testing (to assess side vision) and fundus photography (to assess the health of the retina).

According to the project's lead investigator, Dr Mohamed Dirani, the National Eye Health Survey is progressing extremely well. "This project is an extraordinary example of an effective collaboration between the Australian Government, the eye health sector, industry sponsors, local stakeholders and volunteers," he said.

"Most importantly, it will form the basis of ongoing health policy and research, to ensure that all Australians have the best possible eye health now, and in the years ahead."

The National Eye Health Survey is supported by funding from the Australian Government under the Chronic Disease Prevention and Service Improvement Fund, with other contributions coming from CERA, OPSM, Novartis, Zeiss, Brien Holden Vision Institute, Optometry Australia, NACCHO and Royal Flying Doctors Service.

Treatment for dry AMD finally in sight

For years, patients diagnosed with dry Age-related Macular Degeneration (AMD) have been told that nothing can be done to save their vision. Now, Professor Robyn Guymer and the macular research team are delighted to announce that hope is finally in sight.

CERA is taking part in some of the first clinical trials world-wide to offer potential pharmaceutical therapies for treating Geographic Atrophy, also known as dry AMD.

AMD is the most common cause of irreversible poor vision in people over 50 in our community. Although there have been great advances in the last decade in reducing the vision loss associated with neovascular (wet) AMD, there is no intervention to slow the progression of geographic (dry) AMD.

Lead Investigator Professor Robyn Guymer is Head of Macular Research at CERA and an Ophthalmologist.

"For nearly 20 years I've seen patients with dry AMD in the clinic and apart from monitoring their vision loss over the years, there was nothing we could do for them. Now we finally have some treatment options on the horizon", said Prof Guymer.

The new clinical trials involve placing drugs into the vitreous cavity of the eye, either as regular 4-8 weekly injections (similar to the injections for people with wet AMD) or as slow release encapsulated technology, releasing the active drug over many months.

Only certain patients will be eligible to take part in the studies so if you are interested, please contact your eye health professional (optometrist or ophthalmologist) for a referral. Study volunteers who are selected to participate will need to attend regular appointments at the Centre for Eye Research Australia in Melbourne, Victoria.

For patients who do not meet the criteria, or who cannot attend frequent clinical appointments, there is an opportunity to participate in a natural history study of dry AMD. These studies do not involve any treatments, but are a valuable opportunity for our researchers to learn more about your disease.

Further details on the current trials and how to register your interest can be found at www.cera.org.au Click on the "Clinical Trials Web Sight Register Here" button.



Professor Robyn Guymer



Eye spy a good reason to play outside

Spending more time playing outside could protect children from short-sightedness as they grow up, according to a study published by the Professor of Ophthalmic Epidemiology at CERA and the University of Melbourne, Prof Mingguang He.

The study, published in the Journal of the American Medical Association (JAMA), examined the effect of 40 minutes of additional outside activity daily on the eyesight of Grade 1 primary school children in China. The children were monitored for 3 years and the researchers found that the extra time outdoors resulted in a 23% reduction in the incident rate of myopia (short-sightedness), compared to children who did not participate in any additional outdoor play time.

“This reduction is clinically important because we targeted young children around 6 years of age, and these children are at greater risk of progressing to severe myopia if they develop myopia early,” said Prof He. “If we can delay the onset of myopia through a simple and cost-effective intervention like this, we can provide great long-term eye health benefits.”

Young adults in East and South East Asian countries are increasingly affected by myopia, with 80-90% of high school graduates diagnosed with the condition and 20% of these defined as high myopia (≥ -6 diopters). Not only does this mean they require correction for refractive error (glasses or contacts lenses), but they are also at risk of sight-threatening complications such as myopic macular degeneration later in life.

The exact link between time spent outdoors and better eyesight is still unclear, however Prof He and his colleagues propose that this might involve increased dopamine release from the retina stimulated by brighter light outdoors.

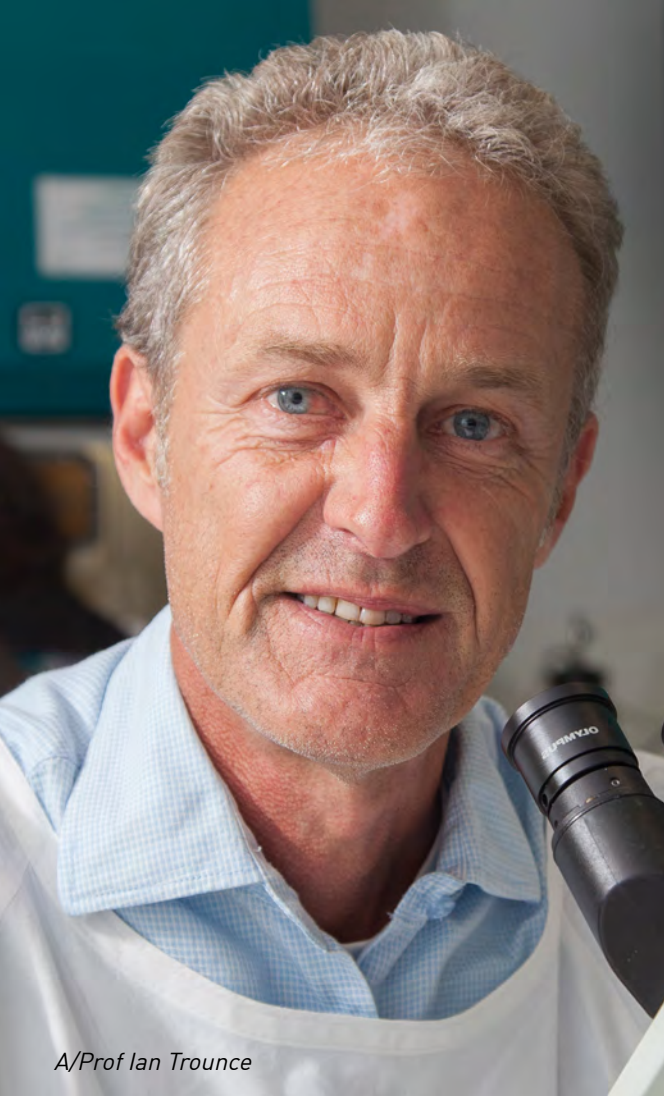
Interestingly, the authors had hoped their increased time outdoor should yield up to a 50% reduction in the number of myopia cases. “School-based initiatives could include even more time for classes outdoors, for example using school recesses to get children outdoors, encouraging parents to bring their children outdoors at weekend, or using new class-room designs to provide higher indoor light intensities. All of these strategies will help translate the research findings into community benefit,” said Prof He.



Professor Mingguang He examines a child

Giving to save sight

2015 Christmas Appeal Results



A/Prof Ian Trounce

Thank you for your generous support of our 2015 Christmas Appeal!

Last year we introduced you to the Prain family, whose mother and three daughters are all affected by Leber's Hereditary Optic Neuropathy (LHON). Thanks to you, we raised over \$85,000 for A/Prof Ian Trounce's research into developing a treatment for this devastating disease.



A/Prof Trounce said the money will be used to further develop his team's research into the genetic and environmental factors that control LHON. "Why do some people with the LHON gene lose their vision and others don't develop the condition at all? We need to find out so that we can prevent this disease from destroying any more young lives."

Lions Ride for Sight

31 March-3 April

The annual Lions Ride for Sight is now in its 23rd year and in that time has raised well over \$500,000 for CERA. Participants in the 2016 event will cycle 320km around picturesque Gippsland, starting and finishing in Moe.

This year, two CERA researchers are taking part; Dr Eva Fenwick and Dr Nicole Van Bergen.



To sponsor our CERA riders, please visit:

Dr Eva Fenwick → <https://give.everydayhero.com/au/lion-s-ride-for-sight-2016>

Dr Nicole Van Bergen → <https://give.everydayhero.com/au/nicole-85>

2016



CENTRE FOR
Eye Research
Australia

What's on at CERA?

Please save these dates in your diary now!

18
May

Scientific Exchange & CERA Awards

5.30pm

25
May

Macular Degeneration Information Forum

10.30am

14
July

Diabetic Retinopathy Information Forum

10.30am

19
Oct

2016 Gerard Crock Lecture

5.15pm

29
Nov

Keratoconus Information Forum

6.00pm

All are welcome at our community events, aimed at a general audience. We appreciate your gold coin donation to help cover the cost of running our information forums.

Phone: 1300 737 757

| Email: cera-rsvp@unimelb.edu.au

| Website: www.cera.org.au

2016 SCIENTIFIC EXCHANGE and CERA Awards – 18 May

Don't miss this very special event, showcasing the best of CERA's research over the past 12 months. Friends and supporters of CERA will enjoy the opportunity to get 'up-close' with some of our best and brightest researchers. Guests will speak directly to the researchers about their latest discoveries and participate in interactive displays.

The 2016 CERA Awards will also be distributed at this event, celebrating the staff and students of CERA who have excelled above and beyond expectations.

We hope you can join us for what promises to be an exceptional evening.

Stay in touch with CERA!



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