

## Eye researcher returns to Perth to continue focus on retinal diseases



**Dr Carla Mellough**

**Dr Carla Mellough has returned to Perth as the new Brian King Post-Doctoral Fellowship holder at the Lions Eye Institute to pursue her research into human retinal development and disease.**

Dr Mellough was born in Scotland but came to Perth as a child and later studied at The University of Western Australia.

She has spent the last 13 years in the United Kingdom and Spain. While overseas, Dr Mellough developed a method for making human retina from pluripotent stem cells, which can potentially produce any cell or tissue of the body. The resulting retina is comparable to that which develops naturally *in utero* but it can be grown and studied entirely in the laboratory.

“My research is focused on gaining a greater understanding of human ophthalmic development and retinal disease,” she said.

“In particular, I am interested in outer retinal degeneration, which affects the part of the retina where light detection takes place. There is still no treatment for many forms of this type of visual loss, making it a leading cause of blindness worldwide.

“We still have a lot of basic biological questions to answer but I feel as though we are on the cusp of a new era in research where human problems can be studied in an unprecedented way.”

Dr Mellough said in the past few years, researchers had learned how to make miniature

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versions of various human organs (organoids) including the brain, pancreas, liver and kidney.

The ability to make human retinal organoids in the laboratory allows scientists to observe human eye development in a way that was, until recently, impossible.

“Retina can also be made from a patient’s own cells, meaning that the underlying cause of visual loss in a patient can be investigated directly,” she said.

“It’s like growing a miniature version of the eye in a petri dish which can be used as a tool to answer questions about human development and disease. This will help us to identify

therapeutic targets for currently untreatable forms of blindness, as well as generate useful cells for transplantation in patients requiring cell replacement.”

Dr Mellough said she was delighted with the opportunity to start an independent research career at the Lions Eye Institute (LEI).

“There are very few other centres that have this concentration of clinicians, stem, retinal and cell biologists and an ideal infrastructure which provides the perfect environment for research of this nature,” she said.

“The collaborative environment of the LEI is also extremely important to me. We need to work together if we are to find a cure for blindness.”

## Gold nugget raffle to support *Tandy’s Fight for Sight*



**Chris Morten and his vision assistance dog Tandy are raising funds for Dr Carla Mellough’s research**

**Nannup Lions Club president Chris Morten is raffling a six ounce gold nugget valued at \$12,500 to raise money for stem cell research into retinal disease at the LEI.**

Mr Morten, who suffers from a rare form of retinal damage and has just five per cent of normal sight, found the nugget while prospecting north of Meekatharra 14 years ago with his late wife Dorothy.

Mr Morten has named the raffle appeal after his vision assistance dog Tandy – a two-year-old

golden retriever whose exceptional skills help him live a more independent life.

“It’s been 26 years since a doctor demanded my car keys and, like so many other low-vision people, I still long to be back behind the wheel,” Mr Morten said.

“For 15 years, Dorothy did all the driving as we chased outback work in our four-wheel-drive. I’ve held onto the truck, just in case, and Tandy has booked a front passenger seat in case I get my license back.”

Money raised from the raffle will help fund Brian King Research Fellow Dr Carla Mellough’s research.

Tickets for *Tandy’s Fight for Sight* are on sale for \$10 from the LEI’s Shared Vision Office or by emailing [nannup.lions@gmail.com](mailto:nannup.lions@gmail.com)

The raffle winner will be drawn on November 4.

To read more about Mr Morten’s story, visit [www.nannuplions.org/gold-nugget-raffle](http://www.nannuplions.org/gold-nugget-raffle)

# New genes linked to world's leading cause of irreversible blindness

**Glaucoma is the leading cause of irreversible blindness worldwide, affecting more than 65 million people.**

Professor David Mackey, genetic researcher and LEI Managing Director, is a member of the consortium that has identified three new gene mutations associated with an increased susceptibility to primary open-angle glaucoma (POAG), the most common form of the disease. Their findings have been published in the prestigious journal *Nature Genetics*.

The researchers performed a meta-analysis of genome-wide association studies from the



**Professor David Mackey**

United States, Europe, Singapore, Australia and New Zealand. They found that people with the mutations in one or more of these three genes had an increased risk of developing POAG. The results also identify new pathways underlying POAG susceptibility, which in turn could offer new opportunities for preventative therapies.

## The See Lions Rotto swim



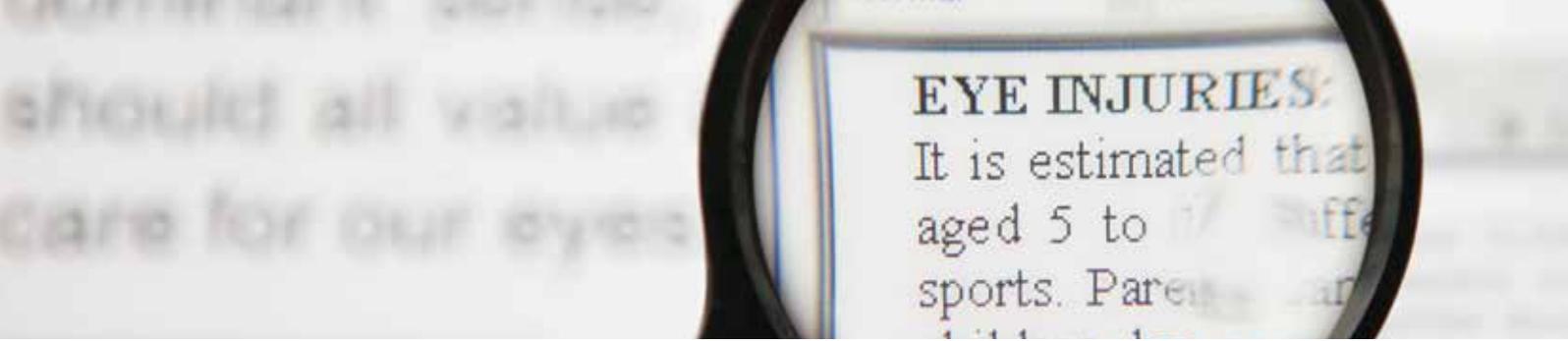
**The See Lions**

**The See Lions are a team of LEI staff and friends who competed in this year's Rottneest channel swim on February 25 with the aim of raising funds for our research.**

The See Lions had a target of \$1000, which was exceeded. Donations from the community assist the translation of research into innovative treatments for our patients. Current clinical research projects include clinical trials for wet and dry macular degeneration, retinal vein occlusion, glaucoma and myopia.

Richard McKeone, Amy Farcich, Kelly Fasala and Ola Sommer braved the 20km distance between Cottesloe beach and Rottneest Island.

They have seen the devastating impact that vision loss can have on people's lives and believe passionately in the mission of the LEI to continue to gain a deeper understanding of eye disease with the ultimate goal of curing blindness. Well done team and thank you.



## Tax Appeal 2017

**To save his sight Jeff visited the LEI more than 140 times.**

Over the course of his treatment for Keratoconus – or cone-shaped corneas – he has had multiple sight-saving procedures, including corneal grafts in both eyes.

Professor Geoffrey Crawford diagnosed Jeff and provided the ongoing treatments needed to prevent him from going blind.

“Geoff Crawford took one look into my eyes and said ‘you need a corneal graft’. He told me I would need surgery, and then went out of his way to make sure it happened. I’m lucky he did, because it saved my sight,” he said.

“I can only see today because of the world-class treatment I have received from Geoff and his colleagues. Thanks to them, I could stay in



**Jeff and Professor Geoffrey Crawford**

my job and have a full career. And now I can enjoy retirement and watch my grandchildren growing up.”

Your generous gifts in response to Jeff’s story have raised more than \$158,000 to fund research into sight-saving treatments for people like Jeff. Thank you for helping to provide a healthy and independent future for all.

## Lions Christmas cakes and puddings for sale at the LEI



We have Lions Christmas cakes and puddings for sale at the LEI reception desk. The goodies are sold all year round but can sell out during the lead up to Christmas. Make sure you grab one when you next visit us. All proceeds go to the Lions Clubs.

A large cake is \$16, small cake is \$12 and puddings are \$12.

**Puddings are currently on sale for \$10 – get in quick!**

# Ian Constable Lecture 2017



Professor Simon Foote

The 2017 Ian Constable Lecture will be delivered by Professor Simon Foote – Director of The John Curtin School of Medical Research at The Australian National University.

Professor Foote is a molecular geneticist who has held many leadership positions, including Dean of The Australian School of Medicine at Macquarie University, Director of the Menzies Research Institute at the University of Tasmania and Divisional Head at the Walter and Eliza Hall Institute, Melbourne.

His 2017 Ian Constable Lecture is called *Genome research produces new anti-malarial drug targets*.

In a malarial infection, there is competition between the malaria parasite and the host. If the malarial parasite can produce sufficiently rapidly, it can reach a level of parasitaemia that is lethal to the host. However, if its rate of growth is slowed, the host's adaptive response can kill the parasites before the lethal level of parasitaemia kills the host. The host response that controls the growth of malarial parasites has been largely thought to be the adaptive immune response.

Professor Foote's talk will introduce the concept that perhaps as important is the innate immune response as mediated by platelets. Platelets are able to recognise infected red cells, bind to them, activate and kill malarial parasites.

To learn more about the lecture and to secure your tickets please go to [www.ias.uwa.edu.au/lectures/foote](http://www.ias.uwa.edu.au/lectures/foote)

**Entry is free, bookings are essential.**



## Myopia study in children

Researchers from the LEI are currently recruiting school-aged children with myopia (short-sightedness) to participate in a randomised controlled clinical trial.

Researchers are seeking further funding and additional participants. The more children we treat the better our understanding will be of the underlying mechanisms of the disease and how the treatment helps. Your donation will help save sight.

The trial is a randomised double-blinded case-controlled study that will measure the effect of low-dose atropine on myopia progression in Australian children. Participants will be randomly allocated to treatment with low dose atropine (0.01%) or placebo eye drops. The effect of treatment on myopia progression will be assessed after three years, including one year on no treatment (washout). Trial participants will be seen three times in the first year and twice yearly for the following two years.

Children aged six to 16 years old who have myopia (-1.50 dioptres or more) and who have confirmed myopic progression ( $\geq -0.50$  dioptres over the last 12 months) are welcome to take part in the WA ATOM Study.

If you would like to take part, or make a financial contribution, please contact the study co-ordinator at [myopia@lei.org.au](mailto:myopia@lei.org.au) or phone (08) 6382 0507. You can see more information about the study on the clinical trials page of our website – [www.lei.org.au/research/clinical-trials](http://www.lei.org.au/research/clinical-trials) and click on myopia.

# Your decision to register could save a life

Each year, DonatLife encourages Australians to join the Australian Organ Donor Register at [www.donatelife.gov.au](http://www.donatelife.gov.au)

Only one in three Australians have joined the Australian Organ Donor Register – even though 81 per cent believe registration of the donation decision is important.

Registration is vital – nine in ten families agree to donation proceeding when the deceased is a registered organ and tissue donor. But this drops to just 52 per cent where the deceased is not registered and the family had no prior knowledge.

More than 1400 Australians are today waiting for a life-saving or life-transforming transplant. If you are willing to one day save lives by becoming an organ and tissue donor, you need

What are you waiting for?

Join the Australian Organ Donor Register online today  
[donatelife.gov.au](http://donatelife.gov.au)



to register and discuss your decision with your family and friends.

We thank all the donors that have saved the sight of so many.

To learn more about donating, go to <https://register.donatelife.gov.au/>

## Visionaries Luncheon 2017 – celebrating a shared vision for the future

**This year's Visionaries Luncheon took place on May 24 at the UWA University Club.**

This annual event provided an excellent opportunity for the LEI to thank our cherished "Visionaries" for their generous support and for sharing our vision to prevent and cure blindness and eye disease.



It was an enjoyable event with a superb introduction from our Managing Director, Professor David Mackey, who shared news of the LEI's current activities, achievements and latest research. This was followed by a captivating presentation from this year's Guest Speaker, Dr Hessom Razavi. He discussed how the eye works and outlined the impressive work he does at the LEI with a particular focus on improving vision among Indigenous communities.

If you also share our vision and would like to learn more about how you could become one of our "Visionaries" please contact our Development Officer, Gill Janson, on her direct line 9381 0738 for a confidential discussion.

# Shared Vision Office

Have you ever wanted more information about the LEI? If you would like to learn more about what we do, how we work, or how your donation helps to save sight please visit the Shared Vision Office on the ground level of the LEI.

Reception, Clinic Staff or any of the Volunteers can direct you to our office. Please stop by, as we would love to talk to you on your next visit.



L-R: Vinka, Carolyn, Kari, Alisa, Gill



## World Sight Day is coming

World Sight Day is an annual day of awareness held on the second Thursday of October to

focus global attention on blindness and vision impairment. The 2017 World Sight Day is on October 12.

Amateur and professional photographers from around the world are encouraged to take part in an international photography competition with the theme Make Vision Count. Send your pictures

to <http://photocomp.iapb.org/> with the theme #MakeVisionCount by October 12, 2017.

To take part or learn more about the competition go to this website - [www.iapb.org/advocacy/world-sight-day](http://www.iapb.org/advocacy/world-sight-day) or to learn more about World Sight Day go to the Vision 2020 website - [www.vision2020australia.org.au/](http://www.vision2020australia.org.au/)



## Privacy policy

**Your Privacy:** The Lions Eye Institute collects personal information about you in order to provide you with information and direct marketing materials in respect of our charitable objectives, and, unless you opt out or unsubscribe, may contact you in the future via post, email or phone. Our Privacy Policy [www.lei.org.au/privacy-policy/](http://www.lei.org.au/privacy-policy/) contains information about: (i) how we obtain, store and use, plus how you can access and correct your personal information; (ii) how you can lodge a complaint regarding the handling of your personal information; and (iii) how any complaint will be handled by the Lions Eye Institute. You may contact our privacy officer with any queries via email: [enquiry@lei.org.au](mailto:enquiry@lei.org.au) or mail: 2 Verdun Street Nedlands Western Australia 6009 or telephone: (08) 9381 0777. For queries about our Privacy Policy or to advise if you do not wish to receive future communications from the Lions Eye Institute, please call (08) 9381 0777.

# The LEI is a not-for-profit organisation



## Yes I want to save sight

Please accept my donation of: \$.....(Donations over \$2 are tax deductible)

Please find enclosed my  Cheque  Money Order OR, please debit my  Mastercard  American Express  Visa

Card No:     /     /     /     Expiry Date:   /

Cardholders Name: ..... Signature: .....

### Tax Receipt Details

Name:.....

Address: .....

Suburb:..... Postcode:.....

Telephone: .....

Email: .....

- I have already provided for the Lions Eye Institute in my Will.
- Please send me information on how I can include the Lions Eye Institute in my Will.
- Please contact me for a confidential discussion regarding leaving a gift for LEI in my Will.
- Your donation saves sight. We recognise the generosity of our donors on our donor recognition board, on our website and in our annual report. Please tick here if you prefer not to be included in such recognition.

**Your donation helps eradicate blindness**

**Mail to:  
Lions Eye Institute,  
Reply Paid 62815  
Nedlands WA 6009  
(No stamp required)**