

It's Eureka! for LEI researchers

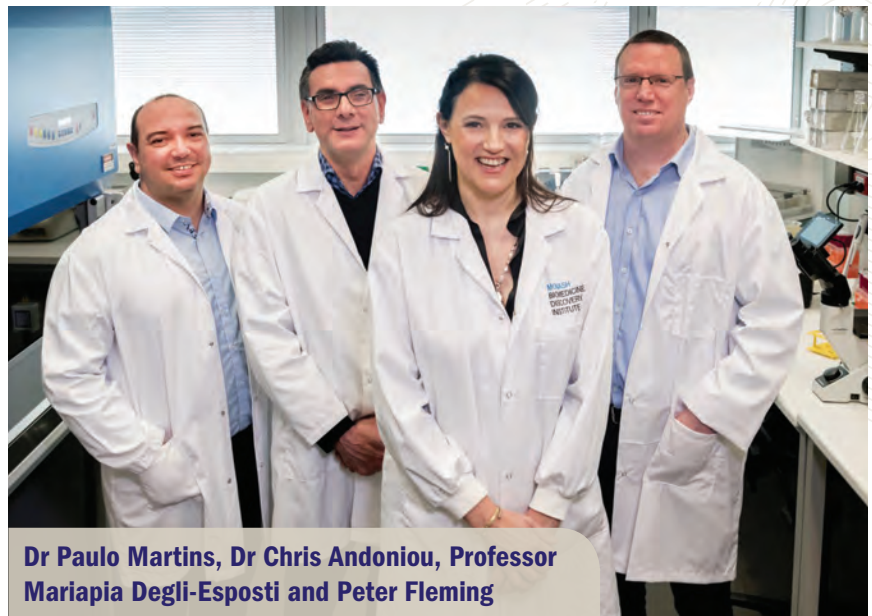
Lions Eye Institute (LEI) researchers won the prestigious UNSW Eureka Prize for Scientific Research, at the Australian Museum Awards ceremony in Sydney on 28 August.

The Eureka Prizes are Australia's most significant awards for scientific excellence, with the Scientific Research award recognising "outstanding curiosity-driven scientific research".

The Prize was awarded in recognition of ground-breaking research into improving the management of one of the most common viral infections caused by Cytomegalovirus (CMV), following transplantation.

Professor Mariapia Degli-Esposti, Head of Experimental Immunology at the LEI and Head of Experimental and Viral Immunology at the Monash Biomedicine Discovery Institute, said the research team was thrilled that their work had been recognised so prominently.

Professor Degli-Esposti led a team that included



Dr Paulo Martins, Dr Chris Andoniou, Professor Mariapia Degli-Esposti and Peter Fleming

Dr Chris Andoniou and Peter Fleming from the LEI, along with investigators from QIMR Berghofer in Brisbane led by Professor Geoff Hill, now at the Fred Hutchinson Cancer Research Center in Seattle.

Their work has significant potential to limit the impact of cytomegalovirus infections in bone marrow and organ transplant recipients, who have highly compromised immune systems and are at high risk of developing life-threatening cytomegalovirus-induced disease following transplantation. The research team found that antibodies can prevent the virus from

coming back and causing disease if they are matched to the infecting strain of CMV.

"Ultimately, we want to protect patients against the impacts of CMV, which can severely limit positive outcomes in transplant recipients," Professor Degli-Esposti said. "This discovery is the result of a great collaboration between viral and transplant immunologists who want to see patients protected from the life-threatening impact of CMV."

More information about the Eureka Prize is available from the Australian Museum at australianmuseum.net.au



Our Visionaries

Doreen Fleet and her husband Robin understand that gifts in wills are essential in supporting future research.

“I was slowly going blind with Fuchs’ Dystrophy over 10 years ago, and was referred to see Dr Steven Wiffen at LEI. Treatment slowed the progress, but eventually I had a corneal transplant. The recovery took almost two years. The result was brilliant,” Doreen said.

“A couple of years later I had a second corneal transplant, in the other eye. The recovery took just two months. Research in the intervening four years had changed the procedure from open eye surgery to keyhole surgery. I still get regular check-ups at the LEI. They restored my eyesight to a degree that was better than it ever was before.

“I still marvel at the brilliance of the colours I see. The research, treatment, care and friendliness of all the people there make them all my heroes. They gave me my eyesight back.



LEI Visionaries Robin and Doreen Fleet

“My husband and I changed our wills to leave a substantial bequest to the LEI to help with the wonderful work they do. We both really appreciate all that LEI have done for us.”

The LEI is immensely grateful to the people who leave a lasting legacy through a gift in their will. Contact us if you want to discuss becoming a Visionary: call Georgie on 08 9381 0738.

Thank you!

We are greatly appreciative of all of our supporters who donated to the LEI 2019 end-of-financial-year appeal. So many of you were touched by Emma’s journey with glaucoma and aniridia, which she has had from a young age.

Emma and people just like her are the reason that research into eye disease is so important.

> Your donations save sight and we cannot thank you enough.



**LEI
RESEARCH
WEEK**

Get ready for LEI Research Week!

The eye is an organ of immense complexity that brings us the wonder of sight. The Lions Eye Institute is holding its inaugural LEI Research Week on 21–26 October this year and everyone is welcome to join us in exploring the eye and its complexities at a series of free public events. These include:

Eye health lectures will be held for the community in the McCusker Auditorium, Harry Perkins Institute for Medical Research, Tuesday 22nd October, 10am-4pm.

Presenters as follows:

10am – Professor Bill Morgan, Glaucoma Ophthalmologist and Lions Eye Institute Managing Director, speaking on ‘Adventures in the pressure space – what does the optic nerve do in Glaucoma and outer space?’.

11.30am – Dr Andrea Ang, Corneal and Refractive Ophthalmologist, presenting ‘Can I get rid of my glasses Doc?’ Dr Ang will cover the latest technology in lasers and lenses in refractive surgery.

1pm – Dr Hessom Razavi, Retinal Ophthalmologist, taking you on a ‘Journey into the Eye’. Using virtual reality technology, Dr Razavi will take you on a virtual journey through the eye and disease.

2.30pm – Dr Angus Turner, McCusker Director of Lions Outback Vision, speaking about ‘Country eyes: how to give sight-saving treatment away from the city lights’, covering all elements of remote eye health care and the amazing work of the Lions Outback Vision team.

Tickets will be available soon. Please visit our website or Facebook page for more info or call Diana on 9381 0876 to register your interest.

The 20th Ian Constable Lecture at the University Club UWA at 7.30pm on 24th October.



Professor Keith Martin

The keynote address will be given by Professor Keith Martin, Managing Director of the Centre for Eye Research Australia. The title of Professor Martin’s address is ‘Glaucoma: what’s on the horizon?’

Sensory Science, a unique tactile art-science exhibition at IQX on Broadway in Nedlands on 26th October.

Between 11am and 3pm, members of the public will be able to experience the unique artwork of Dr Erica Tandori, a legally blind artist, and the LEI research team. Through a creative tactile exhibition made of all sorts of everyday objects, people will be able to learn about science in a way that requires little or no vision. The one-of-a-kind exhibition was founded at Monash University’s Biomedicine Discovery Institute.



Dr Erica Tandori with an exhibit from Sensory Science

LEI Research Week will also include historic and research exhibitions, as well as the annual Visionaries Luncheon at UWA on 21st October. LEI researcher Dr Livia Carvalho and clinician-researcher Dr Antony Clark will be the guest speakers at this invitation-only event.

Visit the LEI website (www.lei.org.au) or follow us on Facebook to learn more.

The new device that is saving sight in Indonesia



Dr Virna Oktariana (second from left) and Prof. Bill Morgan (centre) co-invented the Virna glaucoma drainage device

After more than eight years of painstaking research and development, a revolutionary, affordable glaucoma tube for the Indonesian market was launched in Jakarta on June 26.

LEI's Professor Bill Morgan and Indonesian ophthalmologist Dr Virna Oktariana co-invented the Virna Glaucoma Drainage Device (GDD) to help tackle the high rates of glaucoma in Indonesia.

The Virna GDD is a tube implanted in the eye that drains away fluid and relieves intraocular pressure. Manufactured in Indonesia

for approximately \$100, it is substantially cheaper than conventional treatments which cost approximately \$1000.

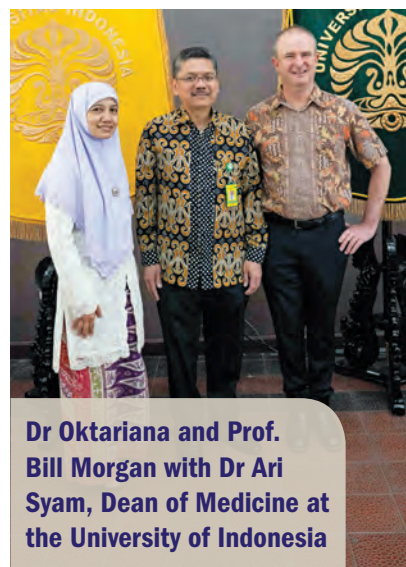
"We wanted to create a device which would work to prevent blindness, that could be easily manufactured in Indonesia and be easily inserted into the eyes of Indonesian patients by surgeons," Professor Morgan said.

With glaucoma affecting almost two per cent of the Indonesian population over the age of 40, Dr Oktariana saw the need for an affordable tube solution to help Indonesians access sight-saving surgery, and she began

work on the research project with Professor Morgan in 2011.

Both Professor Morgan and Dr Oktariana attended the launch at the Indonesia Medical Education Research Institute, along with representatives of the Australian Embassy in Jakarta, representatives of Rhoto Pharmaceutical (which manufactures the device), Indonesia's Minister for Health and dignitaries from the University of Indonesia.

The LEI has a long history of teaching surgical and other skills in Indonesia and is currently developing a Memorandum of Understanding with the University of Indonesia to strengthen ties and foster more innovations and training opportunities in the future.



Dr Oktariana and Prof. Bill Morgan with Dr Ari Syam, Dean of Medicine at the University of Indonesia

Eyeballs Made Easy

The LEI's Dr Hessom Razavi is passionate about making medical science accessible to everyone, and has developed a unique program to educate people about the eye. The 'Eyeballs Made Easy' program includes informative videos and a virtual reality initiative that allows people to don headsets and roam around the inside of the eye.

Dr Razavi initially developed the program for medical students, who spend only a short time during their four to six-year curriculum learning about ophthalmology. His dream is to take the program wider and help to demystify eye disease for the general public.

"Through the virtual world, there is an eyeball floating in space in front of you, and you navigate around, take the eyeball apart and name the different parts to understand the anatomy. You can see the blood vessels, nerves and retina. It's like being inside a little planet," he said.

Dr Razavi developed the virtual reality eyeball with software project manager Dr Michael Ovens, and intends to demonstrate it at LEI's Research week as part of his public eye health lecture: 'Journey into the eye' on October 22nd.



Romy Ezekiel experiencing being 'inside the eye' via virtual reality



Dr Jo Khoo testing in the ICP Assessment Clinic

Under pressure

Measuring intracranial pressure (ICP) has never been a straightforward endeavour. Typically, holes are drilled into a patient's head, or they have needles inserted into their back – methods that are sometimes prone to complications. However, the Lions Eye Institute's new ICP Assessment Clinic is changing all of that. The Clinic, established last year, enables accurate non-invasive estimations of intracranial pressure in patients through techniques developed at the LEI.

ICP is also known as cerebrospinal fluid pressure and it is the fluid pressure surrounding the brain that also passes up around the optic nerve to the back of the eyeball. Assessment of it is critical in diseases affecting the optic nerve, such as glaucoma, as well as in diseases of high intracranial pressure such as idiopathic intracranial hypertension, brain tumours, traumatic head injuries and other neurological disorders.

The LEI has developed new systems for measuring retinal venous pulsation and also novel mathematical algorithms for analysing video footage taken from special retinal photographs. In addition to alleviating the need for invasive measurement of patients, the new clinic is providing vital information to neuro surgeons and neurologists concerning optic nerve function and advice about the management of ICP-related disorders.

The ICP Assessment Clinic has grown rapidly since its establishment, thanks to collaboration with the departments of neurosurgery and neurology at Sir Charles Gairdner Hospital and the Neurological Intervention and Imaging Services of Western Australia (NIISwa), and the work of the Clinic is informing research into ways to further improve and modify ICP estimation techniques.

“Flu of the Eye” Trial

The LEI Clinical Trials team is currently recruiting for a study on a potential new treatment for acute adenoviral conjunctivitis – also known as “flu of the eye”.

Associate Professor Mei-Ling Tay-Kearney is the principal investigator of the RUBY trial, which will test the study drug OKG-0301 (the eye drop form of ranpirnase) as eye drops to treat people with viral conjunctivitis.

Viral conjunctivitis is highly-contagious and widespread, frequently recurring and causes significant discomfort, with typical symptoms including red, watery eyes, irritation, itching and/or discharge. In some cases, it can cause permanent damage to vision.

To learn more or enquire about taking part please contact Amelia Jason on: (08) 6382 0582 or email ameliajason@lei.org.au



Our Clinical Trials

The LEI is home to one of the largest ophthalmic clinical trials centres anywhere in the world.

LEI is currently recruiting for the below clinical trials:

- **UVEITIS (A/Professor Mei-Ling Tay-Kearney).** The HUMBOLDT Trial is testing the safety and efficacy of Filgotinib in Adults with Active Non-infectious Uveitis.
- **GLAUCOMA/OCULAR HYPERTENSION (Professor Bill Morgan).** The Athena Trial is investigating the safety and efficacy of Bimatoprost SR compared with selective laser trabeculoplasty (SLT) in the treatment of glaucoma or high eye pressure.
- **MACULA TELANGIECTASIA – MACTEL (Professor Ian Constable).** The MacTel Natural History Observation and Registry: Recording contact details and medical history of patients diagnosed with Macula Telangiectasia. The MacTel-03 trial is determining the safety and efficacy of Renexus in Macular Telangiectasia.
- **DIABETIC MACULAR EDEMA (Professor Ian McAllister).** The KESTREL Trial is evaluating the safety and efficacy of brolocizumab in treatment of patients with visual impairment due to DME.
- **DIABETIC MACULAR EDEMA (Dr Fred Chen).** The RHINE Trial is evaluating the safety and efficacy of an experimental drug RO6867461, and comparing the effects of treating patients' visual impairment due to DME in comparison to aflibercept.
- **DIABETIC MACULAR EDEMA (Dr Fred Chen).** The OPHEA Trial will evaluate the safety and tolerability of the experimental drug OPT-302 when it is used in combination with aflibercept.
- **WET AMD (Dr Chandra Balaratnasingam).** The LUCERNE Trial is comparing the effectiveness of faricimab versus aflibercept in the treatment of a patient diagnosed with nAMD.
- **CENTRAL RETINAL VEIN OCCLUSION, L-CVBS Extension Study (Professor Ian McAllister).** The L-CVBS Extension study is a two year, phase IV study, where all participants receive the laser bypass treatment (developed at LEI) and anti-VEGF treatment (Lucentis). The number of injections that participants require will be compared to studies, where participants have only received Lucentis treatment.
- **AGE RELATED MACULAR DEGENERATION (Dr Fred Chen).** The Panda trial is evaluating the Safety and Efficacy of Conbercept Intravitreal Injection in Subjects with Neovascular Age-related Macular Degeneration.

You can learn more on our website <https://www.lei.org.au/research/clinical-trials/> or contact the clinical trials team on (08) 9381 0790 or (08) 9381 0750.



Dr Turner working in rural and remote WA

One of the best in the West

The LEI's Dr Angus Turner was named the Western Australian of the Year 2019 in the Professions category at a gala dinner in celebration of WA Day.

Dr Turner, the McCusker Director of Lions Outback Vision (LOV), was the winner of the APM Professions Award, which included other finalists Professor Peter Newman, Professor John Newnham and Peter Meurs. The Award was presented in celebration of 'excellence resulting in major social, scientific or economic impact at a state, national or international level'.

At the dinner, held at Perth's Westin Hotel on 31 May, Dr Turner said: "I am deeply honoured and humbled to receive this award and to be representing our mission and job – to address blindness and vision. It's a real privilege to be able to work in an area where you see the precious gift of sight and the difference it makes in people's lives."

In 2018 the LOV team saw over 9000 patients throughout rural and remote WA. They performed 1051 injections and over 250 other procedures. We are so proud of the work Dr Turner and his team do.

Recognising impressive contributions

The LEI's Professor David Mackey and Professor Dao-Yi Yu were both recognised for their exceptional contribution to the Australian community when the Queen's Birthday Honours List was published on June 10.

Professor Mackey was made an Officer (AO) in the General Division of the Order of Australia for "distinguished service to medicine, and to medical education, in the field of ophthalmology, as a clinician-scientist and academic".

Professor Dao-Yi Yu was made a Member (AM) in the General Division of the Order of Australia for "significant service to ophthalmology and to education".



Professor Yu and Professor Mackey

Professor Bill Morgan steps up

Professor Bill Morgan was officially appointed the LEI's new Managing Director in July, after acting in the role for six months.



Professor Bill Morgan

Professor Morgan, a highly respected ophthalmologist and researcher, has been a valued member of the LEI team for the past 25 years.

LEI Chair Mr Peter Forbes said "We are proud to appoint one of our own to this important role. Professor Morgan is a highly effective and humble leader, with a strong strategic focus and extensive expertise and experience."

Professor Morgan is only the third Managing Director in the LEI's 36-year history, following on from Professor David Mackey AO and Professor Ian Constable AO.

Dr Smyth brings clarity

The Lions Eye Institute is delighted to announce the appointment of highly-respected business leader Dr Erica Smyth AC to its Board of Directors.



Dr Erica Smyth

Erica brings vast experience to LEI – not just through her exemplary governance leadership, but through a distinguished career as a scientist, geologist and business executive.

Dr Smyth has 45 years' experience in the mineral and petroleum industries across a broad range of roles and has been a professional company director for the past 15 years.

Yes I want to save sight

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☐ 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 would like to be included in such recognition.

Your donation helps eradicate blindness

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