





We are people like you  
We help people like you  
We need people like you

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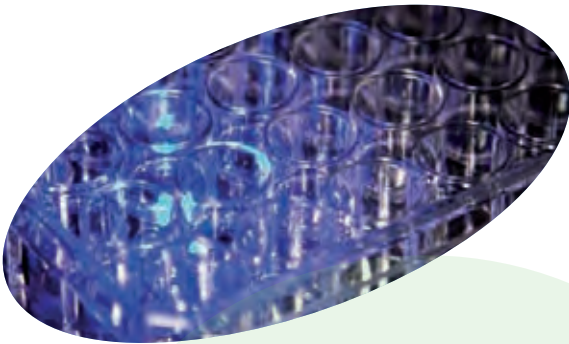
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# Who we are



The Centre for Eye Research Australia (CERA) is Australia's leading eye research institute. Our close affiliation with the Royal Victorian Eye and Ear Hospital and the University of Melbourne makes us a leader in patient care, translational research and education.

## Our mission

To eliminate the major eye diseases that cause vision loss and blindness and reduce their impact in the community.





## Our research

CERA conducts basic, clinical and population-based research to understand disease processes, improve diagnosis and treatment of major eye diseases and ensure better health service delivery, eye health education and program evaluation. Beyond the eye, researchers are investigating the relationship between retinal vascular changes and systemic disease such as hypertension, stroke and heart disease.

## Our vision

To become a world-leading eye research institute, renowned for the discovery of the causes of eye diseases and our work in improving diagnosis, prevention, treatment and rehabilitation of eye disease, vision loss and blindness through our research, clinical work and teaching.





# Our leaders

## A message from the Chair and the Managing Director

The Centre for Eye Research Australia (CERA) is a remarkable success story. It is a dynamic research institute where outstanding people do exceptional work.

A recent benchmarking exercise showed that CERA and its affiliated University of Melbourne Department of Ophthalmology rank in productivity among the top five eye research groups in the world on the basis of volume, quality and impact of its scientific publications output, alongside some very much older, larger and better funded institutes in the USA and in England.

In 2011, CERA continued to grow and we made substantial progress towards our strategic goal to expand the basic science component of the research program.

Internationally renowned vascular pharmacologist Professor Greg Dusting joined CERA in a newly created role as Executive Director Research. This part-time executive appointment complements Professor Dusting's ongoing active research career. Recognised for his work in pharmacology and tissue engineering in cardiovascular research, he aims to apply his skills to eye diseases by focusing on cell protection and regeneration. Harnessing the power of stem cells and the body's ability to regenerate tissue will be central to stopping the progression of degenerative eye diseases and restoring sight. Stem cell researcher Dr Alice Pébay also joined CERA towards the end of the year and will contribute significantly to this new direction in its research.

Another recently appointed principal investigator is clinician-scientist Dr Hong Zhang who now heads the CERA Drug Delivery Research Unit. She aims to develop an effective alternative to injections into the eye, which is the standard technology currently used for treatment of age-related macular degeneration (AMD), for instance.

We find that increasing numbers of practising ophthalmologists are engaging in research on a part-time basis under the auspices of CERA, pursuing specific problems they encounter in their clinical practice.

**We believe that great new opportunities lie ahead for the research, clinical and training partnership between CERA, the Royal Victorian Eye and Ear Hospital and the University of Melbourne.**

CERA is delighted to facilitate their access to research facilities, support services and fellowships with a community of researchers working towards a common goal: to eliminate the major blinding eye diseases.

We welcome all new colleagues and students and look forward to the contributions they will make to the team effort that is at the heart of all successful medical research. We thank all members of staff and the students for their dedication and hard work.

This annual review showcases some of the work in progress by CERA's research groups; details grant outcomes and publications output, summarises highlights of 2011 and above all, focuses on the many different people that make the organisation what it is today.

A highlight in 2011 was that the new Governor of Victoria, His Excellency Alex Chernov AC QC, accepted our invitation to be the Patron of the Centre for Eye Research Australia during his time in office. The Governor and Mrs Chernov joined us in June for the Gerard Crock lecture, delivered by Professor Hugh Taylor AC.



Important activities through the year included the adoption of an amended constitution by the members of the company and some changes on the board. Long-serving directors Mr John Jeffries, The Hon Dr Barry Jones AO, Mr Gerard Menses and The Hon Dr Michael Wooldridge retired, while Ms Glenda Alexander was appointed as a new director. We welcome Glenda and thank all directors, past and present, for their service on the board. It is a privilege to work with such a dedicated group of leaders who are inspired by CERA's mission and committed to turning it into reality to help eliminate avoidable blindness.

We believe that great new opportunities lie ahead for the research, clinical and training partnership between CERA, the Royal Victorian Eye and Ear Hospital and the University of Melbourne. Planning for the proposed redevelopment of the Hospital progressed significantly in 2011. The project holds the promise of further integration, and thus strengthening, of the work of the partners on the Hospital site, for the ultimate benefit of patients and the community.

We stand ready to work with our partners towards that goal and we look forward to sharing the journey with you, our supporters and friends.



*Tina McMeekan,  
Chair*

*Jonathan Crowston,  
Managing Director*

# Governance

The Centre for Eye Research Australia (CERA) is a company limited by guarantee. Its Members are the University of Melbourne, the Royal Victorian Eye and Ear Hospital, the Royal Australian and New Zealand College of Ophthalmologists, Vision Australia, the Victorian Lions Foundation, CBM Australia and the Lloyd and Kathleen Ansell Ophthalmology Foundation.

On 13 April 2011, the Members adopted a revised Constitution for CERA at an Extraordinary General Meeting. The Constitution was amended following a review of governance arrangements. It provides for a Board of eleven directors, four of whom are nominated by the Members of the company. The Chair and Treasurer are appointed from among the independent directors. The Managing Director is a member of the Board.

## Board of Directors 2011



Long-serving directors Mr John Jeffries, The Hon Dr Barry Jones AO, Mr Gerard Menses and The Hon Dr Michael Wooldridge (below, left to right) retired in 2011.

At a dinner to thank the outgoing directors, Board Chair Tina McMeckan highlighted the important role their effective, committed leadership played in CERA's development and growth.





## Finance and Risk Committee

Four directors constitute the Finance and Risk Committee, which reports to the Board. The committee reviews the financial planning and management of the company, financial reporting and statutory compliance obligations, and oversees risk management, investments and commercialisation activities.

Treasurer Mr James Joughin, a partner with Ernst & Young, chairs the Finance and Risk Committee. Ms Tina McMeckan, Mr Peter Nankivell and Professor Jonathan Crowston were the other members of this committee in 2011.

## Nominations and Appointments Committee

The Nominations and Appointments Committee was newly established in 2011 following the adoption of an amended constitution. Its role is to consider and advise on succession planning and new appointments to the Board, senior researchers and senior management staff.

The committee is chaired by the Chair of the Board, Ms McMeckan and reports to the Board. Its members are Ms Glenda Alexander, Mr James Joughin, Professor Terry Nolan and Professor Jonathan Crowston. The committee held its first meeting in September 2011. It will meet at least twice each year in future.

## Research Advisory Committee

The constitution requires the company to have a Research Advisory Committee of not less than five members whose appointments are subject to approval by the Australian Taxation Office in order for the company to maintain its status as an approved research institute.

This committee is chaired by Professor Robert Williamson AO and its members are Professor Mark Cook, Dr Mirella Dottori, Professor John Hopper AM, Professor Terry Nolan, Professor Ravi Savarirayan, Dr Ehud Zamir and Professor Jonathan Crowston. The constitution prescribes the duties of the committee, which include critical review of the company's research plans and evaluation of research results. The committee met four times in 2011 and reports to the Board.







Our people  
at work

# A new person, a new role

Professor Greg Dusting is an award-winning pharmacologist, well-known for his work on applying tissue engineering to cardiovascular disease. He joined CERA in 2011 as its inaugural Executive Director Research.

Professor Dusting believes exceptional clinical research begins with basic science. "A basic scientist homes in on the micro - the cellular and molecular level - to get a deeper understanding of the macro, the overall disease," he said.

As Executive Director Research, Professor Dusting is charged with overseeing the strategic direction of CERA's research and growing its basic science facilities and expertise. "CERA is unusual and perhaps unique amongst many of the research institutes in this country," says Professor Dusting.

"We started with a terrific public health profile in eye disease and built on that with magnificent clinical research. Now we have evolved further to develop an underpinning of basic science research."

Professor Dusting is eager to apply his skills in tissue engineering to the prevention and treatment of eye disease. "I intend to focus on two simple concepts - protection and regeneration," he said.



**"We know that cell damage in the eye can lead to a number of diseases including glaucoma and age-related macular degeneration. Our question is - how can we protect these cells from damage?"**

"Our other important focus is stem cells. Harnessing the power of stem cells and the body's ability to regenerate tissue will be central to stopping the progression of degenerative eye diseases and restoring sight."

Professor Dusting's decision to turn his attention to eye disease was based on a drive to 'do something good in this world.'

"It's nice to think that what you're doing, which is intrinsically interesting, actually has enormous benefit to people. Sight is arguably our most important sense and its loss can have a profound effect on people's lives," he said. "With the ageing of the population, eye disease is an increasing problem and an issue that requires our urgent attention."



## Dr Michael Coote

### Principal Investigator of Surgical Device Development

Leading glaucoma specialist Dr Michael Coote has worked as an honorary researcher with CERA for five years, since returning to the Royal Victorian Eye and Ear Hospital.



Prior to his appointment at the Hospital and CERA, he was Head of Clinic at another Melbourne hospital. "I can personally attest, it is much harder to perform research without the tremendous support and facilities of CERA," says Dr Coote.

Dr Coote is currently working on glaucoma surgical research, trying to understand all the aspects that cause failure in glaucoma surgery and what we might do about it.

"Glaucoma surgery has not advanced at the same rate as cataract surgery and desperately needs to improve in both quality and reliability," he says. "If we do manage to sort out the problems, the solution will be easier to create."

"If we were to be able to create a new implant for glaucoma, one that worked quickly and safely and was less consuming of resources, then that would provide us with another method of managing the disease, which currently causes much vision loss and blindness in our community and around the world."

Dr Coote lists a number of proud achievements since coming on board at CERA, including receiving an NHMRC grant and a publication in PLoS One, a leading international open-access journal produced by the Public Library of Science.

When asked what inspires his interest in research, Dr Coote is philosophical. "I love clinical medicine and love trying to fix people but in the case of glaucoma, the current tools are inadequate. If we do not try to create better outcomes, then who will? Research is also interesting and fun. It's intellectually stimulating, imaginative and I like the people who do it."

**"I can personally attest, it is much harder to perform research without the tremendous support and facilities of CERA"**

# Novel glaucoma implant to reduce surgery rates

CERA researchers are developing a sophisticated surgical device aimed at reducing the number of glaucoma operations.

Glaucoma is typically caused by high intraocular pressure, a result of a blockage in the eye's drainage system.

Glaucoma filtration surgery is generally performed as a last resort, when other therapies to lower the eye's pressure have been exhausted.

Principal Investigator Dr Michael Coote said the drainage device is expected to improve on 40-year-old current surgical methods.

"Glaucoma filtration surgery is a complex operation. Unfortunately complications and excessive scarring can lead to some patients requiring multiple surgeries," Dr Coote said.

According to Dr Coote, the device will resemble a tube and will be fitted comfortably into a sealed pocket under the lid of the eye during surgery.

"We aim to develop a device that mirrors the eye's natural hydraulics," he said.

"Made from a porous polymer material, the device will aid the flow of fluid from the anterior chamber, located behind the iris, to the surrounding tissue."

"Maintaining safe levels of fluid in the eye will limit post-operative scarring, reduce the need for future surgery and improve a patient's long-term visual outcomes."

"We also predict the device will simplify glaucoma surgery and lead to safer and more predictable outcomes."

The device is being developed by a team from CERA and the Royal Victorian Eye and Ear Hospital.

It's anticipated the device will be trialled in humans at the end of 2012.



Glaucoma is typically caused by high intraocular pressure, a result of a blockage in the eye's drainage system.



## Dr George Kong

PhD student

High-flying PhD student Dr George Kong impressed examiners with his thesis entitled 'The effect of ageing and mitochondrial dysfunction on the optic nerve responses to oxidative stress injury.' The thesis was submitted in March 2011 and accepted without changes.

Dr Kong joined CERA in 2008, after completing his medical training at the University of Melbourne and an internship and residency at St Vincent's Hospital. Initially intending to study a Master of Science degree, Dr Kong decided to convert his study to a PhD qualification at the end of his first year.

"I was introduced to the field of mitochondrial studies by my amazing supervisors Professor Jonathan Crowston and Associate Professor Ian Trounce," says Dr Kong. "My work involved understanding how mitochondria, which are key organelles in cells involved in generation of energy, influence the function of the ageing retina and its ability to withstand injury."

One of Dr Kong's proudest achievements while studying at CERA was receiving the Eberhard Dotz Memorial Award for his research into the examination of retinal function in ageing and mitochondrial deficiency. The Award is intended to support and encourage promising young scientists working in the field of clinical visual electrophysiology.

The transition from clinician to researcher was a natural one for Dr Kong.

"I see research as an integral part of clinical practice. Research gives us guidance for improving current practice and achieving the best outcome for our patients. It can also lead to new ways of approaching old questions, potentially leading to new solutions that will benefit our patients and community as a whole."

Dr Kong hopes his research will one day play a part in the development of new treatments for age-related eye diseases. "Glaucoma is a major blinding eye disease that increases almost exponentially with age. Understanding how the ageing retina can be protected against injury can potentially lead to new treatment options and reduce the burden of this devastating disease."



## Dr Lauren Ayton

### Bionic Eye Research Coordinator

As part of the Bionic Vision Australia consortium, CERA is helping to create Australia's first retinal prosthesis, or Bionic Eye; an implant that can restore useful vision in people with advanced retinal diseases such as age-related macular degeneration and retinitis pigmentosa.

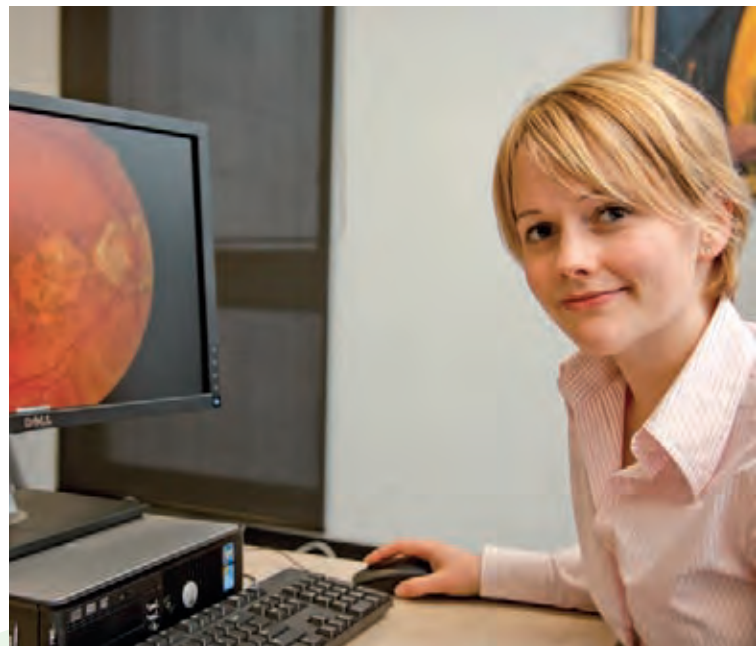
Since arriving at CERA in 2010, Dr Ayton has been responsible for coordinating CERA's role in the multi-disciplinary Bionic Eye project; managing the clinical aspects of this novel intervention for blindness.

"Our team is working on ways of assessing visual performance in people with very poor vision, in order to generate a battery of tests that can be used during clinical trials of the Bionic Eye. We are also completing a number of projects that are aimed at learning more about how these eye diseases progress and cause blindness. We are interested in how low vision and blindness affect a person's functional abilities, orientation and mobility skills and everyday quality of life," says Dr Ayton.

Whilst the development of a successful bionic eye implant will have the potential to restore some level of functional vision to people with certain causes of blindness, the overarching project has much broader impacts.

"We are researching the effects of retinal degenerations on the eye tissue, to learn more about what causes these diseases to progress. We are also developing novel tools for assessment of quality of life, functional vision and to learn more about the effect blindness has on everyday life. These findings will all contribute to a better understanding of the impact of vision loss and blindness."

Dr Ayton is very proud of the way that the general community has embraced and supported the Bionic Eye research project and enjoys knowing that her work will make such a significant impact on people's lives.



"It is a fantastic feeling knowing that the work we do today has the potential to improve quality of life for so many people in the future. Research allows me to explore many different ideas and interact with many different members of the community – no two days are the same!"

## Dr Hong Zhang

Principal Investigator, Drug Delivery Unit

Back in 2010, ophthalmologist and researcher Dr Hong Zhang received a fellowship from the Chinese Government to study internationally at a research institute of her choice.

For Dr Zhang, the choice was clear. "I like Australia and there is so much interesting research happening at CERA," she says. After completing her one year fellowship, Dr Zhang was invited to head up CERA's new Drug Delivery Unit in October 2011.

The Drug Delivery Unit will investigate the use of new, non-invasive treatment delivery methods, including ultrasound, nanotechnology and implants, to treat a range of eye diseases.

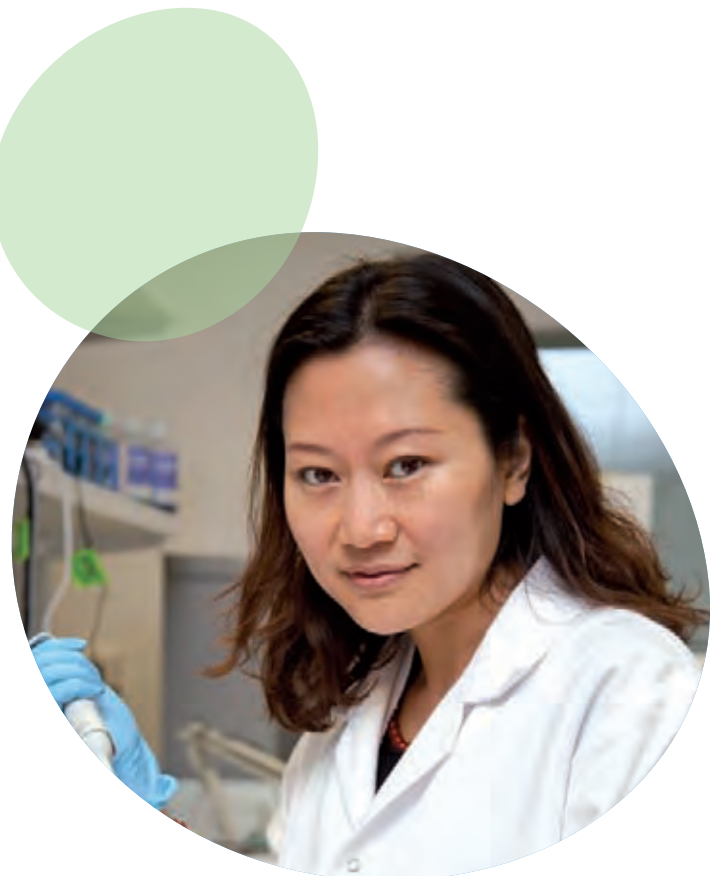
In some eye diseases, effective treatments cannot be delivered via eye drops, because they need to be delivered directly into the eye. "Some methods are much more invasive, such as injections into the eye. These cause side-effects such as pain, infection and bleeding," says Dr Zhang. "Other times, patients simply forget to take their drops or mix them up with other medications, which can make eye drops an unreliable method of treatment."

Dr Zhang is developing implants that can be inserted between the eyelid and eyeball to administer drugs such as antibiotics.

"Endophthalmitis (infection within the eye) is a life-threatening disease, often found after cataracts, and especially in developing countries due to poor sanitation. Implants would be ideal in this situation because after the cataracts are removed, the surgeons could put the implant in the eye and prevent infection, eliminating the need for eye drops."

This implant technology has the potential to be used for treating other conditions, such as glaucoma and keratitis.

As a practising ophthalmologist, Dr Zhang's work is patient-focussed. "Because I have the background in clinical practice and basic research, I can identify the problem, and then try to solve it. I believe in 'bench to bedside' medicine – the translation of research from the lab to clinical practice."



## Mr Nick Apollo

### Fulbright and Whitaker Fellow

From a bioengineering background to working as a nurse's aide, and now part of the CERA team; Nick Apollo epitomises the 'bench to bedside' nature of medical research.

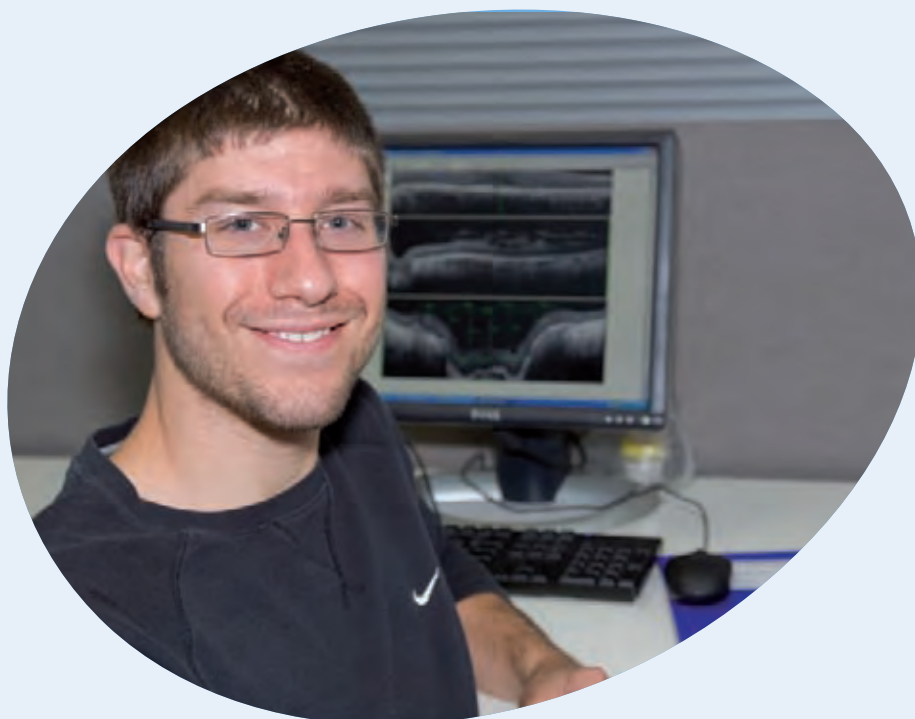
After graduating from the University of Pittsburgh with a Bachelor of Science in Bioengineering, Nick decided to complement his laboratory-based work experience by working a Summer job as a nurse's aide at the local hospital. "I wanted to get some clinical experience because I'd just been in the lab the whole time; I had no patient experience," he admits. "It was very hands-on contact with the patients so I thought that was a good side of things for me to see, and it gave me a really good perspective as a future clinician."

In September 2011, Nick was awarded a Fulbright and Whitaker Fellowship to undertake research with the CERA and Bionic Vision Australia. "The work I'm doing here is actually quite a bit different from anything I've ever done before, so I'm growing as an engineer and a neuroscientist," he says.

Nick's work on the Bionic Eye is focusing on Retinitis Pigmentosa (RP) patients. "RP is a degenerative loss of the photoreceptors in the eye. My project approaches it from multiple angles. We're working on creating a mathematical model of the cells in the retina, potentially providing us with a non-animal model of the disease."

The project also uses Optical Coherence Tomography (OCT) scans to differentiate between what a diseased retina looks like versus a healthy one.

"This is useful for surgeries and when you're designing implants to go into diseased eyes.



The OCT project looks at the flatness and the curvature of the back of the eye, as compared with a healthy eye," explains Nick.

Although still keen to pursue a clinical career one day, Nick sees enormous value in his computational neuroscience research. "I like just trying things, experimenting I guess, which you can actually do with software and programming quite a bit. Usually when you think about laboratory experiments you think about adding different chemicals to vials but we're actually running simulations and doing experiments on the computer which I really like."

Nick also acknowledges the 'big picture' outcomes of working on a project such as the Bionic Eye.

**"It would be amazing if people weren't blind anymore... just imagine that! I'd love this work to contribute to that, no matter what role I play. I'd be happy to do everything I can to be a part of that."**



# Clinical trial of world-first AMD treatment successful

**CERA researchers have released the 12-months clinical trial results of a new laser treatment for age-related macular degeneration (AMD).**

AMD is the leading cause of blindness in the developed world, responsible for 48 per cent of vision loss in Australia.

“Unlike existing treatments for AMD, which target the late stages of the disease, the nanosecond laser is designed to intervene early, before significant damage occurs,” said the study’s principal investigator, Professor Robyn Guymer.

“If successful it will be the first time AMD can be treated before a patient has suffered irreversible vision loss,” she said.

The laser treatment involves an Australian designed device that delivers a nanosecond dose of laser energy into the eye. In applying the laser, researchers aim to restore a healthier retina in patients with early AMD.

The interim 12-months results from the trial of 24 high-risk patients with early AMD have shown that the laser can improve the function of a patient’s retina.

“After 12 months, around two-thirds of patients experienced sustained improvement in their visual function in the treated eye, with the majority of patients experiencing an improvement in their untreated eye too,” said Professor Guymer.

“The patient’s visual function typically improved in the area of the eye that had the most damage. It’s this damage that typically leads to complications of AMD and subsequently, severe vision loss,” she said.

“In addition, the treatment appears to be safe, with research showing no evidence of laser damage to photoreceptor cells.”

“The results are promising. It’s the first time an improvement in retinal function has been shown.”

Preparations for a long-term, multi-centre randomised control trial are currently underway to demonstrate the ability of the laser treatment to prevent late-stage AMD.

The Ellex RT device is being trialled by CERA researchers at the Royal Victorian Eye and Ear Hospital. The trial is funded by the Victorian Government.



Professor Robyn Guymer is Deputy Director of CERA and Head of the Macular Research Unit. Her research team conducts clinical trials into the treatment of AMD and epidemiological studies into its risk factors, and has been responsible for introducing new treatments and investigative tools into clinical practice. Professor Guymer is CERA’s lead investigator on the Bionic Eye project.



# World's first needleless eye injection

Frequent injections into the eye could be a thing of the past for patients with age-related macular degeneration (AMD), with the development of the world's first needleless eye injection.

The device, to be trialled by CERA researchers, works by incorporating a measured dose of drug into a gel that is placed over the eye. A device attached to the gel sends out an ultrasonic pulse which propels the drug from the gel into the eye.

Of the two common forms of AMD, wet AMD is the more serious of the two and is often characterised by rapid vision loss.

The disease is treated by injecting the eye with anti-vascular endothelial growth factor (anti-VEGF) drugs. While the treatment is effective in slowing or stopping the progression of AMD, injections must be administered regularly, are typically painful and require surgical administration.

Research Fellow Dr Paul Connell said the benefits of the device would be that it's painless, easy to use and, one day, could be administered by patients themselves.

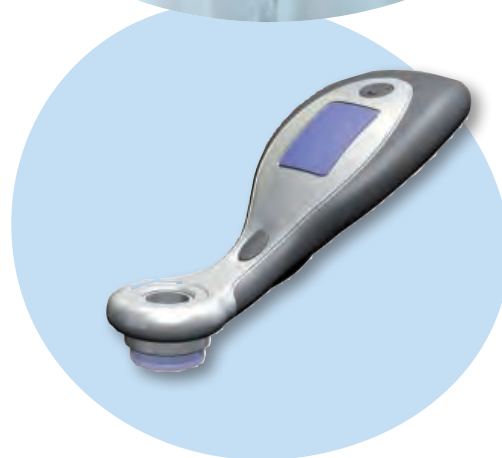
"The device uses an innovative combination of nanotechnology and ultrasound to deliver a non-invasive and painless dose of medication that can specifically target the retina at the back of the eye," Dr Connell said.

"It has the potential to become a non-invasive alternative to injections into the eye and could eventually eradicate the need for some surgical interventions."

Scientists are currently conducting trials to assess the safety and efficacy of the device.

"In 2012 we aim to conduct a safety study in a small number of AMD patients. If successful, we hope to expand the trials and modify the technology to treat other retinal diseases," Dr Connell said.

SonoEye™ will work in partnership with CERA to further develop the technology. Continued development is supported by a National Health and Medical Research Council Development Grant.



## Dr Jacqueline Beltz

Deputy Medical Director of the Lions Eye Donation Service

For corneal specialist Dr Jacqueline Beltz, a research position with CERA enables her to develop and teach new corneal transplant techniques.



Dr Beltz joined CERA in August 2011 as Deputy Medical Director of the Lions Eye Donation Service. After her first fellowship under Professor Rasik Vajpayee at the Royal Victorian Eye and Ear Hospital concluded in 2009, Dr Beltz undertook a second corneal fellowship under Professor Massimo Busin at the Villa Serena Hospital in Forli', Italy. It was during these two fellowships that she developed an interest in clinical research.

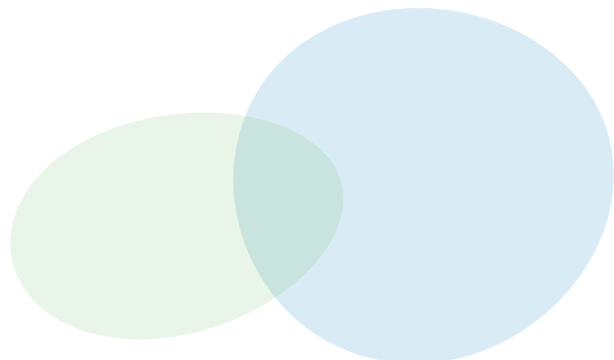
"The professor I was working with in Italy was a high volume corneal transplant surgeon and he also performed a lot of clinical research. When I came back to Australia, I wanted to continue working in that area of research, to see if I could get the same positive results here."

Dr Beltz's research contributes to the development of new and improved corneal transplant techniques. "We're looking at providing better donor tissue for lamella corneal transplantation. This is a specific type of corneal transplantation in which we only remove the diseased layer of the cornea, rather than replacing the whole lot. If we can provide good quality donor tissue for these new surgeries, then I'd hope that this type of surgery would be available to many more patients."

Corneal disease is one of the leading causes of blindness throughout the world and often the only treatment is corneal transplant. "If we can do it in a way that is safer for the patient, lasts longer, and has a better visual outcome, then some of that blindness can be eliminated," says Dr Beltz.

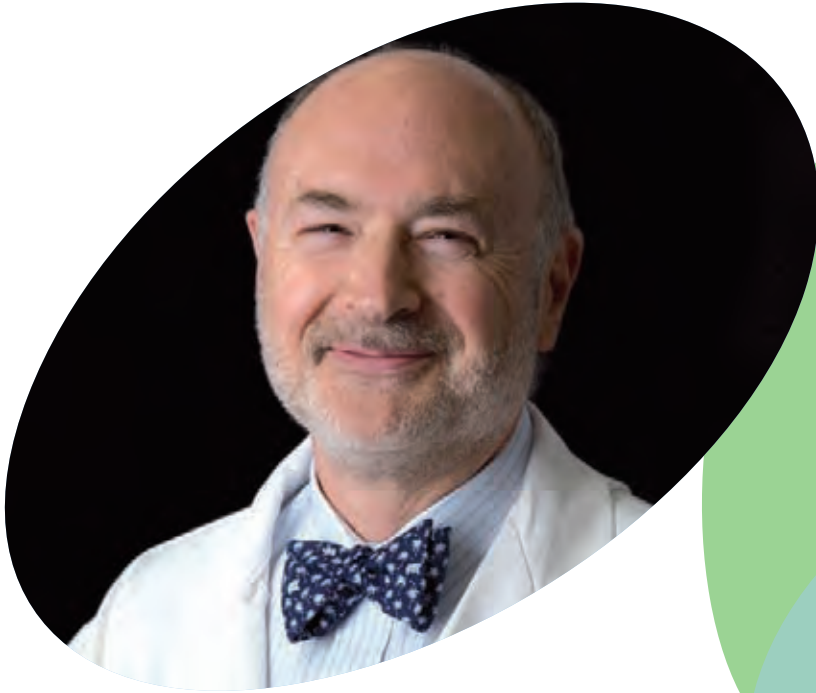
According to Dr Beltz, one of the best parts of her job is being able to train other surgeons in the new techniques she performs. "I teach instruction courses at many different conferences, and I find that really rewarding," she says.

**"Corneal transplant has been around for 100 years but the most significant improvements have only occurred in the last 15 years. We should always be looking to progress and move forward, rather than just doing things the way they've always been done."**



## Dr Wilson Heriot

Ophthalmologist and Honorary Investigator



Dr Wilson Heriot has been a familiar face around the Royal Victorian Eye and Ear Hospital since the early 1980s. During his ophthalmology training, he was involved in research in diabetic epidemiology, however a US fellowship led him to develop an interest in medical retina research.

In the mid-90s, Dr Heriot pioneered a new technique to treat subretinal haemorrhages; a technique which is still the most popular method worldwide to deal with bleeding complications in macular degeneration. Dr Heriot pursued this interest in retinal research by working as an honorary investigator with CERA.

Dr Heriot's current work focuses on developing new surgical techniques that improve speed and efficiency of retinal attachment surgery. "The pilot study is virtually complete, which is very exciting," says Dr Heriot.

"We've shown that it's possible to seal retinal tears using laser in a different way that's potentially much more efficient, leading to improved patient outcomes and decreased complications. If we can develop a better surgical technique for retinal detachment then it makes it simpler, faster and hopefully that will make an impact."

Dr Heriot hopes that CERA will keep building on this project and other similar work, in order to encourage trainees at the hospital to consider committing some of their time to research. "Until this started (and the Bionic Eye project a couple of years ago), nobody was doing any retinal laboratory research – in terms of experimental surgery," he says. Dr Heriot is also helping to develop surgical techniques for the Bionic Eye project.

When asked what inspires him to commit his time and energy to research, Dr Heriot has a simple explanation: "I'm mad!" he says with a laugh, "Shouldn't I be retiring and playing golf by now?" But like the rest of CERA's passionate research team, it's hard to believe that Dr Heriot would have things any other way.

## Associate Professor Mark Daniell

### Head of Surgical Research Unit

Associate Professor Mark Daniell began his ophthalmology career as a registrar at the Royal Victorian Eye and Ear Hospital, working with CERA Founder Professor Hugh Taylor AC.

"I worked in the corneal unit with Professor Taylor on numerous clinical research projects," said Associate Professor Daniell. "From 2005, I developed a more active laboratory-based research program with students and had successful grant applications."

Associate Professor Daniell became Head of CERA's Surgical Research Unit in June 2011. His research focuses on the translation of laboratory stem cell work into patients.

"We've been able to grow corneal stem cells in the laboratory and transplant them into patients and achieve successful outcomes." His other research interests include researching innate immunity in the cornea and developing new treatments for bacterial keratitis.

Corneal disease is a common cause of blindness and current treatments are imperfect. "Corneal transplantation still has the same success rate that it did 30 years ago due to things like rejection," said Associate Professor Daniell.

"By having this stem cells based transplant, we should be able to not only increase the number of cases that are done but by using autologous (patient's own) cells, prevent rejection." This addresses the main complications or impediments to successful corneal transplant.

Associate Professor Daniell believes developing a career in research was a natural progression for someone in clinical practice as a surgeon.

"I've always liked science; the intellectual stimulation of it and the satisfaction of changing things. I've always had a scientific outlook and enquiring mind; I like to examine and solve problems. I also like talking to scientists and having conversations with people who are actively questioning things – the next generation of scientific minds."



"We've been able to grow corneal stem cells in the laboratory and transplant them into patients and achieve successful outcomes."

## Ms Eva Fenwick

PhD student and Research Assistant

**What's a linguistics specialist doing at an eye research institute? PhD student Eva Fenwick is breaking the mould of the traditional scientist.**

Combining her keen research skills with a long-standing interest in public health led Eva to accept a role as research assistant in CERA's Health Services and Ocular Epidemiology Research (HSOER) team in 2008.

"I'd been studying linguistics at the University of Melbourne; first a Bachelor's degree, followed by Honours and a Masters," she says. "So I was looking forward to working for a while and having a break from study." However Head of HSOER Associate Professor Ecosse Lamoureux had other ideas. "Initially I was reluctant as I wanted a break from studying but after two years an exciting project came along and I was convinced to go back to it," says Eva.

Eva's project is to develop and validate an item bank (a large pool of questions) to capture the impact of diabetic retinopathy, and associated vision impairment and treatments, on patients' quality of life.

The item bank looks at quality of life holistically, including impact on daily living activities (ability to do day-to-day tasks and move around), alongside other components such as social life, emotional wellbeing, health concerns, work, convenience etc.

The end result is a very precise and accurate instrument that can be used in trials to look at efficacy of new treatments from the patients' point of view, to see whether it's actually improving the patients' lives.

Apart from juggling her PhD study with her work as a research assistant, Eva also volunteered as CERA's 2011 Postgraduate Student Representative and was awarded the 'CERA Outstanding Contribution of a Student Award' for 2010-2011.



"You need real passion to pursue a career in research. It's hard work but it's very rewarding, and it's certainly not a standard 9-5 job. I enjoy the challenges and I enjoy learning – I think I just have a curious mind!"



# Glaucoma training gets the ‘i’ treatment

In a world-first, CERA researchers have launched a free iPad training application to help eye-care practitioners assess their glaucoma diagnostic skills.

The Glaucomatous Optic Neuropathy Evaluation (GONE) App will help practitioners hone their skills in optic nerve evaluation, a key factor in glaucoma diagnosis and management.

The App, a mobile version of the GONE training website, asks participants to grade characteristics and score glaucoma likelihood on a series of disc photographs. Once complete, the participant can compare their ratings with those of an international panel of glaucoma subspecialists.

CERA ophthalmologist Dr Michael Coote said the GONE App aims to increase the rate of accurate glaucoma diagnosis.

“Glaucoma can be difficult to diagnose and clinically manifest cases are often missed,” Dr Coote said.

“Diagnosing early glaucoma is best achieved by assessing the structure and function of the optic nerve and nerve fibre layer yet identifying these subtle changes can be tricky.”

“The App aims to highlight the sometimes subtle characteristics of glaucoma and give practitioners greater confidence to diagnose glaucoma and refer patients to specialists.”

Australian optometrists who complete the program will benefit from two Continued Professional Development (CPD) points on completion of the assessment. Best of all, it’s free, and gives participants instant feedback.

The GONE Project is a collaboration between CERA, the Royal Victorian Eye and Ear Hospital and the University of Melbourne. The GONE App was developed by software company, Specialist Apps Ltd and is supported by Allergan Australia.



CERA develops iPad training application to help eye-care practitioners assess their glaucoma diagnostic skills

## Dr Jefitha Karimurio

PhD student



It's hard to imagine the gift of sight being treated as 'non-essential' however that is the battle facing many doctors in developing countries. "When governments are dealing with other problems like famine and AIDS, prevention of blindness is considered a low-priority health issue," says Dr Jefitha Karimurio, a Kenyan ophthalmologist who is completing his PhD with CERA.

Dr Karimurio was a senior lecturer at the Department of Ophthalmology at the University of Nairobi in Kenya when he decided to embark on further study in Australia. As part of CERA's Population Health Unit, Dr Karimurio is investigating new ways to effectively measure the prevalence of trachoma in high-risk Kenyan communities. Trachoma is caused by a bacterial infection and can lead to blindness. It is common in developing countries, and in Australian Indigenous communities due to poor hygiene and lack of immediate antibiotic treatment.

Building on his study at CERA, Dr Karimurio intends to transfer this knowledge to the National Trachoma Program in Kenya. "I will return to Kenya to train more eye care workers for blindness prevention in Africa, the continent with the highest burden of eye diseases and blindness in the world," he said.

Blindness prevention and improved eye care delivery are the cornerstones of Dr Karimurio's work and that of CERA's Population Health Unit led by Professor Jill Keeffe OAM. Data from the World Health Organization in 2010 showed that there are 39 million people worldwide living with blindness, however up to 80 per cent of these cases were preventable.

"The results of Dr Karimurio's work will change the methods used in surveys, not only in Kenya but in any country with infectious and blinding trachoma," observed Professor Keeffe. "His new methods will improve efficiency in identifying areas where ongoing treatment is needed and estimate the surgical backlog for the blinding stages of trachoma. We anticipate continuing our link with Dr Karimurio to support his work in Kenya and other African countries."

# 175,000 Australians are not being checked for diabetes-related vision loss

**A large number of Australians are at risk of losing their sight due to a common complication of diabetes.**

CERA research has found that 35 per cent of Australians with diabetes fail to have their eyes tested every two years, putting themselves at risk of vision loss and blindness from diabetic retinopathy.

Diabetic retinopathy is a leading cause of vision impairment and anyone with type 1 or type 2 diabetes is at risk of developing the disease.

Head of the Health Services and Occular Epidemiology Research Unit Associate Professor Ecosse Lamoureux said vision loss caused by diabetic retinopathy can be prevented by regular screening and treatment.

"Research shows that around 17 per cent of patients with diabetes have undetected diabetic retinopathy," Associate Professor Lamoureux said.

"We're looking at new ways to incorporate an eye check when patients receive other pathology health checks. Our research shows that more than 90 per cent of Australians would take advantage of this model if it was available."

Approximately 300,000 Australians have some degree of diabetic retinopathy and around 65,000 have sight-threatening diabetic retinopathy.

People with diabetes are advised to have their eyes tested by an optometrist or ophthalmologist every two years.

# Education opportunities

## 2011 CERA/Alcon Visiting Professors Program

This program, supported by Alcon Labs, invites distinguished speakers to visit CERA, at the Royal Victorian Eye and Ear Hospital, to give two lectures. The visiting professor is also invited to attend the Hospital grand rounds early on the Monday morning where cases of interest are presented and discussed. The lectures are open to all Hospital and CERA staff and students. They provide a great opportunity to learn about the latest research and evidence-based medicine direct from the experts.



June

**Dr Andrea Vincent**  
MBChB, FRANZCO

### Topics:

- "Genetics 101 – Things beginning with M"
- "Ocular Genetics in 2011– Does the reality justify the hype? Report from the coal face"

Dr Andrea Vincent is a Senior Lecturer, Department of Ophthalmology, New Zealand National Eye Centre, Faculty of Medical and Health Sciences, University of Auckland and holds an honorary appointment at the Dunedin School of Medicine. Her research interests cover inherited ocular diseases including corneal dystrophies, keratoconus, glaucoma and retinal dystrophies.



August

**Professor Peter McCluskey**  
MD, MBBS, FRANZCO, FRACS

### Topics:

- "What's new in anterior uveitis"
- "Managing uveitic macular oedema"

Professor Peter McCluskey is the Professor and Chair of Ophthalmology at the University of Sydney and a consultant ophthalmologist at Sydney Eye Hospital, Royal Prince Alfred Hospital and St Vincent's Hospital Sydney. Peter is also a Director of the Save Sight Institute at Sydney Eye Hospital. He specialises in inflammatory eye disease with more than 25 years' experience in the field. His primary clinical focus is refractory vision threatening chronic inflammatory eye disease.



October

**Professor Mark Gillies**  
MBBS, PhD, FRANZCO

### Topics:

- "Steroids vs anti-VEGF for diabetic macular oedema"
- "Macular Telangiectasia"

Professor Mark Gillies is Professor and Fellow at the University of Sydney, a member of the Macular Society and is scientific advisor to both the Macular Photocoagulation Study group and the United States' National Eye Institute's Diabetic Retinopathy Collaborative Research Network.

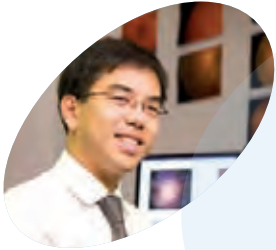
He is a practising clinician, specialising in diseases of the macula and directs the Macular Research Group (MRG) at the University of Sydney. His research group pioneered the use of intravitreal triamcinolone acetonide for diabetic macular oedema, which has dramatically reduced the risk of blindness for people with diabetes.

A great opportunity to learn about the latest research and evidence-based medicine direct from the experts.



# People who excelled

## Congratulations to...



### **Professor Tien Wong**

Professor Wong received the Johns Hopkins Bloomberg School of Public Health Knowledge of the World Award. He also received the SingHealth Outstanding Publications Award.

### **Professor Greg Dusting**

CERA's Executive Director Research was awarded the Michael Rand medal from the Australasian Society of Experimental Pharmacologists and Toxicologists.



### **Professor Jill Keeffe OAM**

CERA was redesignated as a World Health Organization Collaborating Centre for the Prevention of Blindness and Professor Jill Keeffe was named Director.



### **Dr Graeme Pollock**

Medical Director of the Lions Eye Donation Service, Dr Graeme Pollock became the first Australian to be appointed to the Medical Advisory Board of the Eye Bank Association of America.



### **Associate Professor Paul Baird**

Head of Ocular Genetics Associate Professor Paul Baird received the Golden Eye Award from the Association of Community Ophthalmologists of India (ACOIN).



### **Professor Jonathan Crowston**

CERA Managing Director Professor Jonathan Crowston received the 2011 World Glaucoma Association Research Recognition Award (Senior Clinician Scientist).





## 2011 CERA Awards

These awards recognise staff and students who have contributed to CERA over and above normal expectations. Nominations are judged by an external panel.



The Community Engagement and Knowledge Transfer Award for the Ride for Sight Team recognises their outstanding efforts to raise awareness of CERA's work, through the annual Lions Ride for Sight, which engages the community and raises funds for research.

### The Excellence in Research Award

#### The Health Services Research Unit

In recognition of the outstanding achievements of the Diabetic Management Project and its likely impact on diabetic retinopathy screening rates in Australia, as well as its potential to transform the way diabetic retinopathy screening is performed.

### The Teaching and Training Award

#### Dr Evelyn O'Neill

In recognition of outstanding contributions to teaching and training, both within CERA and through research projects aimed at improving the accuracy of clinical assessment of optic nerves by eye care professionals.

### The Outstanding Contribution of a Student Award

#### Ms Eva Fenwick

In recognition of outstanding contributions to CERA through excellent progress with a PhD thesis, publication of numerous scientific papers, and improvement of the academic and social environment for students in the role of CERA Student Representative.

### The CERA Award

#### Professor Robyn Guymer

In recognition of her role as clinical lead of the Bionic Eye project and research into age-related macular degeneration and in increasing CERA's profile through presentations to the media and the public, highlighting the importance of CERA's work.

# Our events



## CERA Scientific Exchange

Early career researchers were given the opportunity to present their work at the second annual CERA Scientific Exchange.

The CERA Awards recognised outstanding contributions from staff and students in 2010-2011.



## Lions Ride for Sight and Murray to Moyne

The Lions Ride for Sight and the Murray to Moyne were two major fundraising events for CERA. Teams cycled over 400km and 520km respectively and raised over \$48,000 for eye research.



## Gerard Crock lecture

CERA founder Professor Hugh Taylor AC spoke about the challenges of closing the gap in Indigenous eye health. The Governor of Victoria, His Excellency Alex Chernov AC QC introduced the lecture.



## Community information session

CERA hosted community information sessions on two common eye diseases; glaucoma and age-related macular degeneration.



## Rally for research

CERA staff and students attended a rally on the steps of Parliament House to highlight the need for continued financial investment by the Australian Government into medical research.



## Farewell to David Welsh

Chair of the Lions Eye Donation Service and past Chair of the Lions Eye Health Program, Mr David Welsh retired in November after 20 years of service to vision related causes.



CERA scientist Nicole Van Bergen and Herbert Geer lawyer Paul Beilharz rode hundreds of kilometres for eye research in the 2011 Murray to Moyne.



# People who serve

## The Lions Eye Donation Service

**In all respects, 2011 was an excellent year for eye donation and corneal transplantation. While not matching our record year of 2010, the Lions Eye Donation Service coordinated and facilitated almost 200 corneal/eye donors and provided 328 corneas for transplant – that’s more than one transplant provided every working day.**

These figures also provide a glimpse of where eye donation and corneal transplantation are heading. The percentage of transplant surgeries using the newer corneal endothelial transplant procedures is growing rapidly (up to 26.5 per cent in 2011) and the majority of those were pre-prepared for the surgeon by the donation service. Partial thickness transplants such as these allow for transplanting only the diseased layer of the cornea, and because no sutures are involved, the visual outcome for the recipient patient is significantly improved.

This change in medical technology has provided some significant opportunities and challenges for the donation service. The emphasis has been on providing new services to the surgeons and recipients, which naturally involves investment in the latest technology, assimilating new knowledge, and learning delicate and involved techniques; services that an eye donation service would not have dreamed of providing only a few short years ago.

While it is gratifying to report on the number of transplants performed and the technical aspects of our service, one shouldn't forget when looking at these figures that an eye donation service entails much more than performing purely technical tasks.

Arguably, our most important work is done during our interaction with bereaved family members and the gathering of accurate medical histories from a variety of sources such as relatives, medical and nursing staff, pathologists and general practitioners. This, combined with the tasks of serological testing, retrieval surgery, processing and storage, transport and distribution, professional education and public relations means that the service's staff are calling upon a multitude of diverse skills every day (and night) – truly a unique profession in its own right.

Lions Eye Donation  
Service Medical Director  
Dr Graeme Pollock  
cutting a cornea.





The staff of the service, senior coordinator Dr Prema Finn and coordinator Ms Adrienne Mackey, should be especially acknowledged and congratulated for their work and dedication in this area, providing 24 hour, seven-days-a-week support.

Significant thanks for the outcomes reported here should go to our colleagues at the Donor Tissue Bank of Victoria and DonateLife (the Organ Donor Service) who continue to provide excellent donor coordination services for those eye donors (and donor families) that are additionally tissue donors or organ donors.

Thank you also to the other eye banks in Australia and New Zealand that have seen our communities become among the most generous in the world in regard to eye donation rates. The eye banks have ensured through their network that all Australians and New Zealanders in need of urgent corneal transplantation will receive their transplant within a few days.

And most importantly, I'd like to express our gratitude to the many donor families that, often under difficult circumstances, have made the decision to donate the gift of sight.

**Dr Graeme Pollock**

Director,  
Lions Eye Donation Service

*The Lions Eye Donation Service is an integral Unit of the Centre for Eye Research Australia. It was established in 1991 as a joint project between the Lions Clubs of Victoria and Southern New South Wales through the Victorian Lions Foundation, The University of Melbourne Department of Ophthalmology and the Royal Victorian Eye and Ear Hospital. Since opening it has provided more than 8,000 items of human tissue for transplantation and research.*



# People who make a difference

## Community support helps create change at CERA

Each year, CERA receives generous support from the community through donations and bequests, either in its own right, or through its fundraising arm, the Eye Research Australia Foundation.

The Foundation was established in 1996 for the sole purpose of providing support for the work of the Centre for Eye Research Australia.

"This seemingly simple and obvious objective for the Foundation can present surprising challenges. It is a very broad purpose and there are many different ways of supporting CERA," says Chairman of Trustees Peter Nankivell, "and it is not just about CERA's needs. We also always have to consider our responsibility to the donors and their wishes."

Traditionally, the Trustees have made smaller grants to a variety of research programs and have provided funds for conference travel, student support, supplementing researcher salaries, purchase of equipment and small scale refurbishments.

In 2011, the Trustees took a different approach. They approved a major grant of \$450,000 over three years to support the engagement of Professor Greg Dusting who will establish a new research program in vision regeneration at CERA. For more information about Professor Dusting, who is also CERA's Executive Director Research, see 'A new person, a new role' on page 9.

"The Foundation, now in its fifteenth year, has reached a level of maturity where we are in a position to consider bigger grants and commit to funding projects for a period of time. This can really make a difference and contribute to CERA's strategic direction," comments Mr Nankivell. "It is exciting to see CERA evolve and move into the completely new field of restoring vision.

We still have many donors who specifically direct their support to established research programs for AMD, glaucoma and other eye diseases, and that support is much needed and valued. In addition, through prudent management of accumulated unrestricted gifts and bequests, we also have the ability now to fund some new areas. There is a saying that 'philanthropy is the venture capital of the social sector', and that is precisely what we are aiming to do."

CERA Managing Director Professor Jonathan Crowston notes that the income medical research institutes receive from grants is usually tied to a specific purpose or project and that resources for new initiatives are very limited. "Access to discretionary funds is vital for developing new research directions. We are hugely indebted to our supporters in the community for making this possible."

### Eye Research Australia Foundation 2011 snapshot:

**\$615,423** total income from  
donations, bequests and investments

**2,353** gifts received including  
realised bequests

**\$263,700**  
paid in grants to CERA  
in 2011

### Trustees

*Professor Jonathan Crowston*

*Mr Gerard Menses*

*Mr Peter Nankivell (Chairman)*

*Ms Tina McMeckan*

*Professor Tien Wong*

Your support for eye research is always needed. Please visit [www.cera.org.au](http://www.cera.org.au) to make a tax deductible donation online or contact us at 1300 737 757.

**For a confidential discussion about a bequest, contact Roberta Armitage on (03) 9929 8424.**



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# Our People

## Staff and Students

### Directorate

Professor Jonathan Crowston  
*Managing Director*

Professor Robyn Guymer  
*Deputy Director*

Professor Greg Dusting  
*Executive Director Research*

Ms Gerlinde Scholz  
*General Manager*

Mrs Valma Scaf  
*Executive Assistant to the Managing Director and General Manager*

### CLINICAL GENETICS UNIT

Professor David Mackey  
(honorary faculty)  
*Unit Head*

Dr Alex Hewitt (honorary faculty)  
*Research Fellow*

Ms Lisa Kearns  
*Research Orthoptist*

Dr Helena Liang  
*Research Fellow*

Dr Jonathan Ruddle (until July 2011)  
*Senior Research Fellow*

Ms Sandra Staffieri  
*Research Orthoptist*

#### PhD Candidate

Mr Paul Sanfilippo

### CYTOPROTECTION UNIT

Professor Greg Dusting  
*Principal Investigator; Professorial Fellow*

### DRUG DELIVERY UNIT

Dr Hong Zhang  
*Principal Investigator; Senior Research Fellow*

### GLAUCOMA RESEARCH UNIT

Professor Jonathan Crowston  
*Unit Head*

Dr Michael Coote (honorary faculty)  
*Principal Investigator; Surgical Device Development*

Dr Vicki Chrysostomou  
*Research Fellow*

Dr Jelena Kezic  
*Research Fellow*

Mrs Yu Qin (Cathy) Li  
*Research Assistant*

Associate Professor Ian Trounce  
*Principal Research Fellow*

Dr Peter van Wijngaarden  
*Research Fellow*

Dr Ehud Zamir  
*Senior Research Fellow*

#### PhD Candidates

Mr Rahul Chakrabarti  
(until September 2011)

Ms Heather Connor

Dr George Kong

Ms Nicole Van Bergen

Ms Hayley Waugh

#### MPhil / Masters Candidates

Ms Fleur O'Hare

Ms Evelyn O'Neill (until May 2011)

Mr Leo Sheck

#### Undergrad students/ BMedSc Candidates

Ms Helen Chen

Ms Shanjee Lee (Duke University, USA)

Mr Craig Ross

#### MD Candidates

Dr Alan McNabb

Dr Anthony Wells

### HEALTH SERVICES AND OCULAR EPIDEMIOLOGY RESEARCH UNIT

Associate Professor Ecosse Lamoureux  
*Unit Head*

Ms Prue Spencer (since August 2011)  
*Executive Assistant*

Mrs Jessica Alessi-Calandro  
*Research Assistant*

Dr Alauddin Bhuiyan  
(until October 2011)  
*Research Scientist*

Dr Paul Connell (until May 2011)  
*Gerard Crock Fellow*

Mr Marios Constantinou  
*Clinical Trials Coordinator*

Dr Mohamed Dirani (until April 2011)  
*Research Fellow*

Ms Carly D'Sylva  
*Clinical Trials and Research Coordinator*

Ms Eva Fenwick  
*Research Assistant*

Ms Elizabeth Glatz  
*Research Assistant*

Ms Lauren Hodgson  
*Research Assistant*

Mrs Edith Holloway  
*Research Assistant*

Dr Ryo Kawasaki  
*RetVIC Grading Manager*

Ms Melanie Larizza  
*Research Assistant*

Ms Kim Yu Lee (since June 2011)  
*Research Assistant (Grader)*

Dr Lyndell Lim  
*Senior Research Fellow*

Ms Annie McAuley  
*Research Assistant*

Ms Rachel McIntosh  
*Clinical Projects Manager*

Mrs Kelly Mikunda  
*Executive Assistant*

Ms Julie Morrison  
*Research Assistant*

Ms Theona Nicolaou  
*Research Assistant*

Dr Gwyneth Rees  
*Senior Research Fellow*

Ms Sophie Rogers  
*Epidemiologist*

Ms Sutharssna Sanmugasundram  
*Research Assistant*

Dr Suganya Selvarajah  
(since June 2011)  
*Research Assistant*

Mr Titus Tan (since November 2011)  
*Retinal Image Grader*

Ms Yamna Taouk (since June 2011)  
*Epidemiologist / Statistician*

Associate Professor Jie Jin Wang  
*Principal Research Fellow*

Professor Tien Wong  
*Professorial Fellow; Scientific Consultant*

Dr Sophia (Jing) Xie  
*Biostatistician*

Left: A selection of CERA staff and students in 2011

## Our People Staff and Students *continued...*

### **Honours Candidate**

Ms Kesenia Kovalva

### **MMed Candidate**

Ms Joanne Yau

### **MPhil Candidate**

Ms Michelle Lee  
Mr Ryan (Eyn Kidd) Mann  
Mr Nazim Uddin

### **PhD Candidates**

Dr Michelle Baker  
Ms Eva Fenwick  
Ms Michelle Lim  
Ms Annie McAuley  
Dr Bayu Sasongko

### **Masters Candidate**

Ms Rehab Benarous

### **MACULAR RESEARCH UNIT**

Professor Robyn Guymer  
*Unit Head*

Ms Rebecca Maxwell  
*Executive Assistant/Research Assistant*

Dr Farshad Abedi  
*Research Assistant*

Dr Penelope Allen  
*Senior Research Scientist*

Dr Khin Zaw Aung  
*Research Assistant*

Dr Lauren Ayton  
*Bionic Eye Research Coordinator*

Ms Kate Brassington  
*Research Assistant*

Ms Melinda Cain  
*Clinical Project Manager*

Ms Tania Cipriani  
*Clinical Trials Coordinator*

Dr Peter Dimitrov  
*Research Fellow*

Dr Amirul Islam (since October 2011)  
*Biostatistician*

Dr Peter Keller (since August 2011)  
*Senior Research Fellow*

Dr Chi Luu  
*Senior Research Fellow*

Dr Mark McCombe (honorary faculty)  
*Senior Research Fellow*

Dr Galina Makeyeva  
*Research Assistant*

Mr Nicholas Opie  
(since September 2011)  
*Surgical Program Coordinator*

Dr Luba Robman  
*Senior Research Fellow*

Dr Sukhpal Sandhu  
(since February 2011)  
*Senior Research Fellow*

Ms Mary Varsamidis  
*Research Orthoptist*

Dr Sanj Wickremasinghe  
*Senior Research Fellow*

Mr Tony Wu  
*Research Assistant*

Dr Jonathan Yeoh  
*Senior Research Fellow*

### **AMS Students**

Ms Pei Yu Nathalie Chiam  
Ms Gwendolyn Chien Yee Liow  
Mr Thomas James Gin  
Ms Divya Sarah Pratap  
Mr Jon Young Teo

### **PhD Candidate**

Dr Farshad Abedi  
Dr Robert Finger

### **MD Candidates**

Dr Marc Sarossy

### **MPhil Candidate**

Mr Felix Aplin

### **Fulbright & Whitaker Fellow**

Mr Nick Apollo

### **OCULAR GENETICS RESEARCH UNIT**

Associate Professor Paul Baird  
*Unit Head*

Ms Andrea Richardson  
*Research Assistant*

Dr Maria Schache  
*Research Fellow*

Mr Tony Wu  
*Research Assistant*

### **PhD Candidates**

Dr Madeline Adams  
Mr Stuart Cantsilieris  
Ms Srujana Sahebjada

### **POPULATION HEALTH RESEARCH UNIT**

Professor Jill Keeffe OAM  
*Unit Head*

Ms Natasha Tomic  
*Executive Assistant / Research Assistant*

Ms Anna-Lena Arnold  
(until January 2011)  
*Research Assistant*

Dr Sharon Bentley  
(until October 2011)  
*Public Health Research Fellow*

Dr Lucy Busija (until July 2011)  
*Biostatistician*

Mrs Leah Evans  
*National Program Manager  
Lions Eye Health Program*

Ms Kathy Fotis  
*Research Assistant*

Dr Alex Harper  
*Senior Research Fellow*

Ms Jennifer Hassell  
*Research Assistant*

Dr Amirul Islam (since October 2011)  
*Biostatistician*

Mr Toby Langdon  
(since February 2011)  
*Research Fellow International Health*

Dr Manjula Marella  
(since March 2011)  
*Research Fellow*

Dr Trish O'Connor (until June 2011)  
*Research Fellow*

Dr Noela Prasad (since August 2011)  
*Research Fellow International Health*

Ms Betty Tellis  
*Research Assistant*

Dr Elaine Wong (until February 2011)  
*Research Fellow*

### **MD Candidate**

Dr Anu Mathew

### **PhD Candidates**

Mr Rahul Chakrabarti  
(since September 2011)  
Dr Jefitha Karimurio  
Ms Manjula Marella  
Ms Gail Ormsby



Rapid Assessment of Avoidable Blindness, Thanh Hoa Province, Vietnam June 2011.

## **SURGICAL RESEARCH UNIT**

Professor Rasik Vajpayee  
(until May 2011)  
*Unit Head*

Associate Professor Mark Daniell  
*Principal Research Fellow, Unit Head*  
(from June 2011)

Mr Karl Brown  
*Research Assistant*

Mr Marios Constantinou  
*Clinical Trials Coordinator*

Mr Tony Wu (until September 2011)  
*Research Assistant*

Ms Kiera Young  
(since November 2011)  
*Orthoptist*

## **LIONS EYE DONATION SERVICE**

Dr Graeme Pollock  
*Medical Director*

Dr Jacqueline Beltz  
(since August 2011)  
*Deputy Medical Director*

Dr Prema Finn  
*Senior Transplant Coordinator*

Ms Adrienne Mackey  
*Corneal Transplant Coordinator*

**PhD Candidate**  
Dr Christine Wittig

## **CORPORATE SERVICES**

Ms Gerlinde Scholz  
*General Manager*

Dr Sasha Anagnostou  
*Research Administration Officer*

Mr Peter Coates  
*Finance Officer*

Ms Jacqui Chu (since June 2011)  
*Human Resources Officer*

Ms Holly Custance (until May 2011)  
*Human Resources Officer*

Mr Stuart Galbraith  
(since November 2011)  
*Community and Corporate Relations Manager*

Ms Sue Griffin  
*Administrative Officer*

Mrs Irina Kalpakidis  
*Finance Officer*

Ms Maggie McNeil  
(since September 2011)  
*Fundraising & Administration Assistant*

Ms Lauren Metcalfe  
(until December 2011)  
*Communications Officer*

Mrs Kelly Mikunda  
*Administration Coordinator*

Mr Robert Palin  
*Chief Financial Officer and Company Secretary*

Mr Sanjeeva Perera  
*IT Officer*

Mr Andrew Purnama  
*IT Support Officer*

Ms Cheryl Richter (since May 2011)  
*Student Administration Officer*

Ms Becky Samson  
*Finance Officer*

Mr David Sumner  
*IT Manager*

Dr Khay-Lin Teoh  
*Operations Manager*

Ms Nicole Tindill  
*Database Manager*

Ms Monica Zhang  
*Finance Support Officer*



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220. Wickremasinghe SS, Xie J, Lim J, Chauhan DS, Robman L, Richardson AJ, Hageman G, Baird PN & Guymer RH. 2011. Variants in the APOE gene are associated with improved outcome after anti-VEGF treatment for neovascular AMD. *Investigative Ophthalmology and Visual Science*. **52** (7): 4072-4079.
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231. Zheng Y, Cheung CY, Wong TY, Wong W, Loon S & Aung T. 2011. Determinants of image quality of Heidelberg Retina Tomography II and its association with optic disc parameters in a population-based setting. *American Journal of Ophthalmology*. **151** (4): 663-670.
232. Zheng Y, Lamoureux EL, Chiang PP, Cheng C, Anuar AR, Saw S, Aung T & Wong TY. 2011. Literacy is an independent risk factor for vision impairment and poor visual functioning. *Investigative Ophthalmology and Visual Science*. **52** (10): 7634-7639.
233. Zheng Y, Lamoureux EL, Finkelstein E, Wu R, Lavanya R, Chua D, Aung T, Saw S & Wong TY. 2011. Independent impact of area-level socioeconomic measures on visual impairment. *Investigative Ophthalmology and Visual Science*. **52** (12): 8799-8805.
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## People who presented

### JANUARY

#### International Society of Genetics Eye Disorders and Retinoblastoma (ISGEDR) (Bangalore, India)

- Baird, P., Symposium speaker

#### Eye 2011, LV Prasad Eye Institute (Bhubaneswar, India)

- Baird, P., Paul Baird Hour

#### Asia Association for Research in Vision and Ophthalmology (Singapore)

- Baird, P., 'How twin studies can help us in understanding AMD'
- Baird, P., CCRE symposium – 'Genetic changes and AMD'
- Baird, P., 'Towards a better understanding of AMD'
- Crowston, J., 'Mitochondrial dysfunction in glaucoma'
- Crowston, J., 'Ageing and mitochondrial dysfunction, is this a recipe for glaucoma?'
- Foulds WS, Luu CD, Barathi VA, 'A new light on childhood myopia'
- Guymer, R., 'Translating AMD research into the Clinic'
- Guymer, R., 'Predictors of outcome after anti-VEGF treatment in Neovascular AMD'
- Guymer, R., 'The challenge and promise of the Bionic Eye'
- Kam J, Luu CD, Cheung CYL, Mitchell P, Wang JJ, Cheung CM, Guymer RH, Wong TY, 'Retinal nerve fibre layer thickness in eyes with and without age-related macular degeneration'
- Kaur C, Sivakumar V, Foulds WS, Luu CD, 'Neuronal changes induced by hypoxia in the neonatal retina'
- Keeffe JE., 'Low Vision Service Delivery'
- Keeffe JE., 'How to Translate and Validate Health-Related QoL Scales for Use in Different Cultural Settings'
- Keeffe JE., 'Translating Epidemiological Research into Planning for Under-Served Groups'
- Kek WK, Foulds WS, Luu CD, Kaur C, 'A pig model of retinal capillary closure by embolisation with fluorescent microspheres'
- Lamoureux, E., 'The fundamentals of scale development and validation in Ophthalmology'
- Lamoureux, E., 'Health Services Research SIG'
- Lamoureux, E., 'Understanding the barriers to optimal diabetes care in people with and without diabetic retinopathy'
- Luu CD, Shivdasani M, Cicione R, Allen P, Fallon J, Freemantle A, Morley J, Shepherd R, Guymer R, Williams C., 'Optimising electrical stimulation parameters for a bionic eye'

- Marella M, Lamoureux EL, Keeffe JE., 'Validity of an Evaluation Framework Developed for Vision-Related Community-Based Rehabilitation Services in Developing Countries'
- Robinson R, Luu CD, Moe TK, Tan Q, Wong TY, Barathi VA., 'Fluvastatin down regulates VEGF gene expression in TNF- $\alpha$  induced retinal vessel tortuosity'
- Wang, JJ. 'Challenges in Research in the Genomic Era'
- Wong, T., 'Epidemiology of Diabetic Macular Edema (DME) and Retinal Vein Occlusion (RVO)'
- Wong, T., 'Retinal vascular imaging transitioning from Population to Bedside'
- Wong, T., 'Diabetic Retinopathy - Major Advances and Future Challenges'

#### Moorfields International Glaucoma Symposium (London, UK)

- Crowston, J. 'How could our current healthcare provision cope with consequences?'

### FEBRUARY

#### 10th International Conference on Low Vision (Kuala Lumpur, Malaysia)

- Chiang PPC, Xie J, Le Mesurier RT, Keeffe JE., 'Critical Factors to Improve Global Coverage of Low Vision Services.'
- Haymes SA, Brown CM, Francis K, O'Connor PM, Tellis B, Wong EYH, Keeffe JE., 'Increasing Access to Service Provision in Australia through a Secondary Level Care Model: The Royal Victoria Eye and Ear Hospital Low Vision Clinic'
- Keeffe JE., 'Epidemiology of Low Vision'

#### Australia and New Zealand Glaucoma Interest Group (ANZGIG) Scientific Meeting 2011 (Melbourne, Australia)

- Crowston, J. 'Marked for failure – role of tear cytokines in glaucoma surgery'
- Nguyen, D., 'Secondary pigment dispersion'
- Ross, C.
- Trounce, I., 'Is Glaucoma Alzheimer's Disease of the Eye?'

### MARCH

#### Academia Ophthalmologic Internationalis Inaugural Lecture (Sydney, Australia)

- Wong, T., 'Hypertensive Retinopathy – a Century of Progress'

#### Asia Pacific Academy of Ophthalmology (Sydney, Australia)

- Baird, P., 'Genetic Epidemiology of eye diseases – Genetic Epidemiology of myopia and refractive traits in Caucasians'

- Baird, P., 'Cellular and molecular degeneration in Retina II. The macula – The genetics of macular degeneration'
- Baird, P., 'Genetics of ocular disease – Challenges in unravelling complex eye disease'
- Cama AT, Sikivou TB, Keeffe JE., 'Visual Impairment in Children 0-18 yrs in Central Fiji'
- Coote, M., 'Trouble in the Eye Hospital'
- Crowston, J., 'OSD Prevalence on glaucoma patients'
- Crowston, J., '"The Glaucoma Alphabet" - Update on GONE'
- Crowston, J., 'The impact of age and diet restriction on the retinal ganglion cell response to IOP elevation'
- Crowston, J., 'Impact of aging & mitochondrial dysfunction on optic nerve vulnerability to injury'
- Crowston, J., 'Mitoprotection: protecting retinal ganglion cells when mitochondria misbehave'
- Guymer, R., 'AMD update'
- Hoang TH, Arnold AM, Dzung, Busija L, Ormsby G, Keeffe JE., 'Rapid Assessment of Avoidable Blindness in Son La Province, Vietnam: Gender Differences'
- Iezzi BC, O'Connor PM, Fotis K, Keeffe JE., 'Regional Training Resource Gap Analysis and Mapping Project'
- Keeffe JE. 'Modifying existing instruments for different cultural settings use'
- Keeffe JE., 'Relevance of an instrument to derive vision-specific utility values: The VisQoL in India and Australia'
- Lamoureux, E., 'Preliminary findings of the Diabetic Retinopathy Eye Screening Study (DRESS).'
- Lamoureux, E., 'The impact of vision impairment in children'
- Lamoureux, E., '(Panel Chair) 'Ophthalmic quality of life reaserch'
- Ormsby G, Arnold AM, Sarun N, Bonn TS, Mörchen M, Keeffe JE., 'Eye Health: A Knowledge, Attitude and Practice Survey in Takeo Province, Cambodia: Gender and Disability'
- Wang JJ., 'Cataract surgery and risk of AMD: The Australian Study of Cataract Surgery and Age-related Macular Degeneration'
- Wang JJ., 'Gene-environment Interaction in Age-related Macular Degeneration: The Blue Mountains Eye Study'
- Wong, T., 'Medical association with diabetic retinopathy and complications for management'
- Wong, T., 'Population genetics of retinal vessel signs and implications'
- Wong, T., 'Diabetic Macular Odema: A scientific update of current knowledge and management'

### **Macular Society Meeting (Florida, USA)**

- Wong, T., 'Early Detection and Management of Common Eye Problems in the Elderly'

### **Melbourne General Practice Network (Melbourne, Australia)**

- Nguyen, D., 'Update on Glaucoma from the experts'

## **A P R I L**

### **St Luke's Hospital CME Programme (Singapore)**

- Wong, T., 'Early Detection and Management of Common Eye Problems in the Elderly'

### **The Australian Society for Medical Research Student Conference (Melbourne, Australia)**

- Van Bergen, N., 'Xenomitochondrial mice have increased neuronal injury in the retina after intraocular pressure elevation'

## **M A Y**

### **Association for Research in Vision and Ophthalmology (Fort Lauderdale, USA)**

- Abedi, F., Wickremasinghe, S., Richardson, A., Busija, L., Baird, P., Guymer, R., 'Do VEGF gene variants contribute to the treatment outcomes of Intravitreal anti-VEGF treatment in patients with neovascular Age-related macular degeneration?'
- Adams, M., Robman, L., Simpson, J., Guymer, R., Aung, KZ., Makeyeva, G., Baird, P., 'APOE Gene-environment interaction in AMD risk'
- Aung, KZ., Makeyeva, G., Adams, M., Chong, E., Busija, L., Baird, P., Guymer, R., Robman, L., 'Prevalence of epiretinal membrane in older Australians of Southern European or Northern European origin. The Melbourne Collaborative Cohort Study (MCCS)'
- Ayton LN, Luu CD, Guymer RH. 'Choroidal Thickness in Retinitis Pigmentosa'
- Baird, P., Dirani, M., Richardson, A., Schache, M., Morahan, J., Ebers G., Guymer, R., Ramagopalan, S., 'An epigenetic study of monozygotic twin pairs discordant for birth-weight'
- Chrysostomou, V., 'Defects in Mitochondrial Respiration Promote Retinal Ganglion Cell Death and Dysfunction after Short-Term IOP Elevation'
- Cicione R, Shivdasani MN, Fallon JB, Luu CD, Allen PJ, Rathbone G, Williams CE, 'Efficacy of electrode return configuration in a suprachoroidal retinal prosthesis'
- Connor, H., 'Retrolubar optic nerve diameter in glaucoma: Association with brain matter volume'
- Crowston, J., 'Diet restriction improves inner retinal recovery following IOP injury in mice with Mitochondrial dysfunction'
- Crowston, J., 'Glaucoma and Mitochondrial Dysfunction'
- Crowston, J., 'Information and planning exchange meeting'
- Finger, R., Hassell, J., Abedi, F., Gillies, M., Keeffe, J., Guymer, R., 'The impact of anti-VEGF treatment on vision-related quality of life in age-related macular degeneration outside of clinical trials'
- Guymer RH, Bassington K., Dimitrov PND, Varsamidis M, Makeyeva G, Aung KZ, Chauhan D, Vingrys AJ, Luu CD, 'Retinal Functional Improvement With Nano-laser Treatment In High Risk Early Age-related Macular Degeneration'
- Haymes SA, Busija L, Tellis B, Hassell J, Keeffe JE, Taylor JA, Gratton-Vaughan JK, 'Enhancing the Accessibility of an Eye and Ear Hospital: A Concept Mapping Study to Identify Needs and Develop a Framework for Action'
- Keeffe JE, Baker S, Haq NL, Quaiyum MA, Goujon N, Fotis K, Edmonds TJ., 'Development of a Questionnaire to Assess Prevalence of Disability in Adults and Children'

## People who presented continued...

- Kezic, J., 'The exacerbation of uveitis in the context of IFN $\gamma$  deficiency in proteoglycan-induced arthritis is prevented through the blockade of IL-17 and IL-23'
- Lim, L., Goh, R., Wong, C., Cipriani, T., Robman, L., Busija, L., Guymer, R., 'Can systemic markers of Inflammation predict subtypes of Age-related macular degeneration?'
- Luu CD, Dimitrov P, Robman R, Makeyeva G, Varsamidis M, Aung KZ, Vingrys A, Guymer RH., 'Potential role of flicker perimetry in predicting geographic atrophy in age-related macular degeneration'
- Nayagam DA, Villalobos J, Allen PJ, Luu CD, McKelvie P, Freemantle AL, McPhedran ME, Basa M, Shepherd RK, Williams CE. 'A suprachoroidal retinal prosthesis is safe in a chronic implantation model'
- O'Connor PM, Busija L, Arnold AM, Ormsby G, Keeffe JE, 'The impact of knowledge and attitudes on preventative eye care practices and service uptake in Cambodia'
- Robinson R, Luu CD, Moe TK, Tan Q, Wong TY, Barathi VA., 'TNF- $\alpha$  induced retinal vessel tortuosity and protective effect of fluvastatin through down regulation of VEGF-a receptors'
- Ross, C, Yugin Li, C., et al., 'Raised pressure alters tissue hydraulic permeability in implant capsules post glaucoma surgery in rabbits'
- Sandhu, S., Wickremasinghe, S., Busija, L., Lim, J., Guymer, R., 'Qualitative appearance of OCT predicts visual outcome at 12 months following anti-VEGF therapy for neovascular AMD'
- Shivdasani MN, Fallon JB, Luu CD, Cicione R, Morley JW, Williams CE. 'Cortical responses to single and multiple-electrode stimulation of a suprachoroidal retinal prosthesis'
- Tao, L., Langham, R., Robman, L., Liew, D., Ischenko, O., Goh, J., Cipriani, T., Richardson, A., Baird, P., Guymer, R., 'Identification of urinary biomarkers for Age-related macular degeneration'
- Trounce, I., 'Mitochondrial oxidative stress and amyloid precursor protein mediated neuroprotection in the retina'
- Van Bergen, N., 'Mice with A mtDNA-linked respiratory chain defect show increased neuronal injury consequent to IOP stress'
- Varsamidis, M., Robman, L., Lucy Busija, L., Dimitrov, P., Aung, KZ., Makeyeva, G., Baird, P., Guymer, R., 'HMG Co-A Reductase inhibitor delays progression of early AMD. The Age-Related Maculopathy Statin Study (ARMSS)'
- Villalobos J, Nayagam DA, Allen PJ, Luu CD, Fallon JB, Shivdasani MN, Freemantle AL, McPhedran ME, Shepherd RK, Williams CE., 'A wide-field suprachoroidal retinal prosthesis reliably elicits cortical potentials after chronic implantation'
- Wang, JJ., Rohtchina, E., Attia, J., Holliday, E., Smith, W., Guymer, R., Mitchell, P., 'Blue Mountains Eye Study: A Risk Scoring System for Age-related Macular

Degeneration Incorporating Genetic Susceptibility and Environmental Exposures.'

- Waugh, H., Poster Presentation
- Wei, L., Liu, X., Liu, B., Baird, P., Guymer, R., Klein, M., Tuo, J., Chan, CC., Nussenblatt, R., 'Epigenetic regulations in Age-related macular degeneration'
- Yugin Li, C., 'Raised pressure alters tissue hydraulic permeability in implant capsules post glaucoma surgery in rabbit'

### **Biofabrication Symposium, ACES University of Wollongong, (Sydney, Australia)**

- Ross, C., 'Engineering Outflow - managing fluid flow in glaucoma operations'

### **Euromit8 (Zaragoza, Spain)**

- Van Bergen, N., 'Xenomitochondrial mice have increased neuronal injury in the retina after intraocular pressure elevation'

### **Vision Australia Round Table on Information Access for People with Print Disabilities (30th anniversary conference) (Melbourne, Australia)**

- Ayton LN. 'The Bionic Eye, what will it mean for people who are blind or have low vision?'

### **Ballarat Macular Group, (Ballarat, Australia)**

- Guymer R., 'Treatments for Macular Degeneration'

## **J U N E**

### **Australian Society for Medical Research (ASMR) (Melbourne, Australia)**

- Waugh, H., 'Amyloid precursor protein-mediated neuroprotection in the aged retina'

### **Novartis CATT Symposium (Melbourne, Australia)**

- Guymer, R., 'Comparison of AMD treatment trials (CATT)'

### **8th Annual World Glaucoma Association Consensus Meeting (Paris, France)**

- Coote, M., 'What's up Down Under'
- Crowston, J., Symposium: 'S28 Innovative approaches for protecting the retinal ganglion cells meeting. "Mitoprotection"'

### **Australia and New Zealand Glaucoma Interest Group (ANZGIG) Symposium (Paris, France)**

- Crowston, J., 'Hard knocks and soft nerves'



## JULY

### Annual Ophthalmic Alumni Meeting (Melbourne, Australia)

- Lim, M., 'The incremental relationship of poor glycaemic control and concomitant diabetic microvascular complications on the risk of VTDR'
- Mann, R., 'The Relationship of Myopia and Ocular Biometric Parameters with Diabetic Retinopathy in Patients with Type I and II Diabetes'

### Consumers Reforming Health Conference (Melbourne, Australia)

- Michel K, Haymes SA, Tellis B, Keeffe JE, Clarke C. 'A patient tracking exercise through the Royal Victorian Eye and Ear Hospital: development of a consumer participation education resource for medical staff'

### The Australian Institute of Medical and Biological Illustration Meeting (Melbourne, Australia)

- Ayton LN., 'Seeing the Future: The Bionic Eye'

### Orthoptic Association, July Scientific Meeting (Melbourne, Australia)

- O'Hare, F., 'Hear no evil...See no evil'

### St Vincent's Hospital (Melbourne, Australia)

- Baird, P., Seminar: 'What role does the immune system play in age related macular degeneration?'

## AUGUST

### Second NEI sponsored meeting of the International AMD Genetics (AMDGene) Consortium (Washington DC, United States)

- Baird, P., Workshop

### Alcon Ophtha Club annual meeting (Melbourne, Australia)

- Guymer, R. 'Where to from here, with early AMD'

### University of Melbourne 3 minute Thesis competition (Melbourne, Australia)

- Waugh, H., 'Glaucoma and Alzheimer's: Same old problems?'

## SEPTEMBER

### 49th International Society for Clinical Electrophysiology of Vision Meeting (Manoir du Lac Beauport, Quebec, Canada)

- Chia A, Luu CD, Wen L, Cheung YB, Tan D. 'ERG findings in myopic children on atropine treatment'

### The Retina Society 44th Annual Scientific Meeting (Rome, Italy)

- Allen PJ, McCombe MF, Yeoh J, Luu CD, Villalobos J, Shivdasani M, Nayagam D, Lovell N, Suaning G, Williams C, Shepherd R, Guymer RH. 'To develop a cat model for chronic active stimulation with a wide-field suprachoroidal array to aid in the development of a human low resolution device'

### Banff Translational Glaucoma Meeting (Banff, Canada)

- Crowston, J., 'Mitoprotection: protecting retinal ganglion cells when mitochondria misbehave'
- Crowston, J., 'What are the unmet challenges in glaucoma therapy?'
- Crowston, J., 'Bleb surgical management?'

### St Vincent's Research Week (Melbourne, Australia)

- Van Bergen, N., 'Xenomitochondrial mice have increased neuronal injury in the retina after intraocular pressure elevation'
- Waugh, H., Poster Presentation

### SIGMA (Sydney, Australia)

- Coote, M., 'Glaucoma Education Now'

### Orthoptic Continuing Education Seminar (Melbourne, Australia)

- Nguyen, D., 'What to do when drops fail'

## OCTOBER

### 12th American Society of human genetics annual meeting (Montreal, Canada)

- Yu Y, Bhangale TR, Fagerness J, Ripke S, Thorleifsson G, Tan PL, Souied EH, Richardson AJ, Merriam JE, Buitendijk G, Reynolds R, Raychaudhuri S, Chin K, Sobrin L, Evangelou E, Lee P, Lee AY, Leveziel N, Zack DJ, Campochiaro B, Campochiaro P, Smith RT, Barile GR, Guymer RH, Hogg R, Chakravarthy U, Robman L, Gustfsson O, Sigurdsson H, Ortmann W, Behrens T, Stefansson K, Uitterlinden G, Duijn CM, Vingerling JR, Klaver CW, Allikmets R, Brantley MA, Baird PN, Katsania N, Thorsteinsdottir U, Ioannidis J, Daly MJ, Graham RR, Seddon JM. 'Common variants near FRK/ COL10A1 and VEGFA are associated with advanced age-related macular degeneration'

### International Assembly of Community Ophthalmologists and 2nd Annual meeting of the Association of Community Ophthalmologists of India (ACOIN) (Guwahati, Assam, India)

- Baird, P., 'Current Challenges in bringing genetic advances to the community'

## People who presented continued...

- Baird, P., 'Recent Developments in the Genetics of Eye Disease'

### **Retina Australia Annual General Meeting (Melbourne, Australia)**

- Ayton LN., 'Update on the Work of Bionic Vision Australia'

### **Blind Citizens of Australia (BCA) National Congress (Adelaide, Australia)**

- Ayton LN, 'The Bionic Eye'

### **American Academy of Ophthalmology (AAO) (Orlando, USA)**

- Coote, M.

## NOVEMBER

### **Royal Australian and New Zealand College of Ophthalmologists (RANZCO) 43rd Annual Scientific Congress (Canberra, Australia)**

- Crowston, J., 'Rapid Fire paper presentation session- Glaucoma'
- Gin T, Luu CD, Guymer RH., 'The role of the multifocal electroretinogram and flicker perimetry in the localised functional assessment of early age-related macular degeneration'
- Karimurio J, Keeffe JE, Le Mesurier R, Mwathi M., 'Cost and consequences of trachoma survey and mass drug administration in the Narok district in Kenya'
- Keeffe JE., 'Rapid Assessment of Avoidable Blindness Surveys (Vietnam, Cambodia, Solomon Islands)'
- Keeffe JE. , 'Excellence and Equity (Hollows Lecture)'
- Keeffe JE., 'Consequences of vision loss from AMD: "myth busting" (Novartis Industry Breakfast).'
- Niyadurupola N, Tan G, Wong C, Kong G, Crowston J, Luu CD., 'The scotopic threshold (STR) and photopic negative response (PhNR) in glaucoma patients and normals.'

### **Second International Conference on Medical Bionics (Phillip Island, Australia)**

- Aplin FP, Fletcher E, Luu CD, Shepherd RK, Guymer RH. 'Blind feline model for retinal prosthesis.'
- Basa M, McGowan CC, Shepherd RK, Williams CE. 'A suprachoroidal retinal prosthesis is safe in a chronic implantation model.'
- Leung RT, Nayagam DA, Williams CE, Shepherd RK, Williams RA, Luu CD, Allen PJ, Salinas-La Rosa CM, Freemantle A, McPhedran M, Basa M, Yeoh J, McCombe M, Ayton LN, Bowman EA, Villalobos J. 'Removability of a suprachoroidal retina prosthesis.'
- Nayagam DA, Allen PJ, Shivdasani MN, Fallon JB, Yeoh J, Wise A, Luu CD, Freemantle AL, McPhedran

ME, Williams RA, Basa M, Villalobos J, Bowman E, Shepherd RK, Williams CE. 'A clinically relevant approach for long-term stimulation by active suprachoroidal implants in cats.'

- Nayagam DA, Villalobos J, Allen PJ, Luu CD, McKelvie P, Freemantle AL, McPhedran ME, Villalobos J, Nayagam DA, Allen PJ, Luu CD, Fallon JB, Shivdasani MN, Freemantle AL, McPhedran ME, Shepherd RK, Williams CE. 'A wide-field retinal prosthesis elicits cortical activity after chronic implantation.'
- Shivdasani MN, Fallon JB, Luu CD, Cicione R, Allen PJ, Morley JW, Williams CE. 'Multiunit responses in the visual cortex to single and multiple electrode stimulation of the retina.'
- Villalobos J, Allen PJ, Freemantle AL, Nayagam DA, Luu CD, Ayton LN, McPhedran ME, Shepherd RK, Williams CE. 'A contoured suprachoroidal retinal prosthesis allows safe post-surgical recovery.'

### **68th Orthoptics Australia Scientific Conference (Canberra, Australia)**

- Baglin E, Vukicevic M, Ayton L, Luu C., 'The effect of interline spacing on reading speed in patients with age-related macular degeneration'

### **Victorian State Library convention for the International Day of People with a Disability (Melbourne, Australia)**

- Ayton LN. 'The Bionic Eye: Seeing the Future'

### **Chinese University of Hong Kong (Hong Kong)**

- Baird, P., 'Advances in the Genetics of Eye Disease'
- Baird, P., 'Clinical Genetics of Retinal Diseases'

### **Sun Yat-Sen University (Guangzhou, China)**

- Baird, P., 'Towards a better understanding of myopia'

## DECEMBER

### **Guide Dogs Victoria Annual General Meeting (Melbourne, Australia)**

- Ayton LN. 'Update on the Bionic Eye'

### **AussieMit (Sydney, Australia)**

- Van Bergen, N., 'Oxidative phosphorylation compensation may preserve vision in OPA-1 linked Autosomal Dominant Optic Atrophy'

### **Association for Research in Vision and Ophthalmology: Optic Nerve Degeneration, Protection & Autoimmunity (Obergurgl, Austria)**

- Crowston, J., 'Aging & mitochondrial dysfunction increase RGC vulnerability to injury'

## Grants and funding awarded in 2011



Professor Robyn Guymer receives the Macular Degeneration Foundation Grant from Her Excellency Ms Quentin Bryce AC AVO, Governor-General of the Commonwealth of Australia.

ANZ Trustees - Medical Research and Technology in Victoria	Paul Baird
BUPA Foundation	Robyn Guymer
Dorothy Edols Charitable Trust	Jonathan Crowston
Heart Foundation Summer Scholarship	Li Lu
Macular Degeneration Foundation Fellowship	Luba Robman
Macular Degeneration Foundation Research Grant	Robyn Guymer
Macular Vision Loss Support Society	Robyn Guymer
Mankiewicz-Zelkin Fellowship**	Hong Zhang
Michael J Fox Foundation Innovation Grant	Ian Trounce
Myra Stoicesco Charitable Trust	Hong Zhang
NHMRC Early Career Fellowship	Alex Hewitt
NHMRC Project Grant	Jonathan Crowston
NHMRC Project Grant	Robyn Guymer
NHMRC Scholarship	Jon Noonan
NHMRC Scholarship	Michelle Lim
NHMRC Senior Research Fellowship	Paul Baird
Organ and Tissue Authority Fellowship	Adrienne Mackey
Ophthalmic Research Institute of Australia	Alex Hewitt
Ophthalmic Research Institute of Australia	Ian Trounce
Ophthalmic Research Institute of Australia	Jelena Kezic
Orthoptic Association of Victoria	Fleur O'Hare
Prime Minister's Education Assistance Program for Japan	Ryo Kawasaki
Enterprise Connect – Research in Business	Hong Zhang
University of Melbourne Early Career Researcher grant**	Jelena Kezic
University of Melbourne Early Career Researcher grant**	Vicki Chrysostomou
William Angliss (Victoria) Charitable Fund	Jill Keefe

\*\* Administered by the University of Melbourne

### Grants that have been transferred into CERA

NHMRC Senior Research Fellowship	Greg Dusting
Heart Foundation Grant in Aid	Greg Dusting
Heart Foundation Postdoctoral Fellowship	Hitesh Peshavariya
NHMRC Career Development Award	Alice Pébay

### Population Health Unit funding (not administered by CERA)

Royal Victorian Eye and Ear Hospital	Sharon Bentley
Department of Health	Sharon Bentley <i>(administered through Royal Victorian Eye and Ear Hospital)</i>
Department of Health	Jill Keefe <i>(administered through Royal Victorian Eye and Ear Hospital)</i>
AusAID	Jill Keefe
Victorian Lions Foundation Inc.	Jill Keefe
Vision Cooperative Research Centre	Jill Keefe
International Centre for Eyecare Education	Jill Keefe
Christian Blind Mission	Jill Keefe
Bionic Vision Australia	Jill Keefe
Fred Hollows Foundation	Jill Keefe
Foresight	Jill Keefe



# Abridged Audited Financial Statement

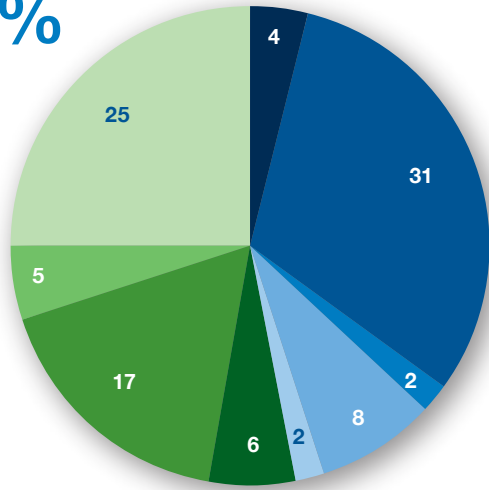
The Centre for Eye Research Australia (ABN: 72 076 481 984)  
for the year ended 31 December 2011

Statement of comprehensive income	2011	2010
<i>Revenue</i>		
Federal Government	4,163,351	3,821,345
State Government	1,158,312	1,090,041
Charitable Contributions & Other Income	6,196,730	6,969,922
Total Revenue from operating activities	<b>11,518,393</b>	<b>11,881,308</b>
Less Expenditure on operating activities	<b>11,377,009</b>	<b>11,252,821</b>
<b>Surplus / (Deficit) on operating activities</b>	<b>\$141,384</b>	<b>\$628,487</b>
Net Financial income	<b>43,624</b>	<b>369,266</b>
Capital Grants	-	-
<b>Net Surplus / (Deficit)*</b>	<b>\$185,008</b>	<b>\$997,753</b>
<b>Statement of financial position</b>		
Current Assets	8,261,313	8,714,836
Non-Current Assets	1,595,443	1,111,787
<b>Total Assets</b>	<b>9,856,756</b>	<b>9,826,623</b>
<i>Current Liabilities</i>		
Trade and other payables	582,931	368,859
Employee benefits	763,460	601,869
Other	452,245	1,038,563
<b>Total Current Liabilities</b>	<b>1,798,636</b>	<b>2,009,290</b>
<b>Non-Current Liabilities</b>	<b>216,421</b>	<b>160,643</b>
<b>Total Liabilities</b>	<b>2,015,057</b>	<b>2,169,933</b>
<b>Net Assets</b>	<b>7,841,699</b>	<b>7,656,690</b>
Asset Replacement Reserve	5,000,000	5,000,000
Accumulated funds	2,841,699	2,656,690
<b>Total Equity</b>	<b>7,841,699</b>	<b>7,656,690</b>

CERA receives Operational Infrastructure Support funding from the Victorian Government.

\* The Centre for Eye Research Australia Limited is operated as a not for profit organisation. Accordingly, accumulated surpluses are held in the form of working capital and fixed assets to support committed and planned research projects.

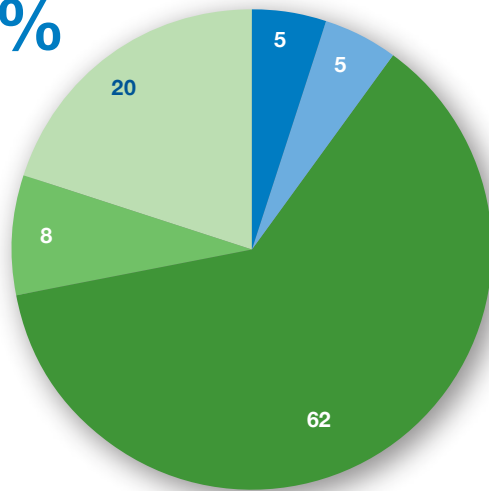
%



Income 2011

- Federal Government Vision CRC
- Federal Government NHMRC
- Federal Government AusAID
- State Government Operational Infrastructure Support
- State Government Victoria's Science Agenda
- Clinical Trials
- Donations/Sponsorship
- Research Foundations
- Other Income

%



Expenses 2011

- Depreciation
- Travel & Promotional
- Personnel
- Consulting & Contractors
- Other

# People like you can make a difference

Jane Borton has always supported medical research. But it wasn't until her vision was threatened by age-related macular degeneration (AMD), that her interest in eye research was ignited.

Diagnosed with the wet form of the disease in 2001, Jane lost the central vision in her right eye and her outlook was bleak. At the time there were no effective treatments for the disease, which is usually characterised by rapid vision loss.

Jane's prognosis improved dramatically however with the introduction of Lucentis, a drug trialled by CERA researchers, that slows and in some cases, stops, vision loss in patients with wet AMD.

Jane has been receiving injections of the drug since it became available in 2007. She continues to receive injections every four weeks.

"I've noticed a tremendous difference. Before the injections, my vision was very poor and I was on the brink of losing the central vision in my left eye completely," Jane said.

In planning her will, Jane wanted to give something back to the research community that changed her life.

**"Research is so important. And the more money that can be invested in research, the quicker we'll find a cure."**

Jane has chosen to support a PhD scholarship or a Research Fellowship within the Macular Research Unit at CERA.

"It's great to think the research resulting from my bequest could benefit members of my family and others for generations to come," she said. "I would strongly encourage anyone thinking about leaving a bequest to research to do so."



For more information about CERA's bequest program or for a copy of our bequest information brochure, please contact 1300 737 757 or visit [www.cera.org.au](http://www.cera.org.au)



## Join our CERA supporters



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For regular updates on CERA research  
visit [www.cera.org.au](http://www.cera.org.au)





# Eye research needs your help!

**Please give today**

Your donation will support the valuable work of the Centre for Eye Research Australia in researching the causes, treatments and prevention of eye diseases.

Eye Research Australia Foundation  
Locked Bag 373  
East Melbourne VIC 3002

Credit card donations or bequest enquiries can be made by phone or fax:

**Telephone: 1300 737 757**

**Fax: (03) 9662 3859**

Online donations can be made via our website:

[www.cera.org.au/supporters](http://www.cera.org.au/supporters)



Level 1, 32 Gisborne Street, East Melbourne VIC 3002  
[www.cera.org.au](http://www.cera.org.au) [era-foundation@unimelb.edu.au](mailto:era-foundation@unimelb.edu.au)



# YES, I share the vision



## My donation to CERA:

- \$50 Provides an eye examination for a Macular Degeneration patient
- \$115 Offers a full eye examination for an aged-care resident
- \$150 Provides transport and translation support for diabetic retinopathy patients
- \$550 Provides tool kits for health professionals to diagnose trachoma
- \$1,000 Enables storage for 20 corneas for transplant
- My choice

## I send my gift by:

Cheque/Money Order payable to Eye Research Australia Foundation

OR Please debit my:

Visa  American Express  Mastercard

Card Number:

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Expiry Date: \_\_\_\_/\_\_\_\_

Cardholder Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Birthdate \_\_\_\_/\_\_\_\_/\_\_\_\_ *Donations over \$2 are tax deductible*

Title \_\_\_\_\_ First name \_\_\_\_\_

Last name \_\_\_\_\_

Address \_\_\_\_\_

State \_\_\_\_\_ Postcode \_\_\_\_\_

Phone \_\_\_\_\_

- I am interested in receiving the CERA email newsletter  
My email address is:
- I am interested in learning more about bequests
- I am interested in attending an information session on bequests