



ANNUAL REPORT DECEMBER 2015



QUEENSLAND
eye
INSTITUTE
CLARITY FOR LIFE

QUEENSLAND EYE INSTITUTE FOUNDATION



**QUEENSLAND EYE INSTITUTE
FOUNDATION**

Formerly the Prevent Blindness Foundation

ABN 37 009 737 384



Contents

Our Purpose	3
Our Vision	4
Our History	5
Our Board of Directors	6
Chairman & CEO's Report	7
Education	11
Research	12
Publications	12
Clinical Care	13
South Bank Day Hospital	14
Patient Stories	15
A Year of Celebrations	17
Prof. Traian Chirila	18
NHMRC Success	19
Our Ambassadors	20
Our Team	21
Thank You to Our Supporters	23
Financial Snapshot	24

Our purpose

Our mission is to provide excellence in research, education and clinical care to reduce eye disease, improve eye health, and ultimately eliminate preventable blindness in the community.

We will achieve this aim through:

1. Our dedication to basic, applied and clinical research;
2. Teaching and education programmes to students, registrars, fellows, eye care workers and the general community; and
3. The provision of specialist clinical services to both patients and other health care workers.



Our vision

Our vision is that our Institute will be internationally recognised for its efforts in research, education and clinical care to reduce eye disease and promote eye health in the community.



Our history in brief

1965

The *Australian Foundation for the Prevention of Blindness (Queensland Division)* was incorporated. The goal of the Foundation was the same as it is today - to prevent blindness and preserve sight. Dr. John Ohlrich was the driving force in establishing the Foundation and provided strong leadership and guidance for many years.

1986

Under the auspices of the *Foundation*, and with the generous financial assistance of supporters such as: Mr. Charles Viertel OBE, Optical Prescription Spectacle Makers, the Royal Australian College of Ophthalmologists, Lions International, and Perpetual Trustees, the University of Queensland Chair of Ophthalmology was established at the Princess Alexandra Hospital. In the same year, Professor Lawrence Hirst was appointed Chairman and Executive Director of the Foundation.

1991

The name of the Foundation was changed to the *Prevent Blindness Foundation (PBF)*.

1992

Under the guidance of Prof. Hirst, the *Queensland Eye Bank* was opened at the Princess Alexandra Hospital. This world class Eye Bank has provided thousands of corneas to patients who have lost their sight.

2002

Mr. Des Hancock was appointed Chairman of PBF. Fundraising began in earnest to build an academic eye institute for Queensland.

2005

After many years of hard work and determined effort, *The Queensland Eye Institute (QEI)* at the Mater Hospital, 41 Annerley Road, South Brisbane was officially opened on 30th June by the Queensland Minister for Health, with Prof. Lawrence Hirst as its first Chief Executive Officer. This was the realisation of a dream shared by many people.

2010

Prof. Lawrence Hirst relinquished his role as CEO to concentrate on his clinical work. In his place, Dr. Mark Radford was appointed as the new CEO of the PBF and QEI.

2011

Mr. Des Hancock retired as Chairman of the PBF after over 10 years of service, with nine of those years as Chairman. Mr. Mark Sheridan replaced Mr. Hancock as the new Chairman.

2013

In June, the Sylvia & Charles Viertel Charitable Foundation awarded PBF a special grant to redevelop a building at 140 Melbourne Street, South Brisbane to be the future home for the Institute as well as the establishment of a day hospital facility. Design and construction activities follow shortly afterwards.

December PBF legal names changes to Queensland Eye Institute Foundation, and the Institute moves to new premises at 140 Melbourne Street, South Brisbane.

2014

January QEI Clinic opens at new premises located at 140 Melbourne Street, South Brisbane.

February QEIF acquires Dr. Denis Stark's Visual Electro-Diagnostic Clinic, which is renamed Queensland Electro-Diagnostic and Imaging Centre. The clinic is to be integrated with both clinical and research activities.

On June 3, QEI and SBDH at 140 Melbourne Street, South Brisbane are officially opened by Her Excellency Ms. Penelope Wensley AC, Governor of Queensland.

2015

December 15 – QEI Foundation celebrated its 50th Anniversary, while the Institute itself celebrated its 10th Anniversary.

Today

The Institute is located at 140 Melbourne Street, South Brisbane and houses the clinical rooms, electro-diagnostic centre, laboratories, medical library, microsurgical teaching laboratory, auditorium, day hospital and the administration offices of the *Queensland Eye Institute Foundation*. The Institute currently has over 45 staff, including eight specialist ophthalmologists and three senior scientists. This state-of-the-art facility is the result of the efforts of many people who had a vision for Queensland, in particular the *Sylvia & Charles Viertel Charitable Foundation*.

Our Board of Directors

Mr. Mark Sheridan
Chairman



Mark Sheridan is Managing Partner with leading Chartered Accountants Hanrick Curran in Brisbane. He has a Bachelor of Commerce (Honours) and is a Fellow of the Institute of Chartered Accountants in Australia. He is also a Member of the Australian Institute of Company Directors and the Australian Institute of Management. Mark was appointed a Director of the Foundation in 2003, and Chairman of the Foundation in April 2011.

Professor Mark Radford
Executive Director & CEO



Mark Radford was appointed as Chief Executive Officer for the Foundation and the Queensland Eye Institute in March 2010, and Executive Director in July 2010. He has a Doctor of Medicine from Nagasaki University in Japan, and a Ph.D. from the Flinders University of South Australia. Mark is a Fellow of both the Australian Institute of Company Directors and the Australian Institute of Management.

Ms. Kylie Blucher
Director



Kylie Blucher, Managing Director of Nine, Queensland joined the Foundation Board in July 2013. Kylie brings an extensive knowledge of both the corporate and media industries, after more than 25 years working with the Austereo Radio Network and the Nine Network.

Judge Anthony Rafter
Director



Anthony Rafter is currently a District Court Judge in Queensland. He was admitted as a Barrister of the Supreme Court of Queensland in 1985, and then Senior Counsel in 2003. Prior to joining the Foundation Board in June 2012, Anthony was the Chairperson for the Nursing Tribunal and a Board Member of Legal Aid Queensland.

Mr. Brett Greensill
Director



Brett Greensill is one of real estate's most successful and award winning agents, and Principal of his own business, LJ Hooker New Farm. He has over 10 years experience in the property industry and public sector experience prior to that. Brett joined the Foundation Board in August 2008. Brett resigned from the Board on 7 July 2015.

Ms. Samantha Wilkinson
Director & Company Secretary



Samantha Wilkinson is a graduate of the Australian Institute of Company Directors and has post graduate qualifications in business and marketing from Queensland University of Technology. She was director of Allied Timber Products. Samantha joined the Foundation Board in 2009, and became Company Secretary in 2011. Samantha resigned from the Board on 2 June 2015.

Ms. Catherine O'Sullivan
Director



Catherine O'Sullivan is Pro Vice-Chancellor, Pathways and Partnerships at Bond University where she is responsible for driving expansion of the University's engagement with business, community and industry groups across Australia and internationally. She has had an exceptional career in senior management in education and government, including as the QLD State Manager, Department of Education, Employment and Workplace Relations (DEEWR).

Catherine has also held roles as Assistant Director General, Department of Primary Industries; Executive Director of Schools, Toowoomba and the first female Principal at Goondiwindi State High School. She was QLD Telstra Business Woman of the Year 2002, QLD Telstra Business Woman of the Year – Community and Government 2002, and won a Churchill Fellowship. Catherine joined the Board in August 2014. Catherine resigned from the Board on 18 December 2015.

Ms. Kelly Langdon
Company Secretary



Kelly Langdon has been associated with the Queensland Eye Institute since 2004 in a General Management consulting capacity. Kelly's qualifications included a Bachelor of Human Resource Management and Economics. Kelly enjoys the variety and scope of working with the Queensland Eye Institute; it provides the opportunity to bring commercial business to the not for profit sector Kelly was appointed by the Board on 27th July 2015.

Chairman and CEO report

Welcome

Welcome to the Queensland Eye Institute Foundation's Annual Report for 2015.

2015 was an important year in the history of the Foundation. It was the year in which we celebrated the 50th anniversary of the Foundation. It was also the year we celebrated 10 years of the Queensland Eye Institute. Please see the description of the anniversary celebration later in this report.

In 1965, under the guidance of Dr. John Ohlrich, the Australian Foundation for the Prevention of Blindness (Queensland Division) was incorporated, with the goal to prevent blindness and preserve sight. In 1991, the name of the Foundation was changed to the Prevent Blindness Foundation (PBF), and in 2003 it was changed again to the Queensland Eye Institute Foundation.

In 2005, after many years of hard work and determined effort, The Queensland Eye Institute (QEI) at the Mater Hospital was officially opened on 30th June by the Queensland Minister for Health. In 2014, with the generous support of the Sylvia & Charles Viertel Charitable Foundation, the Institute is officially opened by Her Excellency Ms. Penelope Wensley AC, Governor of Queensland at its new premises at 140 Melbourne Street, South Brisbane.

As we stated in the 2014 Annual Report, it is humbling to look back on the now 50-year history of the Queensland Eye Institute Foundation and what we have achieved in that time. Over more than 50 years, the driving force behind everything we do is our relentless pursuit of ways to prevent blindness and preserve sight.

Continued...



The Board

The success of the Foundation would not be possible without the leadership of an extremely focused Board. Our Board of Directors has provided significant support for the Foundation, and we thank them all for the contribution of their time and commitment and also their imagination and passion for our work.

In 2015 we saw the resignations of three Directors – Brett Greensill joined the Board in 2008, followed shortly by Samantha Wilkinson in 2009 and Catherine O’Sullivan in August 2014. During their tenure Brett, Samantha and Catherine oversaw significant growth in the Institute and were part of the process that brought us to where we are today. We are grateful for their advice, effort and support during their years of service to the Foundation.

Medical Research

Medical research continued to occupy the national agenda in 2015. The Commonwealth Government announced the formation of the Medical Research Future Fund in 2015 to help fund medical research in Australia. The fund is expected to reach \$20 billion by 2020. As an endowment fund, this capital will be protected in perpetuity, and earnings from investing this capital will be allocated to health and medical research and medical innovation. By the end of 2015, there was \$3.1 billion in the fund.

Our researchers, led by our chief scientist, Professor Traian Chirila, and our senior scientists, Associate Professor Damien Harkin and Associate Professor Nigel Barnett have been successful in a number of their grant applications, but most of their research is supported by the generous donations of our donors. In 2015, our research themes centred around Clinical research, Clinical Trials and Investigative Research (Tissue Engineering and Regenerative Ophthalmology, Ophthalmic Biomaterials, Visual Neuroscience). For more details, see the research report in the following pages. We have continued to build our national and international research collaborations (*as per the table over leaf*).

Continued...

2015 National and International Research Collaborations

NATIONAL



Queensland University of Technology
(Brisbane)



Institute of Health and Biomedical
Innovation, Queensland University of
Technology (Brisbane)



The University of Queensland



Ian Wark Research Institute,
University of South Australia (Adelaide)



The University of Western Australia (Perth)



Centre for Eye Research Australia
(Melbourne)



Lions Eye Institute
(Perth)



Australian Institute for
Bioengineering and Nanotechnology,
The University of Queensland (Brisbane)

INTERNATIONAL



Doshisha University (Kyoto, Japan)



Gunze KK (Kyoto, Japan)



Polytech Marseille/Aix Marseille Université
(Marseille, France)



GSI Helmholtz Centre for Heavy Ion
Research (Darmstadt, Germany)



Technical University of Dresden,
Faculty of Medicine (Dresden, Germany)

UNIVERSITY OF TWENTE.

University of Twente, MIRA Institute,
Enschede, (The Netherlands)



University of Rochester Medical Center
(New York, USA)



University of Würzburg, Department of
Functional Materials in Medicine and
Dentistry (Würzburg, Germany)

During the year, we again were represented at local, national and international research meetings, and our publication output continues to strengthen with 15 publications in 2015.

Education

Our education programmes continue to increase in popularity. Our Director of Education, Dr. Brendan Cronin, coordinates our teaching programme to medical students from The University of Queensland, optometry students from the Queensland University of Technology, and registrars. Our Grand Rounds programme continues to be well attended by students and consultants alike.

In 2015, we hosted research students from Polytech Marseille (AIX Marseille Université) France and Twente University in The Netherlands. In conjunction with Heart Reach Australia, we once again hosted a young Vietnamese Ophthalmologist.

Continued...



Finance

The 2015 accounts have been prepared by Hanrick Curran and audited by BDO Queensland. We acknowledge their help in ensuring our financial statements are always in good shape. The 2015 financial results are summarised at the end of this report.

Finally

As we complete 50 years for the Foundation and 10 years for the Institute, we would like to express our sincere thanks for the hard work of all our staff – past and present. We are proud of our team, as every one of them strives hard to improve the eye health of Queenslanders, Australians and the rest of the world. In particular we would like to acknowledge, Ms Kelly Langdon (our Chief Operating Office), Ms. Anna Blake (our Clinical Services Manager), Ms. Leith Macmillan (Our Hospital Manager), Ms. Jane Dodds (our Community Liaison Coordinator) and Ms. Carmel Johnston (Executive Assistant) for their dedication, commitment and uncompromising hard work.

As always, we acknowledge the support of the Sylvia and Charles Viertel Foundation, its Chairman Mr. George Curphey and his fellow trustees for their continued support.

We thank all our donors, ambassadors, volunteers, and sponsors for their generous support of our work. Without this support, the Queensland Eye Institute simply would not exist.

As we enter 2016, we do so with confidence and excitement.

Thank you,

Mark Sheridan
Chairman

Mark Radford
Executive Director and CEO



Education – Dr. Brendan Cronin

2015 saw the commencement of four more wet labs at QEI. With improved access for registrars after hours, the wetlab has been a fabulous resource, particularly for the current cohort of training registrars.

There are currently four female registrars who have been working either part-time or on maternity leave and who have been at risk of losing some of their surgical skills. These four women in particular have taken great advantage of the new wet lab and have found it an invaluable resource.

Tissue availability has been excellent through a new business where we have been able to order tissue for wet labs online. Dr. Tai Smith conducted a wet lab where the entire orbit was able to be ordered through this web site and this was the first time an oculoplastic workshop has been able to be performed at the QEI wet lab. The wet lab was very well received by the registrars.

Unfortunately, the Queensland Eye Bank has not been as helpful with the availability of tissue. Once-upon-a-time we were able to obtain research grade quality tissue to teach the registrars lamellar corneal surgery. The current director of the Queensland Eye Bank no longer supports this as a method of training, however it is my understanding that other Eye Banks in Australia do. We will continue to rally against the current Eye Bank's policy on this but alternative access to such tissue may potentially have been found as the Eye Banks from other States are happy to help us out.

Our optometry nights were extremely successful in 2015 with four events with approximately 100 attendees per night. These events have really become the premier optometry teaching events in Brisbane now with more different attendees at the four events than currently attending much larger all weekend conferences run by the Board of Optometry.

Grand Rounds have also been a particular success. The ability of remote ophthalmologists and training registrars to dial in to a high quality video and audio feed has made a huge difference to the access that these people have to the high quality teaching at Grand Rounds. This makes the auditorium a fabulous resource and a huge benefit to ophthalmologists throughout the state.

Todd Goodwin undertook a Clinical Retinal Fellowship with us for a period of 12 months under the supervision of A/Prof Anthony Kwan. He also observed in Dr Tai Smith's clinics and observed and assisted in retinal and oculoplastic surgeries in the South Bank Day Hospital. Todd had additional opportunity to pursue clinical and laboratory research, which we considered an essential part of the training.

Other conferences such as the National Orthoptics Conference have also been held in the auditorium this year and this makes conferences that would otherwise be financially unviable for such specialties, a possibility. I know our assistance with their conference is greatly appreciated.

We look forward to an even better year in 2016.

Research

– Professor Traian Chirila

Throughout the year, our scientists in the laboratories located on Level 3 have continued and extended their activity on four established major themes.

Work has been carried out for enhancing the quality of silk-based scaffolds in order to enable the tissue-engineering of biomaterial/cell constructs. Such constructs are essential for the cellular therapies developed in our laboratories and explored as strategies to treat ocular surface disorders, for corneal endothelial regeneration, and for retinal cell transplantation. Combinations of silk proteins and other biopolymers have been investigated as substrates for growing retinal pigment epithelial cells with a view to implant them in cases of retinal degeneration. Our scientists in the cellular therapies group developed an animal model for limbal stem cell deficiency that may assure a superior performance when compared to the reported standard techniques. Work is ongoing on this project that was funded by the National Health & Medical Research Council (NH&MRC) of Australia. Work has also continued on investigating the processes leading to disease of the light-sensitive retina and the optic nerve. Attention was focused on an effective treatment for glaucoma based on novel antioxidative strategies, which include the use of a novel antioxidant and the use of a sericin, a silk protein that has been extensively studied by our biomaterials group. This year, the topic of ophthalmic immunotherapies has commenced as a new research theme, under the guidance of Dr. Allison Sutherland and Dr. Brendan Cronin. Their attention will be focused primarily on developing a stem-cell strategy to modulate the immune system in autoimmune conditions of the eye.

Our scientists have participated extensively in grant-seeking activities, with no less than seven applications for NH&MRC alone. We were successful with the project "Cultivated corneal endothelial cell implants for restoring vision", a collaboration involving QUT, QEI, CERA and University of Melbourne, that will assure for the next three years a full salary for one scientist. Collaborative research on various projects continued with other organizations including: GSI Helmholtz Centre for Heavy Ion Research, Darmstadt, Germany; University of Marseille, France; Doshisha University in Kyoto, Japan; Gunze Co., Kyoto, Japan; National Institute for Agrobiological Sciences, Tsukuba, Japan; Twente University, Enschede, The Netherlands; Queensland University of Technology, University of Queensland, University of Western Australia, and University of Adelaide. A new collaborative program has also commenced with Würzburg University, Germany. During the year, our scientists published 9 articles or chapters in scientific publications (plus 7 submitted manuscripts), and participated at national and international conferences with 8 presentations. We had three overseas internship students, from France and The Netherlands, who carried out their activity under Dr. Suzuki's supervision.

List of publications

1. Gillies PJ, Bray LJ, Richardson NA, Chirila TV and Harkin DG: Isolation of microvascular endothelial cells from cadaveric corneal limbus. *Exp. Eye Res.* 131 (2015) 20-8.
2. Suzuki S, Dawson RA, Chirila TV, Shadforth AMA, Hogerheyde TA, Edwards GA and Harkin DG: Treatment of silk fibroin with poly(ethylene glycol) for the enhancement of corneal epithelial growth. *J. Funct. Biomater.* 6 (2015) 345-66.
3. Shadforth AMA, Suzuki S, Alzonze R, Edwards GA, Richardson NA, Chirila TV and Harkin DG: Incorporation of human recombinant tropoelastin into silk fibroin membranes with the view to repairing Bruch's membrane. *J. Funct. Biomater.* 6 (2015) 946-62.
4. Harkin DG, Foyn L, Bray LJ, Sutherland AJ, Li FJ and Cronin BG: Can mesenchymal stromal cells differentiate into corneal cells? A systematic review of published data. *Stem Cells* 33 (2015) 785-91.
5. Hu Y, Yamashita K, Tabayashi N, Yoshikawa Y, Abe T, Hayata Y, Hirose T, Hiraga S, Suzuki S, Ikada Y and Taniguchi S: Gelatin sealing sheet for arterial hemostasis and anti-adhesion in cardiovascular surgery: a dog model study. *Bio-Med. Mater. Eng.* 25 (2015) 157-68.
6. Yamashita K, Suzuki S, Tabayashi N, Abe T, Hayata Y, Hirose T, Hiraga S, Niwa K, Fukuba R, Takeda M, Ikada Y and Taniguchi S: Experimental use of crosslinked gelatin glue for arterial hemostasis in cardiovascular surgery. *Bio-Med. Mater. Eng.* 25 (2015) 361-70.
7. Sutherland AJ and others: A molecular host response assay to discriminate between sepsis and infection-negative systemic inflammation in critically ill patients: Discovery and validation in independent cohorts. *PLOS Med.* 12: e1001916 (35 pages) [DOI: 10.1371/journal.pmed.1001916].
8. Rayner CL, Bottle SE, Gole GA, Ward MS and Barnett NL: Real-time quantification of oxidative stress and the protective effect of nitroxide antioxidants. *Neurochem. Int.* 92 (2016) 1-12 (appeared 2015).
9. Shadforth AMA, Suzuki S, Theodoropoulos C, Richardson NA, Chirila TV and Harkin DG: A Bruch's membrane substitute fabricated from silk fibroin supports the function of retinal pigment epithelial cells in vitro. *J. Tissue Eng. Regen. Med.* DOI: 10.1002/term.2089 (advanced publication 2015).
10. Chiang M: Overview of micro-invasive glaucoma surgery. *Pharma* 2015 (March) 31-2.
11. Cronin BG: Cataract surgery and glaucoma. *Pharma* 2015 (March) 19.
12. Liang YB, Wang NL, Rong SS and Thomas R: Initial treatment for primary angle-closure glaucoma in China. *J. Glaucoma* 24 (2015) 469-73.
13. Nugent R, Lee L and Kwan A: Photodynamic therapy for diffuse choroidal hemangioma in a child with Sturge-Weber syndrome. *J. AAPOS* 19 (2015) 181-3.
14. Thomas R, Mengersen K, Thomas A and Walland MJ: Looking deeper than (just) below the surface. *Clin. Experiment. Ophthalmol.* 43 (2015) 492-3.
15. Zhang S, Wang B, Xie Y, Zhu S, Thomas R, Qing G, Zhang C and Wang N: Retinotopic changes in the grey matter volume and cerebral blood flow in the primary visual cortex of patients with primary open angle glaucoma. *Invest. Ophthalmol. Vis. Sci.* (2015) accepted.



Clinical Care – Anna Blake

I am pleased to report that 2015 has been a very successful year for the Queensland Eye Institute Clinic. There have been some major achievements and improvements in process as we complete our second year in our wonderful new rooms.

During this year we have continued to focus on excellence in patient care. In addition to welcoming new doctors and extra clinics this year we have also co-ordinated public outpatient appointments under the Surgery Connect program.

Co-ordinating this project has proven to be very rewarding as we have been able to efficiently triage, assess and treat many public patients. In collaboration with South Bank Day Hospital the QEI clinic has been commended by Queensland Health for the part we have played in this successful program.

We have continued to work on ways to better increase communication with our patients. This has included sending text message reminders for upcoming appointments. Patients can respond to the message sent with the details coming directly into our system next to the relevant appointment. We are also sending new patient letters to our patients via email. This reduces previous time delays that were being experienced with the post and has helped to reduce our costs.

Education has continued to be a top priority. This has included hosting the RANZCO Grand Rounds and the Optometrist Grand Rounds. We have continued to host Optometry and medical student placements throughout the year. We have also conducted staff training sessions to ensure our staff are continuing to learn and develop their skills. This has included inviting Specialists to staff meetings to present on their specialty areas.

The Electro-Diagnostic unit has continued to work in collaboration with Dr. Rowan Porter and the Genetics Clinic being run at Queensland Eye Institute. We have also streamlined the booking process having our lead scientist review all referrals prior to quoting. If there are any issues with the tests that have been requested we can contact the referring provider prior to quoting fees, eliminating unnecessary costs and improving the patient experience.

In summary, 2015 has seen some major growth for the Queensland Eye Institute Clinic. The systems that have been put into place will give us a great start for the new year ahead.



South Bank Day Hospital

– Leith MacMillan

A key element of our strategic plan for the hospital was to attract new surgeons and specialities to the facility during the 2015 year. The results have been promising and we are pleased to have grown our surgeons numbers from 13 to 19. Our specialities now include Ophthalmic, Maxillio Facial, MOHS and Plastics.

In addition to the attraction of the new surgeons we were successful in obtaining a contract with Surgery Connect to assist with the treatment of patients' waitlisted with the public hospital service for Ophthalmic treatments in Queensland. We were able to assist 177 patients in the program.

To ensure quality outcomes for our patients and surgeons we have invested considerable resources into our training and development plan for our clinical and administrative employees. We value feedback from our patients and their carers, we continue to promote our Consumer Focus Group to the community and regularly receive valuable feedback to improve our processes.

As an accredited hospital, each year we are required to undertake an extensive audit of our practices, policies and systems. The audit was conducted by Global Mark in October 2015 that measured our compliance with ISO: 9001 and the NSQHS standards. We received positive results from the audit.

We are pleased to share some of our patient feedback. We are proud of our achievements this year and look forward to the 2016 year.

Our Patients

Nineteen-year-old **Alexandra** is like any other young woman.

Unlike many others her age, Alexandra has a rare eye condition, which she's had since birth.

I recently heard about a new patient, Alexandra, who is being treated by glaucoma specialist, Dr Mark Chiang, at the Queensland Eye Institute. Alexandra's condition and treatment is complex but her story transcends the meaning of Christmas, and made me consider the importance of the work we do – it's a story of hope and what the future holds for us.

Alexandra was born with congenital glaucoma. This is a rare condition caused by the incorrect development of the eye's drainage system during pregnancy. It leads to increased intraocular pressure, and results in damage to the optic nerve.

Alexandra's mother, Fiona, explained that there were no complications or tell tale signs that something might be wrong before she was born and her pregnancy progressed normally.

During the birth, Alexandra became distressed because the umbilical cord was wrapped around her neck.

When she was born, Alexandra didn't open her eyes but, as she wasn't breathing either, the main concern at the time was the lack of oxygen. Fiona recalls it like it was yesterday.

"I was very stressed and panicked because I didn't know what was going on. Her eyes looked big like large marbles."

"I remember that there was a team of people looking at her and one of the nurses told me not to panic and that her eyes were just swollen because of the complicated labour."

As the days passed, specialists could not pinpoint the cause of Alexandra's eye condition and her parents grew increasingly worried. As soon as she was able to open her eyes a few days later, it became evident that there was something seriously wrong with her sight.

"They were all blue, totally blue."

A team of specialists was baffled by the nature of her eye condition.

When Fiona was eventually discharged from the hospital, she noticed, within a week of bringing little Alexandra home, that her eyes started to go red and they looked as if they were getting bigger.

Trusting her maternal instincts, Fiona immediately got in touch with a Brisbane ophthalmologist for a second opinion. He diagnosed the condition as congenital glaucoma and instantly put her in touch with paediatric ophthalmologist Professor Glen Gole.

"He told me there was a real concern Ally was going to lose her sight. The pressures in her eyes were extreme at 55 and 35. I was told at the time; if it had been any longer her eyes would have perforated."

Within five days, Alexandra was undergoing emergency surgery on her eyes at just two weeks old.

After more than 60 examinations under anaesthetic in her first year Alexandra's pressures continued to fluctuate. Thankfully, today Alexandra's glaucoma is now stabilised. However, her treatment will be ongoing for the rest of her life to ensure any remaining vision is not lost.

Sadly, Alexandra's story does not end there. She was also diagnosed with Aniridia, which is the absence of the iris and lost the vision in her left eye after a complete retinal detachment.

Alexandra's remaining vision is in her right eye, which has regrettably developed a cataract and is not eligible for a corneal transplant due to the high risk of failure.

The next hurdle

It remains a very complex situation to manage Alexandra's vision as one condition and treatment option may impact the other. Dr Chiang at the Queensland Eye Institute and our medical researchers are working hard to

see if they can ensure Alexandra preserves as much vision as possible for her entire life.

Despite these complex conditions and setbacks, Alexandra can see colours and shapes as if she is looking through a frosted glass window. It is now up to Dr Chiang and our scientists to ensure this is not lost.

Alexandra dreams of one day being a ride operator at an amusement park and has a special talent for creating artworks and clay models of amusement rides. She has finished school and is now completing independent living classes.

For Fiona it can sometimes become overwhelming as she lives everyday with the possibility that her daughter may go completely blind.

"She is only 19, how is she going to be ten years from now? I know we are never going to bring back her lost vision but we surely can ensure that the sight she currently has is preserved."

The bright future ahead through medical research

Seeing the effect vision loss has on patients and their families is what inspires our medical researchers to develop new treatments that will help not only Alexandra, but thousands of people who are at risk of losing their sight.

Associate Professor Damien Harkin has been working in the field of stem cell research for 20 years and believes that we are on the right path to developing a therapy which could one day help patients like Alexandra.

"In Alexandra's case, a donor transplant has a high risk of failure due in part to her immune system rejecting the donor tissue," Associate Professor Harkin said.

"Our goal is to use stromal stem cells to suppress the local tissue immune response so that the donor tissue is not as easily rejected and so will have a greater chance of surviving and supporting patient vision for longer."

Stromal stem cells were originally isolated from bone marrow and have since been found in numerous other tissues including fat tissue. The novelty of our stromal stem cells is that they have been isolated from the periphery of donated human corneas.

Stromal stem cells from other tissues typically display a range of useful immunological properties and so far this seems also true for corneal stromal stem cells.

"Given Alexandra's age and the success of our stromal stem cell research, it's not out of the question that she could one day successfully receive a donor corneal transplant to preserve the eye-sight that remains."

"If they were going to one day perform a transplant, we need to be sure that she could be expected to obtain the same results as anyone with a regular cornea transplant and that's what we are working on."

Low risk patients should also benefit from this technology by retaining their transplants for longer, not just high-risk patients like Alexandra.

"We have the potential to do these things but a lot of it comes down to funding."

Alexandra and her family are very excited by what is underway and are urging everyone they know to get behind Dr Harkin's research.

"It gives you hope and hope can be very powerful. That is why we chose 'Hope' as Alexandra's middle name. Hope is what this family is wishing for this Christmas," Fiona said.



Our Patients

Gloria's Story

One of the saddest things in my life was losing my mother.

She died from heart disease when she was a relatively young woman. I remember as if it was yesterday, sitting across from the Doctor with my Dad, and hearing the words "I'm sorry but there is nothing we can do".

My name is Gloria Perkins. I first met Professor Lawrie Hirst at the Princess Alexandra Hospital when he was the Lions Professor of Ophthalmology. At the time, my condition was described as Ocular Hypertension, which developed into Glaucoma.

I had been a long time patient of Professor Hirst when his dream of the Queensland Eye Institute became a reality. Prof Hirst asked me if I would be interested in working as the Community Relations Officer for the Institute.

My husband had not long passed and I viewed the new opportunity as a blessing as it allowed me to be able to do something I felt would not only assist me but would also help future generations.

This role provided me with the privilege to meet many of you, who are equally as passionate about eye health as I am. I have enjoyed getting to know so many of you over the years and I miss my visits and conversations since retiring.

As I am getting older I realise even more now, the vital importance of vision research.

I learnt at a young age the importance of research. Like you, I don't want to be told "there is nothing we can do" such as when my mother was diagnosed with her heart condition. Heart disease is no longer a fatal condition due to the considerable advancement in research and treatment. This could have saved my dearly loved mother's life. Eye disease is the new threat to our community, affecting as many people as heart disease and is often a forgotten area for funding and support.

Whenever I think of research, I realise how it has made an enormous difference to medical treatments and cures today. It is life changing.

My glaucoma has reached the stage where I have to prove that my sight and health remains good enough to drive.

One of the scariest things for me over the last fortnight is that my driver's licence was up for renewal and for the first time in my life it was not just a case of a new photo, pay the money, and receive a licence for 5 years. I literally fell apart with the dark thoughts of not being able to drive and I know so many of you feel exactly the same way. For me, my drivers' licence is the last bastion of independence, and, although it was renewed, there will come a time when this won't happen and it feels almost like the end of the world.

Professor Ravi Thomas, one of the ophthalmologists at the Queensland Eye Institute, sits on the Board of the World Glaucoma Association.

Professor Thomas has treated me for many years. Although I use medication to control the pressure in my eye, I am so thankful that his care, and today's treatment is keeping me seeing well. Without this, I don't know what I would do.



I am aware of the on-going progress in the treatment of glaucoma, which is making incredible headway at the Queensland Eye Institute. I also care passionately about all other eye diseases.

I have children and grandchildren and I want them to enjoy wonderful vision for life.

Vision researchers' innovations are key to developing new processes and technologies. Did you see on the news the elderly gentleman who was fitted with a Bionic Eye? He had very little sight left because of advanced Age-related Macular Degeneration. This almost seems like science fiction but it is not because of the research that has been developing over many years as a result of funds raised to progress the concept.

You would be forgiven for thinking that, in the future, treatments and even cures, will be available to preserve eyesight for life, is nothing more than a pipe dream. That's what people said about the bionic eye!

We may not have the millions to give but collectively we can give millions.

A Year of Celebrations



50 Years of the Foundation and 10 Years of the Institute

The end of 2015 saw the successful culmination of the first 50 years of the Queensland Eye Institute Foundation, and 10 years for the Queensland Eye Institute (QEI) itself; an achievement celebrated at their anniversary event in October last year attended by many past and current staff, dignitaries and long-time supporters. Those present included past Executive Director, Prof. Lawrence Hirst and the Honourable Jacklyn (Jacqui) Trad, Member for South Brisbane and Deputy Premier of Qld.

This milestone, for any business or educational institution cannot be undervalued. To survive for 50 years demonstrates clear success at a board, management and operational level. In a world where medical research is suffering from the constraints of funding, QEI's significant contribution to helping prevent blindness and vision difficulties to the people of Queensland is essential. Its academic reputation is firmly established under the guidance of Chief Scientist, Professor Traian Chirila, who last year received the highest academic honour within his home country of Romania, the Doctor Honoris Causa. Prof Chirila, QEI's chief scientist has two inventions in current clinical practise, the AlphaCor™ artificial cornea, and the AlphaSphere™ orbital implant. The QEI has attracted new scientists and clinicians, trained at some of the best universities in the world, who are collaborating extensively with the finest vision researchers on cutting edge science, including stem cell transplantation and unique bioengineered neuroprotective strategies.

QEI is cognisant that its current stability is built on strong foundations; past Board members, supporters and management have enabled the institute to become established and have developed the roots that allowed recent growth to occur. In particular, the Foundation has been extremely fortunate to have the guidance and foresight of ophthalmologists such as Dr. John Ohlrich and Professor Lawrie Hirst, as well as others such as Mr. Charles Viertel, and more recently Mr. Des Hancock, Mr. George Curphey and the trustees of the Sylvia & Charles Viertel Charitable Foundation.

Today, the current Board and Executive Director, Professor Mark Radford, have a clear vision for the future. The Queensland Eye Institute is now settled within new facilities, in custom-built offices with state of the art teaching and laboratory facilities, in the heart of thriving South Brisbane. Being an independent academic institution allows the QEI the freedom to pursue research directions often difficult in larger organisations.

The clinical care being provided by QEI to the community is, arguably, the best in the world. Many Queenslanders are already grateful for the treatment they receive; many more will be in the future as the aging population and stresses imposed by our sunny climate continue to damage the eyes of the population. Professor Radford and his team, including COO Ms. Kelly Langdon, should feel extremely proud of providing a world-class research, clinical care and teaching facility through the QEI.



Professor Traian Chirila

QEI Chief Scientist, Professor Traian Chirila, receives Romania's highest award for academic success, Doctor Honoris Causa.

There are two quotes from the legendary art patron, social thinker and philanthropist, John Ruskin that aptly apply to the Queensland Eye Institute's Chief Scientist: *"Quality is never an accident; it is always the result of intelligent effort"* and *"The highest reward for man's toil is not what he gets for it, but what he becomes by it."*

It was heartening in October 2015 that the scientific excellence, integrity and achievements demonstrated by Prof Chirila were honoured by his homeland when he was awarded their highest academic accolade. Professor Mark Radford accompanied Professor Chirila as he flew to the Politehnica University of Timisoara in Romania on the 1st of October, 2015 to proudly accept the award.

Professor Chirila was born on the 14th of February in Arad, Romania. He spent his childhood in Chisnueu Cris, Arad County, where he graduated from school in 1966. In 1972 he graduated with a Bachelor of Chemical Engineering from the Faculty of Industrial Chemistry in Timisoara, specializing in the technology of macromolecular compounds. In 1981 he was awarded a PhD in chemical sciences by the same faculty. Choosing to specialize in polymer processing he relocated to Libya, North Africa. He then sought political asylum in Austria in 1982 where he waited, one can imagine somewhat nervously, for seven months until Australia accepted him as a political refugee. He was relocated to Perth, Western Australia, where he worked for 22 years before joining the Queensland Eye Institute as Chief Scientist.

Whilst working in Perth, at the Lions Eye Institute, Prof. Chirila established a Department of Research and Development of Polymeric Biomaterials for Applications in Ophthalmology, the first of its kind in the world. He became a fellow of the Royal Australian Institute of Chemistry (RACI) in 1992 and he was awarded the RACI Polymer Division Citation in 1993 and the RACI Applied Research Medal in 1999. He was offered and accepted honorary professional appointments at the University of Western Australia (1992-2005) and also at Curtin University of Technology (1999-2006).

Professor Chirila currently has two inventions in clinical practise, the AlphaCor™ artificial cornea, and the AlphaSphere™ orbital implant. As well as holding the position of Chief Scientist at the Queensland Eye Institute he also holds Honorary Professorships at both the University of Queensland (Faculty of Medicine and Biomedical Sciences; Australian Institute for Bioengineering and Nanotechnology) and at the Queensland University of Technology.

The ceremony in Romania was a tribute to this exceptional research scientist who has encountered many obstacles in his path to international success, and, although both quotes adequately reflect QEI's Chief Scientist, it is the latter that best describes Professor Traian Chirila, who has become one of the brightest stars in the field of vision research.



NHMRC Funding Success

Queensland Eye Institute Celebrates the Success of 2016 NHMRC Award Recipients

Of 3,758 research project grants submitted to the National Health and Medical Research Council (NHMRC) in Australia in 2015 (for funding in 2016) only 516 (13.7%) were funded. The project grants are the main government grants that support new research projects and fund their costs. Two successful NHMRC projects included senior researchers from the Queensland Eye Institute (QEI), Chief Scientist, Professor Traian Chirila, Associate Professor Damien Harkin, Associate Professor Anthony Kwan and Associate Professor Nigel Barnett. This is even more impressive when you consider that less than 2% of competitive funding provided by the NHMRC was awarded to vision-related research.

It thus goes without saying that the Queensland Eye Institute could not be more proud to be the home of such successful Australian research scientists.

So what is this vital research being undertaken at QEI?

Associate Professor Damien Harkin and Prof Chirila are lead Chief Investigator and Chief Investigator, respectively, on a grant in collaboration with the Queensland University of Technology, entitled 'Cultivated corneal endothelial cell implants for restoring vision', and were awarded \$886,032 in competitive funding. This research continues the important work A/Prof Harkin has developed in collaboration with local surgeons at the Queensland Eye Institute to repair the ocular surface of the eye for patients suffering from severe corneal injuries. Prof Chirila, A/Prof Harkin and colleagues have recently commenced clinical applications of this work.

The second project, with Lead Chief Investigator, Prof. Chen of The University of Queensland includes A/Prof Anthony Kwan and A/Prof Nigel Barnett on an inaugural international collaboration with the Natural Science Foundation of China (NSFC) into type-2 diabetes. They will be undertaking research to identify "Biomarkers for the treatment and prognosis of sight-threatening diabetic retinopathy". They were awarded \$598,305 in funding and it is the first year that this Joint Call for Research to Enhance Prediction and Improve the Treatment of Type 2 Diabetes in China and Australia has been undertaken. Type 2 diabetes (formerly called non-insulin-dependent or adult-onset) results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world*, and is largely the result of excess body weight and physical inactivity. Symptoms may be similar to those of Type 1 diabetes, but are often less marked. As a result, the disease may be diagnosed several years after onset, once complications have already arisen.

Until recently, this type of diabetes was seen only in adults but it is now also occurring in children. Diabetic retinopathy (DR) is a highly specific vascular complication of both type 1 diabetes (T1DM) and type 2 diabetes (T2DM). Up to 1.6 million Chinese or 27,000 Australian diabetic patients are suffering blindness. Thus, there is an urgent need to identify reliable predictive and prognostic biomarkers to effectively prevent such blindness in the ever-increasing diabetic patients in both China and Australia.

*World Health Organisation Fact sheet N°312 'Diabetes'.



Our Ambassadors

Ms. Di Cant



Brisbane fashion stylist, public speaker and fashion marketing consultant Di Cant, brings a touch of flare to the Prevent Blindness Foundation

Mr. Wayne Stitcher



Fireman Wayne Stitcher, together with his wife Del, are avid supporters of the Queensland Eye Institute Foundation since July 2002 when he first met Professor Lawrence Hirst as a patient. Wayne was diagnosed with Paecilomyces Keratitis, an extremely rare and aggressive fungus, which almost claimed Wayne's eye.

Mr. Bruce Paige



Prominent Brisbane media identity Bruce Paige is passionate about giving back to the community through his work with Nine News.

Ms. Phoebe Young



Mother and lawyer, Phoebe Young is a strong supporter of the Institute's research into ocular diseases. At the age of 18, Phoebe suffered Stevens-Johnson Syndrome, which resulted in the amputation of both legs below the knee, along with her left hand and the fingertips on her right hand. Phoebe also suffered impairment to her eyesight, which she states has been her greatest challenge.



Our team

Board of Directors

Mark Sheridan
Chairman

Professor Mark Radford
Executive Director

Samantha Wilkinson
Company Secretary / Director
(Resigned 2nd June 2015)

Kylie Blucher
Director

Brett Greensill
Director
(Resigned 7th July 2015)

Anthony Rafter
Director

Catherine O'Sullivan
Director
(Resigned 18th December 2015)

Kelly Langdon
Company Secretary
(From 27 July 2015)

Clinical Faculty

Dr. Anthony Pane
Neuro-Ophthalmology

Associate Professor Tony Kwan
Retinal Diseases

Dr. Brendan Cronin
Cornea

Professor Ravi Thomas
Glaucoma and Clinical Epidemiology

Dr. Tai Smith
Oculoplastic, Lacimal & Orbit Surgery

Dr. Mark Chiang
Glaucoma, Cataract & Diseases of the Retina

Honorary Clinical Faculty

Professor Ivan Schwab
University of California at Davis, Sacramento
Medical Centre

Research Faculty

Professor Traian Chirila
BEng, PhD, FRACI, CChem
Senior Scientist

Professor Lawrence Hirst
Research Scientist

Dr. Allison Sutherland
BSc (Hons) PhD, MBiomed Eng
Manager of Clinical Research Services

Dr. Nigel Barnett
BSc (Hons), MSc, DPhil
Senior Scientist

Associate Prof. Damien Harkin
BSc, PhD
Visiting Senior Scientist

Dr. Shuko Suzuki
BAppSc, MAppSc, PhD
Research Scientist

Dr. Laura Bray
BSc (USC), BAppSc Hons (QUT), PhD (QUT)
Post-Doctoral Research Scientist

Dr. Jinchun (Fiona) Li
MMedSci
Research Officer

Dr. Jennifer Young
BSc, MSc, PhD
Research Officer

Dr. Karina George
BAppSc, PhD
Honorary QEI Senior Scientist

Dr. Audra Shadforth
BSc
Research Officer



Honorary Research Faculty

Prof. Emeritus Graeme
George

AM, PhD, FRACI

Queensland University of Technology

Prof. Andrew Whittaker

PhD, FRACI

University of Queensland

Prof. Murray Baker

University of Western Australia

Dr. Louise Ainscough

BA, BAppSc, PhD

University of Queensland

Dr. Beatrix Feigl

MD PhD

Institute of Health & Biomedical
Innovation (IHBI)

Prof Paul Dalton *PhD*

University of Wurzburg, Germany

Assoc Prof Idriss Blakey

University of Queensland

Prof Eugen B Petcu *MD*

Griffith University

Dr. Tim Dargaville

Queensland University of Technology

Management Team

Kelly Langdon

Chief Operating Officer

Anna Blake

Clinical Services Manager

Carmel Johnston

EA to the Executive Director

Jane Dodds

Community Relations Officer

Renee Ferenc

Marketing Manager

Gerrard Gosens

Special Projects Manager

(Until 24 August 2015)



Thank you to our Supporters

The work of the Foundation is due to the support of many people, not just our Board and staff.

As always, we are grateful for both the moral and financial support of the Sylvia & Charles Viertel Charitable Foundation, and especially its Board of Trustees and Chairman, Mr. George Curphey. We are excited about the possibilities that the next chapter of our relationship will bring.

We want to extend our sincere thanks to all our donors – our success would not be possible without your support.

Thank you also to the many volunteers who generously give so much of their time and expertise assisting with events and tasks, which enables us to continue our sight saving work.

Finally, we would like to thank the many organisations that have provided support in many different ways to our activities throughout the year.

Queensland Government Department of Education & Training

Nine Network

EDI Downer

Hanrick Curran

Mr. Kevin Driscoll
& Family

HG Retail

F. Mayer Imports
Pty Ltd

Ben Hewlett –
Panther Data

McLeod Family –
Bridge to Brisbane

Sheedy
Foundation

The Retired Police
Association of
Queensland

Financial Snapshot

The following information is extracted from the Audited Financial Statements for January 1 to December 31, 2015.

Balance Sheet Comparatives

	2015 \$	2014 \$
CURRENT ASSETS		
Cash and cash equivalents	3,628,351	2,909,819
Trade and other receivables	412,071	390,481
Other assets	42,983	88,027
Total Current Assets	4,083,405	3,388,327
NON-CURRENT ASSETS		
Trade and other receivables	2,410,822	2,166,964
Financial Assets	579,763	-
Property, plant and equipment	10,141,180	10,839,538
Intangible assets	86,435	122,918
Total Non-Current Assets	13,218,200	13,129,420
TOTAL ASSETS	17,301,605	16,517,747
LIABILITIES		
Trade and other payables	4,619,297	4,062,264
Financial Liabilities	225,718	2,378,343
Employee benefits	495,292	359,748
TOTAL LIABILITIES	5,340,307	6,800,355
NET ASSETS	11,961,298	9,717,392

Income Statement Comparatives

	2015 \$	2014 \$
REVENUE		
Sylvia & Charles Viertel Charitable Foundation	4,069,755	1,680,000
Viertel Funding — capital works in progress	-	7,411,488
Bequests & other donations	1,259,543	558,319
Other income	2,393,802	1,347,318
TOTAL INCOME	7,723,100	10,997,125
EXPENSES		
Research costs ¹	297,995	186,019
Occupancy costs ²	1,903,523	2,628,205
Labour Costs ³	3,929,044	3,627,758
Professional Fees	54,104	74,501
Depreciation and amortisation expense	1,051,110	1,007,194
Other general expenses	611,159	608,799
TOTAL EXPENSES	7,846,935	8,132,476
NET COMPREHENSIVE INCOME/(LOSS)	(123,835)	2,864,649

Notes:

¹ Research consumables & equipment;

² Includes lease for laboratory & clinics;

³ Research, teaching, clinical, administration & support

Cash Flow Comparatives

	2015 \$	2014 \$
CASH FLOW FROM OPERATING ACTIVITIES		
Receipts from supporters and donors	7,357,422	11,826,814
Payments to suppliers and employees	(6,363,902)	(7,964,346)
Interest received	81,446	97,526
Interest paid	-	(1,057)
NET CASH FROM OPERATING ACTIVITIES	1,074,966	3,958,937
CASH FROM INVESTING ACTIVITIES		
Proceeds from disposals of property, plant and equipment	8,760	-
Acquisition of property, plant and equipment	(72,480)	(7,963,353)
Acquisition of intangibles	(8,765)	(91,475)
Loans to related parties	(243,859)	(1,621,522)
Acquisition of financial instruments	(11,958)	-
NET CASH USED BY INVESTING ACTIVITIES	(328,302)	(9,676,350)
CASH FLOWS FROM FINANCIAL ACTIVITIES		
Incentives received on rental of building	-	3,000,000
Proceeds from borrowings	(28,132)	2,378,343
NET CASH USED BY FINANCING ACTIVITIES	(28,132)	5,378,343
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS HELD	718,532	(339,070)
CASH AND CASH EQUIVALENTS AT BEGINNING OF FINANCIAL YEAR	2,909,819	3,248,889
CASH AND CASH EQUIVALENTS AT END OF FINANCIAL YEAR	3,628,351	2,909,819

PEOPLE

Our Foundation is about people.

The People Who Support Us.

The People Who Represent Us.

The People Whose Sight We Save.



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ANNUAL REPORT 2015



**QUEENSLAND EYE INSTITUTE
FOUNDATION**

Formerly the Prevent Blindness Foundation

ABN 37 009 737 384