SINGAPORE EYE RESEARCH INSTITUTE

SIGHT MATTERS

Annual Report FY2014/2015

CONTENT PAGE

ABOUT US

Established in 1997, the Singapore Eye Research Institute (SERI) is Singapore's national research institute for ophthalmic and vision research. It is the research arm of the Singapore National Eye Centre, and affiliated to the National University of Singapore and the Duke-NUS Medical School. In two decades, SERI has grown from a team of 5 to over 200 staff, encompassing clinician scientists, scientists, fellows, students, support staff, as well as more than 100 distinguished adjunct faculty members to become the largest eye research institute in the Asia-Pacific region. As of Dec 2015, SERI has published 2,475 peer-reviewed papers supported by $211 million in competitive research grants. SERI has trained more than 150 current and past graduate students; and has been conferred over 358 national & international awards and 108 patents. SERI further undertakes eye research in collaboration with local & international ophthalmic medical centres and research institutions, which has ensured a high level of research competency & skills transfer. Notably, SERI's research has translated to actual patient success stories & significant improvements in eye care delivery. Today, SERI is recognized as a pioneering center for high quality eye research in Asia, with breakthrough discoveries that has translated to significant paradigm shift in eye care delivery.

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CHAIRMAN'S MESSAGE

As Singapore's national research institute for ophthalmic and vision research, SERI has cultivated a network of local and international clinicians, scientists and research support staff, who symbiotically work to define the future of Ophthalmology for Singapore, Asia and the world. The reputation of SERI's leaders, who are globally recognized for their clinical expertise and scientific track records, has attracted both academic and industrial partners to collaborate with SERI on many diverse and strategic initiatives. Such alliances and collaborations have enabled SERI to maintain a high level of research competency and to stay at the forefront of vision research among the global heavyweights.

SERI is cognizant that clinician-scientists (CS) are critical to the development of translational medicine. They act as the critical bridge between laboratory and clinic, lead active laboratory research programs, and additionally possess in-depth understanding of the un-met clinical needs and practical realities of clinical medicine. Thus, they are best able to exploit our understanding of disease models and mechanisms, so as to conceptualize new paradigms of diagnosis, intervention and therapy.

Beyond publications, grants and awards, SERI's research has actually translated to augment clinical care, enhance standards of diagnosis and treatment, and benefit our patients. As an example, SERI established a way to retard myopia progression via the administration ultra-low dose of atropine eye drops. This finding has now been incorporated as part of the myopia intervention strategy at the SNEC Myopia clinic, and this is being used to treat children on a broader level in Singapore, and potentially throughout Asia via international partnerships.

With SERI serving as the research pillar for our Academic Clinical Program for Ophthalmology and Visual Sciences (EYE ACP), closer links have been fostered between SERI, SNEC and Duke-NUS leveraging on the EYE ACP as a conduit and catalyst. The strengthening of the ties between the academic ecosystem and clinical specialties will enable SERI to explore synergies and consolidate strengths in pursuing our mission of vision research.

Moving forward, we should continue to augment our efforts in establishing and maintaining robust and dynamic collaborations and affliation with our academic and commercial partners; to continue to build our next generation of clinician-scientists and scientists; and to define and refine the strategic advancement of key research foci that are in alignment with the cluster and national research agenda.

Professor Wong Tien Yin
Chairman

EXECUTIVE DIRECTOR'S MESSAGE

SERI has had a very note-worthy year, both in terms of our research journey, as well as our early attempts at philanthropy.

$22 million worth of competitive grants were secured, 269 scientific papers were published, 10 patents were filed, and 23 postgraduate students were trained in the past one year. Six of our faculty members were awarded the Talent Development Grants which will enable them to further progress their careers as clinician scientists.

Through collaboration with NTU, we jointly developed a novel sustained-release nano-liposome latanoprost drug delivery carrier for the treatment of glaucoma.

SERI Researchers were honoured with 3 papers in the prestigious Nature Genetics Journal. In the first paper, four genes associated with elevated intraocular pressure (IOP) were identified, of which three genes were also found to be associated with primary open-angle glaucoma (POAG). In the 2nd paper, SERI scientists in collaboration with researchers from China conducted a large scale genome-wide association study of China and Singapore cohorts, and successfully identified two more genes associated with susceptibility of POAG. The SERI team further published a 3rd paper in Nature Genetics in which a novel genetic locus for exfoliation glaucoma was identified. These findings collectively contribute to the better understanding of glaucoma, a leading cause of irreversible blindness worldwide.

SERI's $25M TCR grant entitled EYESITE (Eye Surgery and Innovative Technologies), received outstanding reviews from the NMRC-appointed international Scientific Advisory Board (SAB). The SAB's glowing assessment included the mention that SERI has one of the leading translational programmes in Ophthalmology in the world. I do hope that the exceptional success achieved by SERI over the past decade would serve as both an inspiration and a strong impetus for the entire Singapore National Biomedical Community.

In our annual gala fund-raising dinner, the EYE Ball 2015 with the theme entitled, "A KALEIDOSCOPIC EXPERIENCE", a total net fund of approximately $591,270 was raised. This event was important as it helped to spread awareness of eye diseases and the fragility of vision, besides concurrently raising funds for eye research. It further served as an important conduit for profile building, fostering a sustained relationship with our donor network, as well as reinforcing our strategic relationships with key partners, including Singapore Tatler.

As we usher in a new year, I would like to thank our Board, our faculty and staff, our collaborators and colleagues, our donors and supporters who have enabled SERI to achieve this spectrum of accomplishments. We look forward to an even better and productive year ahead!

Prof Aung Tin
Executive Director

INSTITUTIONAL REPORT

BACKGROUND

The Singapore Eye Research Institute (SERI), affiliated to the Singapore National Eye Centre, the National University of Singapore, and the Duke-NUS Medical School is a non-profit charitable organization tasked to lead and conduct research into vision and eye diseases based in Singapore and focused on Asia. It further works in collaboration with Ophthalmology departments of the various public healthcare entities and biomedical research institutions, as well as major eye centers and research institutes throughout the world. SERI has developed a world-leading reputation in broad-based clinical translational research and epidemiological programs for many eye diseases, specifically eye diseases endemic to Asia, such as myopia, angle closure glaucoma, and corneal diseases.

KEY PERFORMANCE INDICATORS (*as of December 2015*)

- SERI is one of the largest research institutes in Singapore and the largest eye research institute in the Asia-Pacific, with a faculty of 221, encompassing clinician scientists, scientists, fellows, students, and support staff.

- SERI has successfully secured external peer-reviewed competitive grant funding worth approximately S$12 million this year, and a cumulative quantum of approximately S$211 million.

- SERI continues its leading performance in publication, with 269 scientific papers published in 2015, and with a cumulative publication quantum of 2,475 scientific papers.

- As of December 2015, the SERI faculty has received 358 national and international awards and 108 patent applications were filed during the same period.

- Since 1997, SERI has conducted 1314 studies, encompassing the entire spectrum of eye research, from basic laboratory research, pre-clinical animal research, translational clinical research, and population health research. There are currently 317 ongoing research projects at SERI, of which approximately 55% cover clinical/translational research, 22% basic research and 23% epidemiology, imaging and health service research.

- SERI has further contributed to the training of research manpower, including over 150 Masters, PhD and post-doctoral students, many of whom are now working in hospitals, biomedical sciences industry, academic institutions and research institutes locally and overseas.

ACHIEVEMENTS & INNOVATIONS (*as of December 2015*)

- **Discovery of genes for age-related cataract**
  SERI researchers, in partnership with Duke-NUS and A*STAR Genome Institute of Singapore, have discovered novel genes for age-related cataract, a leading cause of global blindness.

  Achieving a world's first, the team has identified two risk genes for the condition based on a study of more than 7,000 Asians.
  The findings will significantly improve clinicians' understanding of the make-up of age-related cataract and the genes are a potential therapeutic target to delay cataract formation or delay growth progression.

  This study received special mention from President Tony Tan Keng Yam in his speech at the opening of the SingHealth Duke-NUS Scientific Congress 2014.

- **Breakthrough research on the association of early microvascular damage in the eye and kidney and risk of cardiovascular disease**

  SERI researchers have discovered that abnormalities in eye blood vessels and kidney functions can predict that a person is close to 7 times more likely to suffer from cardiovascular disease later in life.
  The findings are a first in Asia, and are impactful since nearly a third of deaths in Singapore are due to cardiovascular disease.

  The study could lead to better screening tests for patients. The team hopes to build upon the findings to refine existing risk assessments for cardiovascular disease, and to develop a test that can be used in clinics.

- **New treatment does away with daily eyedrops**

  SERI and Nanyang Technological University has jointly developed the **world's first sustained-release nanomedicine product in ophthalmology** known as liposomal latanoprost that can be used to treat glaucoma which is a leading cause of irreversible blindness in the world.

  This new glaucoma medicine is in the form of millions of tiny capsules that is injected into the eyeball. The capsules will slowly release their contents over six months, replacing the need for daily eyedrops that help relieve pressure on the optic nerve.

  It is estimated that at least 10 per cent of blindness from glaucoma is directly caused by poor patient adherence to their prescribed medications. They hope that this treatment will help prevent the worsening of glaucoma among the elderly.

- **TWO President's Technology Award 2014 recipients from SERI**

  1. Professor Wong Tien Yin & his team & collaborators from NUS & A*STaR

  "For their outstanding contributions to the development of novel ocular image analysis technology for the screening and evaluation of significant clinical problems in eye and vascular diseases"

  2. Associate Professor Tina Wong & her team & collaborators from NTU

  "For their innovative application of nanostructures and novel drug delivery approach to combat blindness from glaucoma"

- **SERI Researchers honoured with 3 papers in the prestigious Nature Genetics Journal**

  In the 1st paper, SERI scientists spearheaded a genome-wide association study of 18 cohorts from the International Glaucoma Genetics Consortium. Four genes associated with elevated intraocular pressure (IOP) have been identified, of which three genes are also found to be associated with primary open-angle glaucoma (POAG). IOP is an important risk factor in developing glaucoma, and the variability in IOP might offer an indication of the development or progression of glaucoma.

  In the 2nd paper, SERI scientists in collaboration with researchers from China have conducted a large scale genome-wide association study of China and Singapore cohorts, and successfully identified two genes associated with susceptibility of POAG.

  SERI Scientists also published a 3rd paper in Nature Genetics in April 2015 in which a novel genetic locus for exfoliation glaucoma was identified.

The findings importantly contribute to the better understanding of glaucoma, which is a leading cause of irreversible blindness worldwide.

PERFORMANCE OVER PAST SEVENTEEN YEARS (*as of December 2015*)

- SERI has seen a steady increase in staff strength over the years.

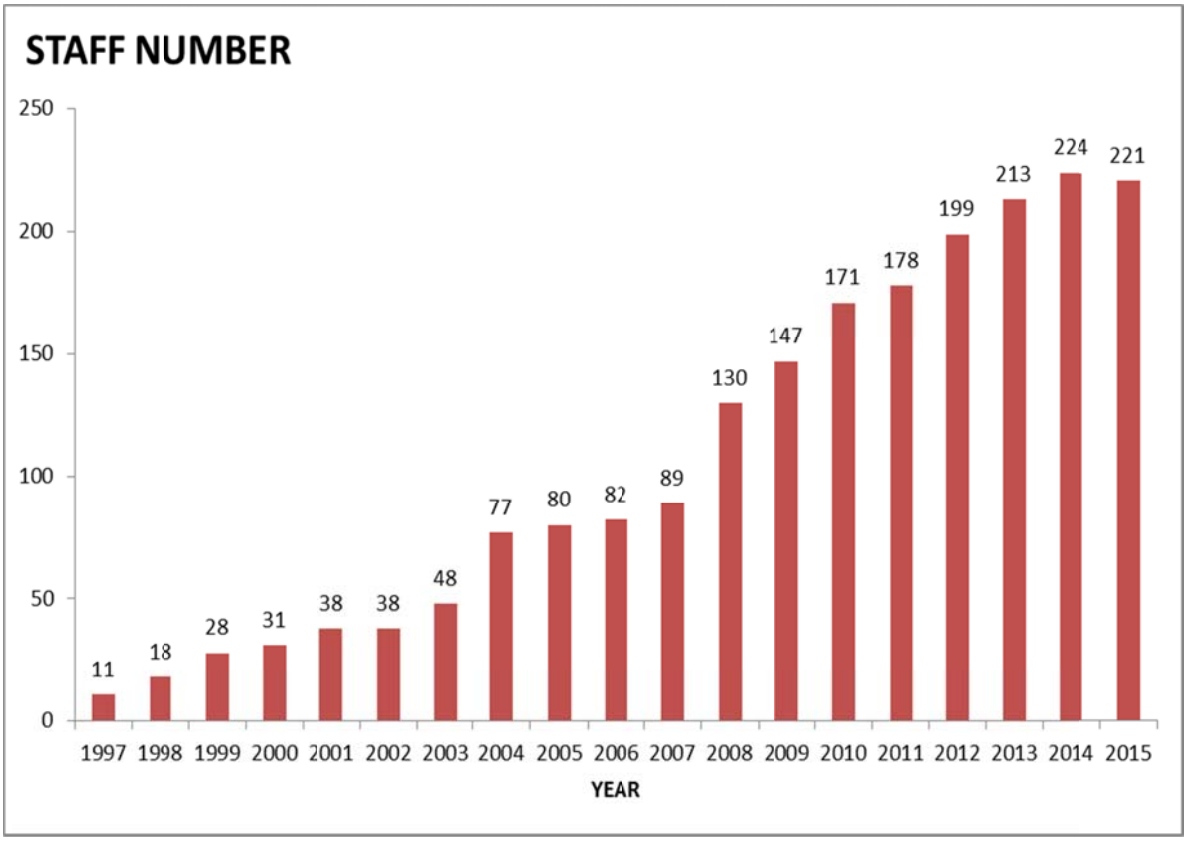


Figure 1: Number of staff members at SERI

- SERI boosts of a diverse and global faculty that serves as melting pot of ideas that propels innovation.

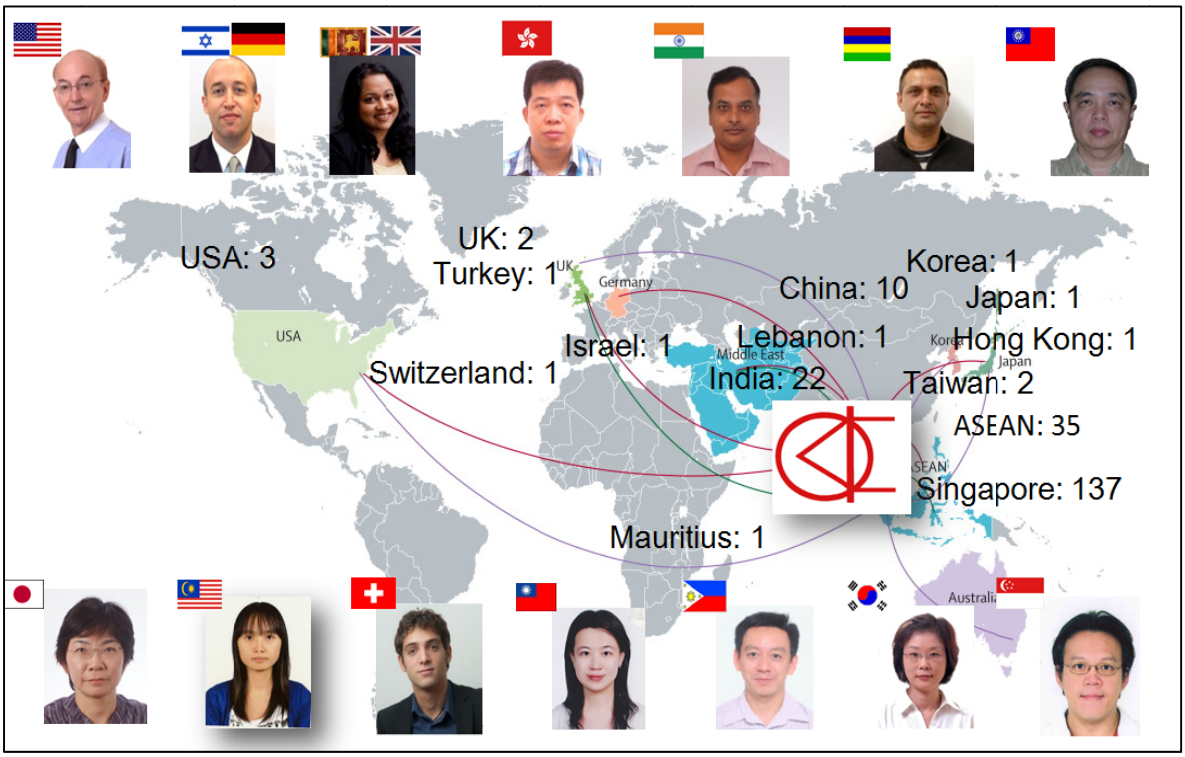
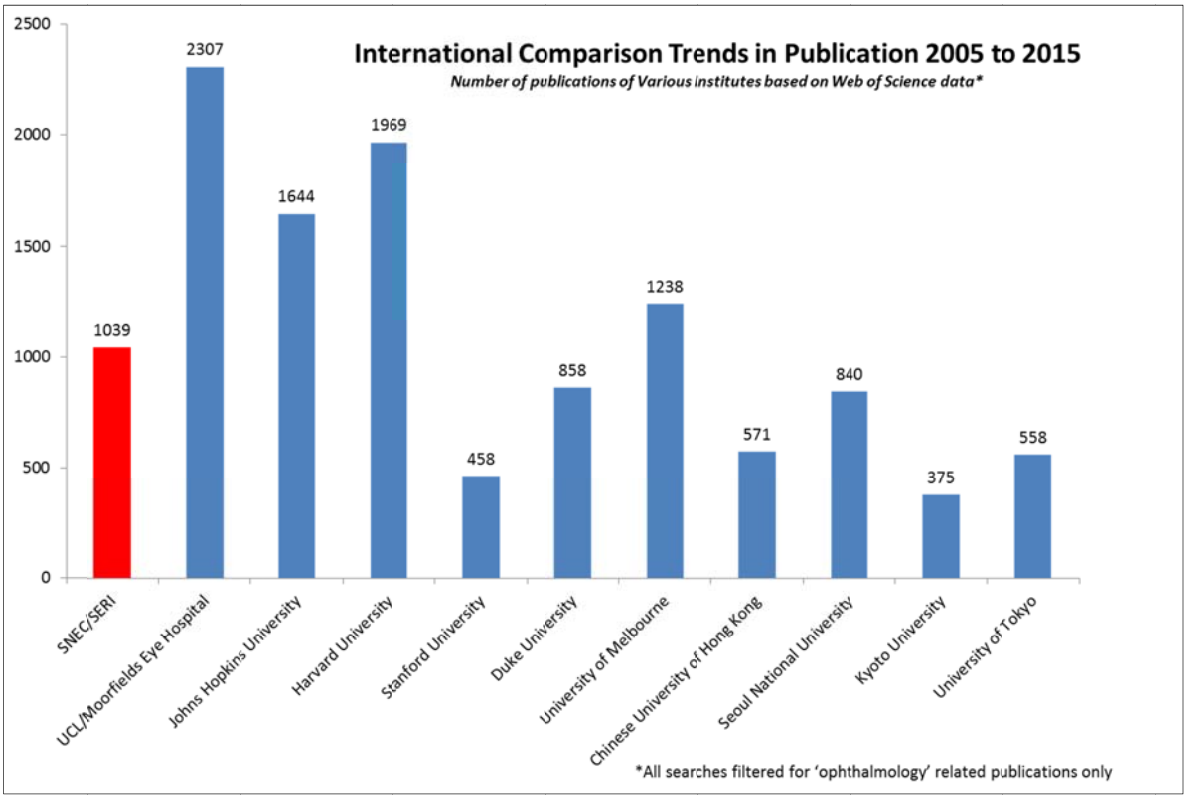


Figure 2: Nationalities of staff members at SERI

- SERI stands out as one of the most productive institutions and well holds up against global heavyweights in the field.



- *Figure 3: Number of publications by SERI and other institutions around the world, during the period of 2005- 2015*

- The stellar achievements of SERI have been well endorsed with numerous international and local awards.

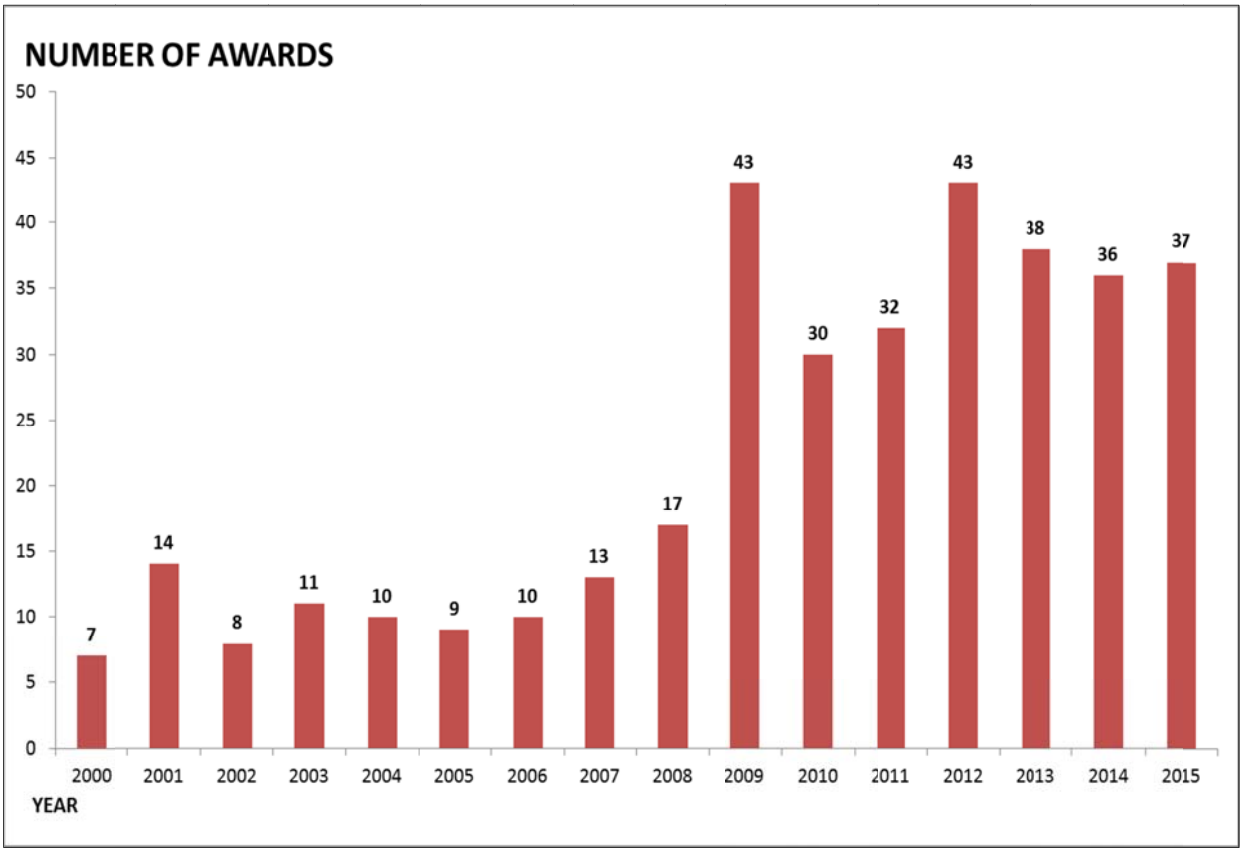
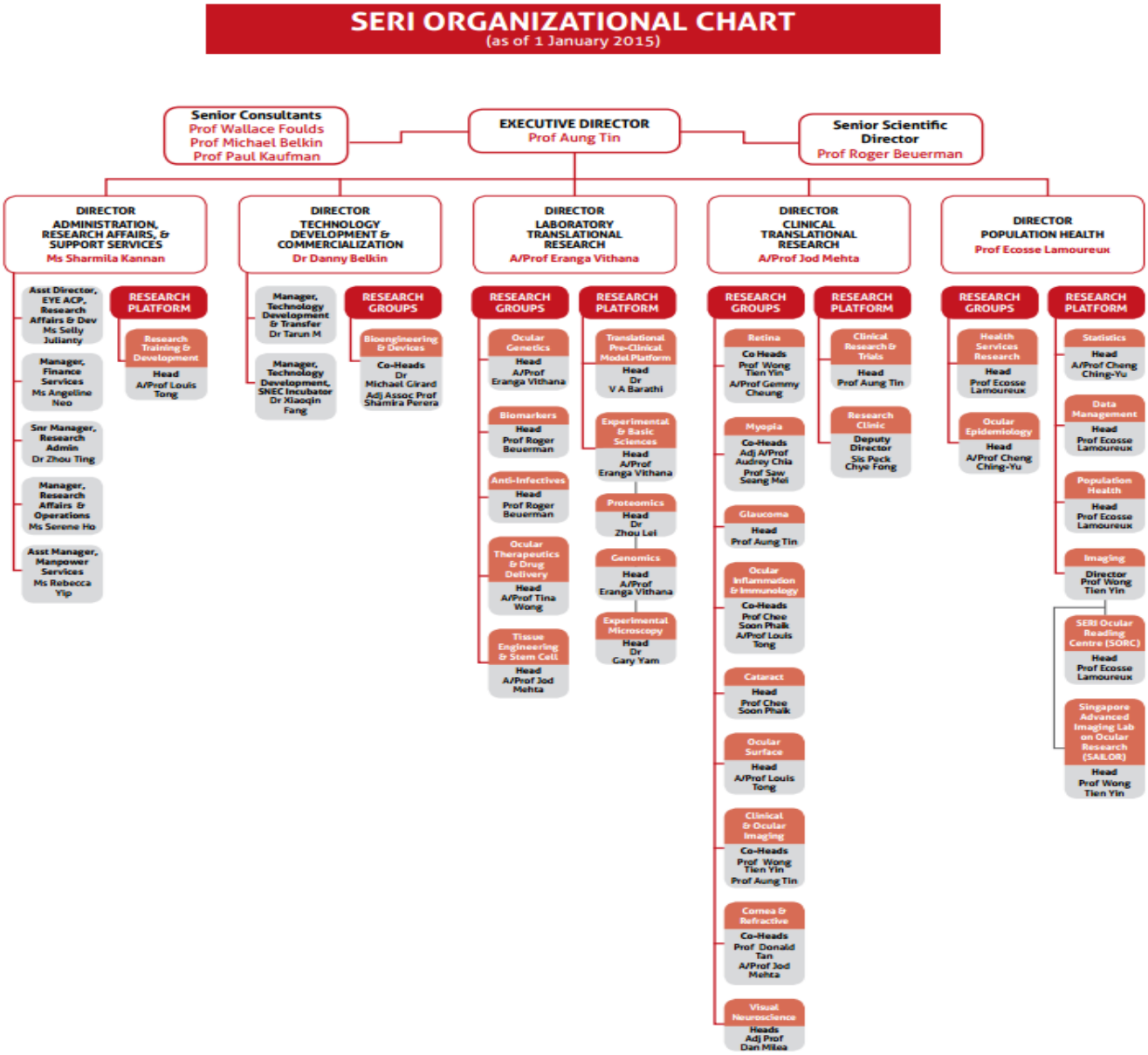


Figure 4: Number of awards received by SERI and its staff (Data from 1997-1999 are not available)

GOVERNANCE STRUCTURE



APPRECIATION & ACKNOWLEDGEMENT

SERI owes its success to its people – the honorable SERI Board of Directors, our eminent academic collaborators, the senior management, and clinicians of the Singapore National Eye Centre (SNEC), as well as, very importantly, the SERI faculty and staff members.

However, our greatest gratitude is reserved for our patients and their families. They are the driving force behind all that we do. Indeed, their journey and courage spur us on in our research endeavors and make us determined to make a positive difference to their vision and their lives.

SERI would also like to extend our appreciation to the National Medical Research Council, the Biomedical Research Council, the National Research Foundation, as well as our industry collaborators for their generous funding and support. It enables us to continue in our pursuit of impactful research with the ultimate aim to alleviate vision loss and blinding eye diseases.

OUR PEOPLE

SERI's BOARD OF DIRECTORS (*updated as of December 2016*)

SERI's Memorandum and Articles of Association stipulates that the SERI Board of Directors shall have at least one representative each from the Ministry of Health, the National University of Singapore and the Singapore National Eye Centre. Today, besides representation from the above three organizations, SERI's Board additionally has Directors from the Duke-NUS Graduate Medical School, Lee Kong Chian School of Medicine, SingHealth, National Healthcare Group as well as M C Tong Cardiothoracic Surgery Pte Ltd.

Prof Wong Tien Yin
Medical Director,
Singapore National Eye Centre

Chairman,
Singapore Eye Research Institute

Prof Ang Chong Lye
Deputy Group CEO
(Clinical Services & Informatics), SingHealth

CEO,
Singapore General Hospital

Assoc Prof Yeoh Khay Guan
Dean, Yong Loo Lin School of Medicine,
National University of Singapore

Dr Geh Min
Consultant Eye Surgeon,
M C Tong Cardiothoracic Surgery Pte Ltd

Prof Wang Linfa
Program Director,
Emerging Infectious Diseases, Duke-NUS Medical School

Prof Lim Tock Han
Deputy Group CEO (Education & Research),
National Healthcare Group

Senior Consultant,
NHG Institute,
Tan Tock Seng Hospital

Dr Lim Eng Kok
Director, Performance & Technology Assessment,
Ministry of Health

Prof Soo Khee Chee
Deputy Group CEO (Research & Education),
SingHealth

Director,
National Cancer Centre Singapore

Ms Ooi Chee Kar
Chartered Accountant (*Singapore*)

Prof Thomas Coffman
Dean,
Duke-NUS Medical School

Prof James Best
Dean,
Lee Kong Chian School of Medicine

SERI's DIRECTORS / STRATEGIC PLANNING COMMITTEE (*updated as of December 2016*)

The SERI Directors/ Strategic Planning Committee serves as the highest governing body at SERI, working closely with the Executive Director, SERI to ensure the overall stewardship of the Institute; leading and promoting research within the Institute; ensuring sufficient funding to ensure its future viability; safeguarding overall governance and integrity of the Institute; and proactively increasing the visibility and broadening of research collaborations with national and international agencies.

Prof Aung Tin
Executive Director

Assoc Prof Jodhbir Mehta
Director, Clinical Translational Research

Prof Roger Beuerman
Senior Scientific Director

Prof Ecosse Lamoureux
Director, Population Health

Ms Sharmila Kannan
Director, Administration,
Research Affairs & Support Services

Dr Danny Belkin
Director, Technology Development
& Commercialization

Assoc Prof Eranga Vithana
Director, Laboratory Translational Research

SERI's MANAGEMENT COMMITTEE (*updated as of December 2016*)

The SERI Management Committee serves as a principle body actively engaged in the review and implementation of SERI's research policies and strategies. It further plays an integral role in conceptualizing SERI's research framework, in consultation with the SERI Senior Leadership, as the Institute moves onwards to face new challenges in its strive for continued research excellence.

Prof Aung Tin
Executive Director

Prof Wong Tien Yin
Medical Director,
Singapore National Eye Centre

Chairman,
Singapore Eye Research Institute

Prof Roger Beuerman
Senior Scientific Director

Sis Peck Chye Fong
Deputy Director, Research Clinic

Ms Sharmila Kannan
Director, Administration,
Research Affairs & Support Services

Ms Charity Wai
Chief Operating Officer,
SNEC

Assoc Prof Eranga Vithana
Director, Laboratory Translational Research

Assoc Prof Tina Wong
Head, Ocular Therapeutics and Drug Delivery Research Group

Assoc Prof Jodhbir Mehta
Director, Clinical Translational Research

Assoc Prof Louis Tong
Head, Ocular Surface Research Group

Prof Ecosse Lamoureux
Director, Population Health

Prof Saw Seang Mei
Co-Head, Myopia Research Group

Dr Danny Belkin
Director, Technology Development & Commercialization

Adj Assoc Prof Audrey Chia
Co-Head, Myopia Research Group

SERI's MANAGEMENT COMMITTEE (*continued*)

Assoc Prof Cheng Ching-Yu
Head, Ocular Epidemiology Research Group

Dr Amutha Barathi
Head, Translational Pre-Clinical Model Platform

Assoc Prof Gemmy Cheung
Co-Head, Retina Research Group

Dr Zhou Lei
Head, Proteomics Research Platform

Dr Michael Girard
Co-Head, Bioengineering & Devices Research Group

Dr Rajkumar Patil
Principal Research Scientist

Prof Dan Milea
Head, Visual Neuroscience Research Group

Dr Seet Li Fong
Assistant Director, Laboratory Translational Research

Prof Chee Soon Phaik
Head, Cataract Research Group

Dr Gary Yam
Head, Experimental Microscopy Platform

Prof Leopold Schmetterer
Head, Ocular Imaging Research Group

SNEC's RESEARCH COMMITTEE (*updated as of January 2016*)

Terms of reference:

- Plays a pivotal role in the review of research budgets, as well as the evaluation and endorsement of the appropriateness of research projects, including the scientific merit of such projects.
- Oversight over the review/ approval of the SNEC HREF grants for research projects.
- Provides directions for the development of SERI's translational and clinical research capabilities.

Prof Aung Tin
Executive Director
SERI

Head & Senior Consultant, Glaucoma Service (Research, Education & Development), SNEC

Adj Assoc Prof Lee Shu Yen
Senior Consultant,
Vitreo-Retinal Service, SNEC

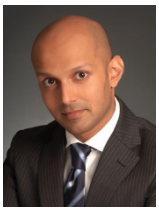
Adjunct Senior Clinician Investigator, SERI

Adj Assoc Prof Sharon Tow
Head and Senior Consultant,
Neuro-Ophthalmology Service, SNEC

Adjunct Senior Clinician Investigator, SERI

Adj Assoc Prof Audrey Chia
Head and Senior Consultant,
Paediatric Ophthalmology & Strabismus Service,
SNEC

Co-Head, Myopia Research Group, SERI



Adj Assoc Prof Shamira Perera
Senior Consultant, Glaucoma Service, SNEC

Co-Head, Bioengineering & Devices Research Group,
SERI

Assoc Prof Tina Wong
Senior Consultant, Glaucoma Service, SNEC

Head, Ocular Therapeutics and Drug Delivery Research Group, SERI

Assoc Prof Jodhbir Mehta
Head & Consultant (Research), Cornea & External Eye Disease Service, SNEC

Director, Clinical Translational Research, SERI

Assoc Prof Gemmy Cheung
Senior Consultant, Vitreo-Retinal Service, SNEC

Co-Head, Retina Research Group, SERI

Prof Dan Milea
Visiting Senior Scientist, Neuro-Ophthalmology Service, SNEC

Head, Visual Neuroscience Research Group, SERI

Dr Sunny Shen
Deputy Head & Consultant, Oculoplastic Service,
SNEC

TEACHING & TRAINING

SERI has been actively hosting research seminars, courses and talks which serve as a platform for information transfer and idea sharing, as well as networking conduit between the internal and external research communities. Besides serving as a fertile platform for the incubation of research ideas and generation of collaborative initiatives between the SERI faculty and external academics/ researchers, these activities further promote research-related talent development within SERI that is high value-added and knowledge-based.

The talks presented via these channels at SERI offer discourse on scientific ideas and discoveries in ophthalmology and vision research, as well as in other biomedical disciplines, including bioengineering, genomics, tissue engineering, stem cell therapy and therapeutics, etc.; blending clinical, epidemiological, translational and basic approaches within specific disciplines. These seminars have certainly led to the launch of many new projects and successful collaborative partnership between SERI and local as well as international academic/ research entities.

This initiative serves as an ideal teaching platform for our junior faculty, paving the way for immense synergies as they work together to tackle emerging challenges in the field of ophthalmology.

DATE	TOPIC	SPEAKER
9 Apr 2014	Microvascular network alterations in retina of subjects with cerebral small vessel disease	Dr Saima Hilal *Research Associate & Part Time PhD student, National University of Singapore*
16 Apr 2014	Hand pose estimation and its potential clinical applications	Dr Cheng Li *Research Scientist, Group Head, Machine Learning For Bioimage Analysis Group (BII), A*STAR*
4 Jun 2014	Discover Droplet Digital™ PCR and transform your research	Mr Richard Harrison *Bio-rad, Genomic Marketing Manager, APAC*
9 Jul 2014	Oncogenic ras signaling	Prof Chris Counter, *Pharmacology & Cancer Biology Radiation Oncology, Duke University Medical Center, Durham*
6 Aug 2014	A systemic / synovial microenvironmental signature is relevant for responsiveness to anti-TNF therapy in arthritis	Dr Salvatore Albani *SingHealth Translational Immunology and Inflammation Centre*
14 Aug 2014	Can we measure brain function by looking at eye movements? Networks, not nodes	Prof Owen B White *Director of Neuro-ophthalmology and the Ocular Motor and Vestibular Research Laboratory, Royal Melbourne Hospital and the University of Melbourne*
20 Aug 2014	Epigenetic view of retina studies	Dr Samuel Zhang *Penn State University, College of Medicine, Hershey, USA*
24 Sep 2014	Nanofibers and nanoparticles	Prof PE Seeram Ramakrishna *Center for Nanofibers & Nanotechnology, National University of Singapore*
25 Sep 2014	Novel therapies for diabetic retinopathy: Past insights, present care and future possibilities	Prof Lloyd Paul Aiello *FARVO Ophthalmology, Harvard Medical School*
21 Oct 2014	Part I: Relations between macular structure & function in patients with glaucoma, Part II: Future directions in the treatment of dry eyes at SERI	Dr Anuradha Veerappan *SERI*

5 Nov 2014	Roles for the MEIS1 homeodomain protein and its partners in eye development	Prof Mark Featherstone *School of Biological Sciences, Nanyang Technological University*
12 Nov 2014	New perspectives on corneal wound healing and graft survival from multi-modal X-ray scattering	A/Prof Craig Boote *School of Optometry and Vision Science, Cardiff University*
10 Dec 2014	Quantitative biometry of the eye using optical coherence tomography	Dr Anthony Kuo *Assistant Professor of Ophthalmology, Duke University School of Medicine*
5 Jan 2015	Can we predict who will develop high myopia and myopic retinopathy?	Prof Mingguang He, *Professor in Zhong Shan Ophthalmic Center, Sun Yat-Sen University, Guangzhou*
11 Feb 2015	The role of SIX6 in POAG: Identifying the first common, functional risk variant for glaucoma	Prof R Rand Allingham *Professor of Ophthalmology, Duke University Eye Center, Durham* *Director, Duke University Glaucoma Service*
11 Feb 2015	High association: The functional role of LOXL1 in exfoliation syndrome and glaucoma	Prof Michael Hauser *Department of Medicine, Duke University*
18 Mar 2015	Of sight and mind: Looking for links between age-related changes in eye and brain	Dr Heather E. Whitson *Associate Professor of Medicine (Geriatrics) & Ophthalmology, Duke University Medical Center, Durham*
19 Mar 2015	The patient-centered impact of vision loss and eye diseases in Singapore: Current evidence, limitations and future research	Dr Eva Fenwick *Research Fellow, Centre for Eye Research Australia (CERA)* *Department of Ophthalmology, University of Melbourne*

OUR COLLABORATIONS

Local Institutions

- Bioinformatics Institute
- Changi General Hospital (Department of Ophthalmology)
- Defense Medical & Environmental Research Institute
- Duke-NUS Medical School
- Genome Institute of Singapore
- Institute of Bio-Nanotechnology
- Institute of Microelectronics
- Khoo Teck Puat Hospital
- Lions Home for the Elders
- Ministry of Health Holdings
- Nanyang Technological University
- National Healthcare Group Polyclinics
- National Neuroscience Institute
- National University Hospital
- Ngee Ann Polytechnic
- Singapore Armed Forces
- Singapore Centre on Environmental Life Sciences Engineering
- Singapore Immunology Network
- Singapore National Eye Centre
- Singapore-Stanford Biodesign
- Tan Tock Seng Hospital
- Bioprocessing Technology Institute
- Citymed Health Associates Pte Ltd
- Community Eye Clinic
- DSO National Laboratories
- Experimental Therapeutics Centre
- Institute for Infocomm Research
- Institute of Medical Biology
- Institute of Molecular and Cell Biology
- KK Women's and Children's Hospital (Department of Ophthalmology)
- Nanyang Polytechnic
- National Cancer Centre
- National Heart Centre
- National University Health Systems
- National University Singapore
- Novena Heart Centre
- Singapore Bioimaging Consortium
- Singapore Chung Hwa Medical Institute
- Singapore General Hospital
- Singapore Institute for Clinical Sciences
- Singapore Stem Cell Consortium
- SingHealth Polyclinics

Overseas Institutions (Academic)

- Aston University, UK
- Centre for Eye Research Australia, University of Melbourne, Australia
- Centre for Vision Research, University of Sydney, Australia
- Erasmus University, Netherlands
- Indiana University, School of Medicine and Rehabilitation Hospital, USA
- Institute for Aviation Psychology, Netherlands
- Johns Hopkins University, USA
- Lions Eye Institute, Australia
- Max Planck Institute for Evolutionary Anthropology, Germany
- Moorfields Eye Hospital, UK
- Oregon Health and Science University, USA
- Rotterdam Eye Hospital, Netherlands
- Save Sight Institute, Australia
- University College London, UK
- University of Amsterdam, Netherlands
- University of British Columbia, Canada
- University of California, USA
- University of Melbourne, Australia
- University of Miyazaki, Japan
- University of New South Wales, Australia
- University of Sydney, Australia
- University of York, UK
- West Virginia University Eye Institute (School of Public Health), USA
- Wilmer Eye Institute, USA

Industry Collaborations

- AcuFocus
- Alcon Research Ltd
- Allergan
- Angioblast Systems Inc
- AqueSys, Inc
- Astonix Life Science (S) Pte Ltd
- Bausch & Lomb
- Bayer Healthcare
- Canon
- Carl Zeiss Pte Ltd
- Ceepro Pte Ltd
- Chugai Pharmabody Research Pte Ltd
- Essilor
- Excellens
- GlaxoSmithKline
- IMH Health Asia Pte Ltd
- INC Research UK Limited
- i-Optics
- Ivantis Inc
- KEIO-NUS CUTE Centre
- Kendle Pte Ltd
- Novartis
- Ocular Therapeutix, Inc
- Project Orbis
- Quark Pharmaceuticals Inc
- Revision Optics Inc
- Roche
- Santen Pharmaceutical
- Samsung Medical Center
- Technolas Perfect Vision
- Utrecht University Enceladus Pharmaceuticals
- Welch Allyn

EVENTS

INTERNATIONAL & LOCAL ACTIVITIES

SERI staff and associates participated actively in both overseas and local conferences during the year to establish links with overseas institutes, meet up with overseas collaborators and to promote and enhance SERI's presence in the international scene. Conferences / meetings participated includes:

INTERNATIONAL ACTIVITIES		
TOPIC	**DATE**	**VENUE**
Annual Meeting of the Hungarian Society of Cataract and Refractive Surgeons (SHIOL)	22 – 22 Mar 2014	Budapest, Hungary
World Ophthalmology Congress (WOC) 2014	2 – 6 Apr 2014	Tokyo, Japan
29th Asia-Pacific Academy of Ophthalmology 2014	2 – 6 Apr 2014	Tokyo, Japan
118th Annual Meeting of the Japanese Ophthalmological Society	2 – 6 Apr 2014	Tokyo, Japan
American Society of Cataract and Refractive Surgery (ASCRS) Symposium	25 – 29 Apr 2014	Boston, USA
17th International Ocular Surface Society Meeting	3 May 2014	Orlando, USA
Association for Research in Vision and Ophthalmology (ARVO)	4 – 8 May 2014	Orlando, USA
11th European Glaucoma Society Congress	7 – 11 Jun 2014	Nice, France
Non-Coding RNAs and RNAi Research & Therapeutics Conference	19 – 20 Jun 2014	Reykjavik, Iceland
Bombay Ophthalmologist's Association FOCUS 2014	20 – 22 Jun 2014	Mumbai, India
International Society for Eye Research (ISER) Meeting	20 – 24 Jun 2014	San Francisco, USA
Gordon Research Conferences - Transglutaminases in Human Disease Processes	29 Jun – 4 Jul 2014	Lucca, Italy
13th Chinese International Peptide Symposium	30 Jun – 4 Jul 2014	Datong, China
1st Congress of ASEAN Ophthalmology Society (AOS)	9 – 11 Jul 2014	Bangkok, Thailand
5th Asia Oceania Mass Spectrometry Conference	16 – 19 Jul 2014	Beijing, China
11th International Adenovirus Meeting	16 – 20 Jul 2014	San Diego, USA
2014 Symposium of the International Society for Clinical Electrophysiology of Vision (ISCEV)	20 – 24 Jul 2014	Boston, USA
32nd Annual Meeting of the American Society of Retina Specialists (ASRS)	9 – 13 Aug 2014	San Diego, USA
Nordic Congress of Ophthalmology 2014	20 – 23 Aug 2014	Stockholm, Sweden
Association for Medical Education in Europe (AMEE) 2014	30 Aug – 3 Sep 2014	Milan, Italy
10th Siena Meeting - From Genome to Proteome	31 Aug – 4 Sep 2014	Siena, Italy
The 5th Thesinge Biofilm Meeting	8 – 9 Sep 2014	Netherlands
33rd Annual Meeting of the European Society of Ophthalmic Plastic and Reconstructive Surgery (ESOPRS)	11 – 13 Sep 2014	Budapest, Hungary
14th European Society of Retina Specialists (EURETINA) Congress	11 – 14 Sep 2014	London, UK
XXXII Congress of the European Society of Cataract & Refractive Surgeons (ESCRS)	13 – 17 Sep 2014	London, UK
Joint Meeting of the XI Congress of ISD&DE and the XV Congress of SICOP	18 – 20 Sep 2014	Naples, Italy
Australasian Academy of Facial Plastic Surgery (AAFPS) Masters Symposium	19 – 20 Sep 2014	Sydney, Australia
31st EuroQol Group Scientific Plenary	25 – 26 Sep 2014	Stockholm, Sweden

The 2nd Asia-Pacific Glaucoma Congress in conjunction with The 10th International Symposium of Ophthalmology - Hong Kong Ophthalmological Symposium 2014 (APGC-ISOHK)	26 – 28 Sep 2014	Hong Kong
XI Congress of SAARC Academy of Ophthalmology (SAO) 23rd Annual Congress of College of Ophthalmologists of Sri Lanka & Colombo Retina Meeting	28 Sep – 1 Oct 2014	Colombo, Sri Lanka
European Association for Vision and Eye Research (EVER) 2014	1 – 4 Oct 2014	Nice, France
13th Human Proteome Organization World Congress (HUPO)	5 – 8 Oct 2014	Madrid, Spain
2nd ASEAN Economic Community Ophthalmology Meeting	13 – 14 Oct 2014	Bangkok, Thailand
International Pediatric Ophthalmology and Strabismus (IPOS VI) - "Just Strabismus"	17 Oct 2014	Chicago, USA
American Academy of Ophthalmology (AAO)	17 – 21 Oct 2014	Chicago, USA
The 5th Congress of the European Academy of Paediatric Societies (EAPS)	17 – 21 Oct 2014	Barcelona, Spain
The American Society of Human Genetics (ASHG) Annual Meeting	18 – 22 Oct 2014	San Diego, USA
7th Joint Meeting of Korea-China-Japan Ophthalmologists in conjunction with The 112th Annual Meeting of the Korean Ophthalmological Society	31 Oct – 2 Nov 2014	Seoul, Korea
American Society of Nephrology (ASN) Kidney Week	11 – 16 Nov 2014	Philadelphia, USA
27th Asia Pacific Association of Cataract and Refractive Surgeons (APACRS) Annual Meeting	13 – 16 Nov 2014	Jaipur, India
The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) 46th Annual Scientific Congress	22 – 26 Nov 2014	Brisbane, Australia
21st Annual Scientific Meeting of The Medical Contact Lens and Ocular Surface Association (MCLOSA)	28 Nov 2014	London, UK
XXIV Annual Congress of the Iranian Society of Ophthalmology	1 Dec 2014	Tehran, Iran
12th Meeting of the International Strabismological Association	1 – 4 Dec 2014	Kyoto, Japan
Asia Cornea Society (ACS) 4th Biennial Scientific Meeting	11 Dec 2014	Taipei, Taiwan
4th MAGRABI International Congress for Ophthalmology	22 – 24 Jan 2015	Abu Dhabi, UAE
Asia-Australia Congress on Controversies in Ophthalmology (COPHy AA)	5 – 8 Feb 2015	Ho Chi Minh, Vietnam
Asia- Association for Research in Vision and Ophthalmology (ARVO) 2015	16 – 19 Feb 2015	Yokohama, Japan
19th European Society of Cataract & Refractive Surgeons (ESCRS) Winter Meeting	20 – 22 Feb 2015	Istanbul, Turkey
41st North American Neuro-Ophthalmology Society (NANOS) Annual Meeting	21 – 26 Feb 2015	San Diego, USA
38th Annual Macula Society Meeting	25 – 28 Feb 2015	Arizona, USA
The Australian and New Zealand Cornea Society	5 – 6 Mar 2015	Perth, Australia
42nd Annual National Conference of the Ophthalmological Society of Bangladesh	18 – 20 Mar 2015	Bangladesh

LOCAL ACTIVITIES		
Duke-NUS Medical School Health Services and Systems Research (HSSR) Modeling Symposium 2014	14 – 15 Apr 2014	Singapore
National Ophthalmology Residents' Research (NORR) Day 2014	19 Apr 2014	Singapore
8th Asia Pacific Nurses Convention (ASPAN)	9 – 11 May 2014	Singapore
The Southeast Asia Health Care Summit 2014	12 – 13 Jun 2014	Singapore
National Healthcare Group Eye Institute (NHGEI) 7th International Ophthalmology Congress	7 – 9 Aug 2014	Singapore
Singapore Healthcare Management Conference 2014	19 – 21 Aug 2014	Singapore
30th Singapore Malaysia Joint Meeting in Ophthalmology	22 – 24 Aug 2014	Singapore
SingHealth Duke-NUS Scientific Congress 2014	5 – 6 Sep 2014	Singapore
Clinical Applications of Stem Cells Conference	26 – 27 Feb 2015	Singapore

GALA FUND RAISING DINNER, THE EYE BALL 2015

The SERI's Gala Fund-Raising dinner i.e. "The EYE Ball" was conceptualized to create an awareness of eye diseases and the fragility of vision, and to concurrently serves as a conduit to raise funds so that SERI can continue in its strive to perform impactful research that directly benefits the community. The annual EYE Ball was held at The Fullerton Hotel on 23 October 2015 and was graced by Mr Dick Lee, as the Guest-of-Honor.

The EYE Ball 2015, entitled, "A KALEIDOSCOPIC EXPERIENCE" served as a visual narrative through the eyes of patients - celebrating vision, achievements and the important work done at SERI via a kaleidoscopic cosmos. A live auction was part of the evening, where a splendid array of valuable art pieces donated by the family of the late Professor Arthur Lim, were auctioned off to generous donors. A total net fund of approximately $591,270 was raised, with a total of 29 tables and 17 seats sold.

In conclusion, the EYE Ball 2015 has played an integral role in boosting our efforts towards creating better awareness of eye diseases and vision loss. Indeed, the significant endorsement garnered for this event further underpins the value of the work that SERI does, and certainly gives us further impetus to strive on in our pursuit of eye research endeavors to benefit our patients and community as a whole.

ACHIEVEMENTS

OUR AWARDS

Local Awards

- **Singapore East Rotary Club: Vocational Service Award** [Apr 2014]
  Sister Peck Chye Fong, SERI

- **National Ophthalmology Residents Research Day 2014: Eye Foundation Award (Junior Category) - Best Paper** [Apr 2014]
  "Angle Closure Glaucoma in Asians: Comparison of Biometric and Anterior Segment Parameters between Japanese and Chinese Subjects"
  Dr Henrietta Ho, SNEC

- **National Ophthalmology Residents Research Day 2014: Eye Foundation Award (Senior Category) - Best Paper** [Apr 2014]
  "Epidemiology, Clinical Features, and Treatment Outcomes of Orbital Inflammatory Disease: A 10-Year Review"
  Dr Stephanie Young, SNEC

- **National Ophthalmology Residents Research Day 2014: Eye Foundation Award (Junior Category) - Best Paper: 1st Runner Up** [Apr 2014]
  "Preliminary Results from the Sleep Apnea and Diabetic Retinopathy (SADR) Study"
  Dr Merwyn Chew, SNEC

- **National Ophthalmology Residents Research Day 2014: Eye Foundation Award (Junior Category) - Best Paper: 2nd Runner Up** [Apr 2014]
  "Awareness of Diabetes and Diabetic Retinopathy in a Multi-Ethnic Asian Population: The Singapore Epidemiology of Eye Diseases (SEED) Study"
  Dr Olivia Huang, SNEC

- **National Ophthalmology Residents Research Day 2014: Best Poster: 1st Runner Up** [Apr 2014]
  "Low Conversion Rate of Ocular to Generalized Myasthenia Gravis in an Asian Population"
  Dr Kelvin Teo, SNEC

- **National Medical Research Council: Transition Award** [Apr 2014]
  Dr Queenie Li Ling Jun, SERI

- **National Medical Research Council: Transition Award** [Apr 2014]
  Dr Anita Chan, SNEC

- **National Medical Research Council: Singapore Translational Research (STaR) Investigator Award** [May 2014]
  Prof Aung Tin, SERI

- **SingHealth / GCEO Excellence Awards 2014: Distinguished Young Researcher** [May 2014]
  Dr Marcus Ang, SNEC

- **SingHealth-Duke-NUS Scientific Congress: Best Oral Paper - Clinical Research (Junior)** [Sep 2014]
  "Aggregate Effect of Intraocular Pressure and Vertical Cup to Disc Ratio Genetic Variants on Glaucoma in A Multi-ethnic Asian Population."
  Dr Tham Yih Chung, SERI

- **SingHealth-Duke-NUS Scientific Congress: Best Oral Paper - Translational Research** [Sep 2014]
  "A Breakthrough Sustained Release Nanomedicine Offers Substantial Benefits Over Eyedrops for the Treatment of Glaucoma"
  A/Prof Tina Wong, SNEC

- **Arthur Lim Professorship in Ophthalmology** [Oct 2014]
  Prof Donald Tan, SNEC

- **SingHealth Synergy: SingHealth Publish! Award - Medical Research** [Nov 2014]
  "Molecular Mechanism of Transglutaminase-2 in Corneal Epithelial Migration and Adhesion"
  A/Prof Louis Tong, SNEC

- **Duke-NUS Khoo Clinical Scholar Program** [Nov 2014]
  "The Effect of Anti-vascular Endothelial Growth Factor (Anti-VEGF) on Choroidal Thickness"
  Dr Daniel Ting, SNEC

- **President's Technology Award (PTA)** [Nov 2014]
  "Development of a Suite of Novel Eye Image Analysis Technologies"
  Prof Wong Tien Yin, Prof Lee Mong Li, Prof Wynne Hsu

- **President's Technology Award (PTA)** [Nov 2014]
  "Development of a Platform for Sustained Release of Glaucoma Medication"
  A/Prof Tina Wong, Prof Subbu Venkatraman, Prof Freddy Boey

- **NUS Yong Loo Lin School of Medicine 5th Annual Graduate Scientific Congress 2015: Singapore Medical Association Clinical Research Award** [Jan 2015]
  Dr Yip Wanfen, SERI

- **National Medical Research Council: Transition Award** [Jan 2015]
  Dr Ning Cheung, Danny, SNEC

International Awards

- **Asia-Pacific Academy of Ophthalmology 2014: APAO Distinguished Service Award** [Apr 2014]
  Dr Carol Cheung, SERI

- **Asia-Pacific Academy of Ophthalmology 2014: APAO Distinguished Service Award** [Apr 2014]
  Dr Cordelia Chan, SNEC

- **Asia-Pacific Academy of Ophthalmology 2014: Travel Award** [Apr 2014]
  Dr Liu Yu-Chi, SERI

- **Asia-Pacific Academy of Ophthalmology 2014: Travel Award** [Apr 2014]
  Mr Kevin John Selva, SERI

- **Asia-Pacific Academy of Ophthalmology 2014: APAO Nakajima Award** [Apr 2014]
  A/Prof Gemmy Cheung, SNEC

- **Asia-Pacific Academy of Ophthalmology 2014: APAO Achievement Award** [Apr 2014]
  A/Prof Cheng Ching-Yu, SERI

- **Asia-Pacific Academy of Ophthalmology 2014: APAO Outstanding Prevention of Blindness Award** [Apr 2014]
  A/Prof Cheng Ching-Yu, SERI

- **Bombay Ophthalmology Society: Gold Medal in Ophthalmology** [Jul 2014]
  A/Prof Jodhbir Mehta, SNEC

- **30th Singapore-Malaysia Joint Meeting in Ophthalmology: Best E-Poster Presentation** [Aug 2014]
  "Genetic Risk Factors of Recruitment Cytomegalovirus Uveitis in Immunocompetent Individuals"
  Dr Jay Siak, SNEC

- **Austalasian Research Management Society (ARMS) 2014: ARMS Travel Award** [Sep 2014]
  Dr Zhou Ting, SERI

- **American Academy of Ophthalmology (AAO) 2014: Academy's Achievement Award** [Oct 2014]
  Dr Chan Tat Keong, SNEC

- **American Academy of Ophthalmology (AAO) 2014: Senior Achievement Award** [Oct 2014]
  Prof Aung Tin, SERI

- **European Association for Vision and Eye Research (EVER) 2014: EVER 2014 Travel Award** [Oct 2014]
  Dr Henrietta Ho, SNEC

- **Andhra Pradesh Ophthalmological Society 2014: Dr P Siva Reddy Oration Medal** [Oct 2014]
  A/Prof Jodhbir Mehta, SNEC

- **The College of Optometrists, College's Research Excellence Awards: Bernard Gilmartin OPO Award** [Nov 2014]
  Prof Saw Seang Mei, SERI

- **Asia-Association for Research in Vision and Ophthalmology (ARVO) 2015: ARVO Travel Award** [Feb 2015]
  "*Association of Lens Vault Related Parameters with Angle Closure*"
  Dr Monisha Nongpiur, SERI

- **Asia-Association for Research in Vision and Ophthalmology (ARVO) 2015: ARVO Travel Award** [Feb 2015]
  "*Association of Early Microvascular Damage in the Eye and Kidney with Risk of Cardiovascular Events in a Multi Ethnic Asian Population*"
  Dr Carol Cheung, SERI

OUR GRANTS

NMRC

- **"Development of xanthone-derived antibiotics as therapeutics for multidrug-resistant gram-positive pathogen infections"**.
  Dr Liu Shou Ping; S$1,250,000.00

- **"Rational design of synthetic mimics of antimicrobial peptides: From in silico to in vivo"**.
  Dr Li Jianguo; S$199,500.00

- **"Singapore age-related macular degeneration genetic architecture (SAGA) study: From population genomics to personalized medicine"**.
  A/Prof Cheng Ching-Yu; S$668,071.17

- **"The Singapore colour pupillometry evaluation (SCOPE): A novel detection test for glaucoma"**.
  Prof Dan Milea; S$1,035,050.00

- **"Next generation optical coherence tomography (OCT) for the cornea and anterior segments of the eye"**.
  Dr Marcus Ang; S$195,829.00

- **"Singapore angle closure glaucoma program: Characterization, prevention and management"**.
  Prof Aung Tin; S$5,500,000.00

- **"Neuroglobin in a primate experimental model of glaucoma: A novel neuroprotectant in glaucoma"**.
  Dr Anita Chan; S$375,000.00

- **"Assessing placental perfusion and fetal growth by examining maternal retina during pregnancy"**.
  Dr Queenie Li Lingjun; S$375,000.00

- **"Randomized controlled trial of lutein as a novel neuroprotective adjunctive therapy to improve visual outcome of rhegmatogenous retinal detachment (LUNAR Trial)"**.
  Dr Ning Cheung; S$375,000.00

BMRC

- **"SIPRAD - SERI-IMCB programme in retinal angiogenic diseases"**.
  Prof Wong Tien Yin; S$9,900,000.00

A*Star/ Duke-NUS/ MOH/ Others

- **"Roles of regulatory variants for LOXL1 in pseudoexfoliation glaucoma"**.
  Prof Aung Tin; S$100,000.00

- **"A novel diabetic macular edema screening model using spectral-domain optical coherence tomography in primary care setting in Singapore"**.
  Dr Gavin Tan; S$300,000.00

- **"Retinal microvascular abnormalities as predictors of decline in kidney function in the Singapore Indian eye study cohort"**.
  Dr Charumathi Sabanayagam; S$197,398.00

- **"Prevention of and intervention for eye diseases in the elderly [PROVIDE]"**.
  Prof Ecosse Lamoureux; S$200,000.00

- **"Improving diabetes and health outcomes: Enhancing health literacy in patients with diabetes and diabetic retinopathy"**.
- Prof Ecosse Lamoureux; S$199,750.00

- **"Translational PoC study of RO6897779 in NHP with ocular hypertension"**.
  Dr Amutha Barathi Veluchamy; S$147,665.34

- **"ATX in glaucoma – ATX inhibitor study in Dutch belted rabbits"**.
  Dr Amutha Barathi Veluchamy; S$75,602.63

- **"Efficacy of bispecific crossmab antibodies in model of laser induced CNV in NHP"**.
  Dr Amutha Barathi Veluchamy; S$130,005.38

- **"Validation of a novel micro-fluid cytokine analysis platform for aqueous and vitreous humour in normal and eyes with diabetic retinopathy"**.
  Prof Wong Tien Yin; S$176,483.37

- **"Randomised clinical trial of acupuncture and herbal treatment in dry eye: Cutting edge technologies meet traditional Chinese medicine"**.
  A/Prof Louis Tong; S$265,634.00

- **"Retina, imaging and epidemiology"**.
  Prof Wong Tien Yin; S$1,500,000.00

SingHealth

- **"Rational design of novel branched antimicrobial peptides"**.
  Dr Li Jianguo; S$50,000.00

- **"Optimization of anti-tuberculosis molecules by lipid tail modification of cationic amphiphilic a-mangostin derivatives and the membrane-targeting study"**.
  Dr Liu Shou Ping; S$150,000.00

- **"Antimicrobial peptide immobilization for preventing peri/post-operative artificial cornea implants associated infection"**.
  Dr Gary Yam; S$149,862.00

- **"Tear biomarkers for patients with thyroid orbitopathy"**.
  Dr Zhou Lei; S$149,720.00

Commercial

- **"Randomized, double-masked, vehicle controlled clinical evaluation to assess the safety and efficacy of nepafenac ophthalmic suspension, 0.3% for improvement in clinical outcomes among diabetic subjects following cataract surgery"**.
  Adj A/Prof Edmund Wong; S$137,305.68

- **"A randomised, double-masked, sham-controlled phase 3b/4 study of the efficacy, safety, and tolerability of intravitreal aflibercept monotherapy compared to aflibercept with adjunctive photodynamic therapy as indicated in subjects with polypoidal choroidal vasculopathy (PLANET)"**.
  A/Prof Gemmy Cheung; S$116,736.92

- **"Chronobiological effects of blocking blue light – the BLUES study (blocking light usefully for efficient sleep)"**.
  Prof Dan Milea; S$164,056.63

- **"Laser-induced choroidal neovascularization (CNV) in cynomolgus monkeys-age-related macular degeneration (AMD) model"**.
  Dr Amutha Veluchamy Barathi; S$431,990.35

- **"Choriodal neovascularization in Asians: Is there a difference in genetic background between age-related macular degeneration and polypoidal chorodial vasculopathy?"**
  Prof Wong Tien Yin; S$286,352.95

OUR PUBLICATIONS

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FINANCIAL REPORT

DIRECTORS' REPORT

We are pleased to submit this annual report to the member of the Company together with the audited financial statements for the financial year ended 31 March 2015.

Directors

The directors (who are also the charity trustees) in office at the date of this report are as follows:

Professor Donald Tan Tiang Hwee
Professor Patrick John Casey
Associate Professor Yeoh Khay Guan
Professor Chia Kee Seng
Doctor Geh Min
Professor Ang Chong Lye
Professor Wang Linfa
Doctor Lim Eng Kok
Mr Pathmanaban Selvadurai
Professor Soo Kee Chee
Miss Ooi Chee Kar

Directors' Interests

The Company has no share capital and its members' liability is limited by guarantee.

Neither at the end of, nor at any time during the financial year, was the Company a party to any arrangement whose objects are, or one of whose objects is, to enable the directors of the Company to acquire benefits by means of the acquisition of shares in or debentures of the Company or any other body corporate.

Except for salaries, bonuses and fees and those benefits that are disclosed in this report and in the attached notes to the financial statements, since the end of the last financial year, no director has received or become entitled to receive, a benefit by reason of a contract made by the Company or a related corporation with the director, or with a firm of which he is a member, or with a company in which he has a substantial financial interest, except for remuneration paid to a director in his capacity as an employee.

Share options

The Company does not have any share capital and accordingly has not issued any share options.

Auditors

The auditors, KPMG LLP, have indicated their willingness to accept re-appointment.

On behalf of the Board of Directors

Professor Wong Tien Yin
Director

Mr Pathmanaban Selvadurai
Director

STATEMENT BY DIRECTORS

In our opinion:

(a) the financial statements set out on pages FS1 to FS23 are drawn up so as to give a true and fair view of the financial position of the Company as at 31 March 2015 and the financial performance and cash flows of the Company for the year ended on that date in accordance with the provisions of the Singapore Companies Act, Chapter 50, the Singapore Charities Act, Chapter 37 and Singapore Financial Reporting Standards; and

(b) at the date of this statement, there are reasonable grounds to believe that the Company will be able to pay its debts as and when they fall due.

The Board of Directors has, on the date of this statement, authorised these financial statements for issue.

On behalf of the Board of Directors

Professor Wong Tien Yin
Director

Mr Pathmanaban Selvadurai
Director

INDEPENDENT AUDITORS' REPORT

Member of the Company
Singapore Eye Research Institute

Report on the financial statements

We have audited the accompanying financial statements of Singapore Eye Research Institute (the Company), which comprise the balance sheet as at 31 March 2015, the statement of comprehensive income and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information, as set out on pages FS1 to FS23.

Management's responsibility for the financial statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the provisions of the Singapore Companies Act, Chapter 50 (the Act), the Singapore Charities Act, Chapter 37 (the Charities Act) and Singapore Financial Reporting Standards, and for devising and maintaining a system of internal accounting controls sufficient to provide a reasonable assurance that assets are safeguarded against loss from unauthorised use or disposition; and transactions are properly authorised and that they are recorded as necessary to permit the preparation of true and fair financial statements and to maintain accountability of assets.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Singapore Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements are properly drawn up in accordance with the provisions of the Act, the Charities Act and Singapore Financial Reporting Standards so as to give a true and fair view of the financial position of the Company as at 31 March 2015 and the financial performance and cash flows of the Company for the year ended on that date.

Report on other legal and regulatory requirements

In our opinion, the accounting and other records required by the Act to be kept by the Company have been properly kept in accordance with the provisions of the Act.

KPMG LLP
Public Accountants and
Chartered Accountants

Singapore

Balance sheet

As at 31 March 2015

	Note	2015 $	2014 $
Non-current assets			
Property, plant and equipment	4	6,733,513	6,882,465
Intangible assets	5	460,508	114,461
		7,194,021	6,996,926
Current assets			
Trade and other receivables	6	14,467,417	9,977,943
Prepayments		78,297	–
Cash and cash equivalents	8	9,149,768	9,293,308
		23,695,482	19,271,251
Total assets		30,889,503	26,268,177
Accumulated fund	9	7,505,449	6,244,770
Non-current liability			
Deferred income	10	4,257,067	5,209,630
		4,257,067	5,209,630
Current liabilities			
Trade payables	11	2,593,639	2,606,165
Other payables	12	13,360,408	10,104,767
Deferred income	10	2,477,586	1,447,460
Employee benefits	13	695,354	655,385
		19,126,987	14,813,777
Total liabilities		23,384,054	20,023,407
Total accumulated fund and liabilities		30,889,503	26,268,177

Statement of comprehensive income

Year ended 31 March 2015

	Note	2015 $	2014 $
Operating expenditure grant	14	25,857,977	21,993,545
Capital expenditure grant	14	1,595,623	1,469,778
Other income	15	4,728,993	3,591,513
		32,182,593	27,054,836
Staff costs		(17,776,135)	(15,806,993)
Supplies and consumables		(5,806,233)	(4,164,807)
Depreciation of property, plant and equipment	4	(1,563,191)	(1,418,097)
Amortisation of intangible assets	5	(154,364)	(109,852)
Rental and utilities		(2,922,655)	(681,154)
Purchased and contracted services		(504,446)	(384,072)
Repairs and maintenance		(697,148)	(786,956)
Other operating expenses		(1,460,907)	(1,525,125)
Results from operating activities		1,297,514	2,177,780
Finance costs	16	(36,835)	(5,902)
Surplus before tax		1,260,679	2,171,878
Tax expense	17	–	–
Surplus for the year	18	1,260,679	2,171,878
Other comprehensive income for the year, net of income tax		–	–
Total comprehensive income for the year		1,260,679	2,171,878
Accumulated fund brought forward		6,244,770	4,072,892
Accumulated fund carried forward		7,505,449	6,244,770

The Company had no other changes in accumulated fund except for surplus for the year of $1,260,679 (2014: $2,171,878) for the financial year ended 31 March 2015.

Statement of cash flows

Year ended 31 March 2015

	Note	2015	2014
		$	$
Cash flows from operating activities			
Surplus for the year		1,260,679	2,171,878
Adjustments for:			
Depreciation of property, plant and equipment		1,563,191	1,418,097
Loss on disposal of property, plant and equipment		148,416	48,516
Amortisation of deferred income		(1,595,623)	(1,469,778)
Amortisation of intangible assets		154,364	109,852
		1,531,027	2,278,565
Change in trade and other receivables		(4,489,474)	(955,041)
Change in prepayments		(78,297)	35,341
Change in trade and other payables		3,243,115	417,994
Change in employee benefits		39,969	(54,421)
Net cash from operating activities		246,340	1,722,438
Cash flows from investing activities			
Purchase of property, plant and equipment		(1,660,108)	(2,511,626)
Purchase of intangible assets		(500,411)	(61,519)
Grants for capital expenditure		97,453	–
Net cash used in investing activities		1,673,186	2,526,914
Net increase in cash and cash equivalents		(143,540)	1,676,207
Cash and cash equivalents at beginning of the year		9,293,308	7,617,101
Cash and cash equivalents at end of the year	8	9,149,768	9,293,308

During the year, the Company acquired property, plant and equipment and intangible assets with an aggregate cost of $2,160,519 (2014: $2,573,145), of which $1,673,186 (2014: $2,526,914) was acquired using grants received.

NOTES TO THE FINANCIAL STATEMENTS

These notes form an integral part of the financial statements.

The financial statements were authorised for issue by the Board of Directors on

1. Domicile and activities

Singapore Eye Research Institute (the Company) is incorporated in the Republic of Singapore. The address of the Company's registered office is 31 Third Hospital Avenue, #03-03 Bowyer Block, Singapore 168753.

The principal activities of the Company are to carry out eye-related medical research projects.

The immediate, intermediate holding companies and ultimate holding party during the financial year are Singapore National Eye Centre Pte Ltd, Singapore Health Services Pte Ltd and MOH Holdings Pte Ltd, and Minister for Finance respectively. These companies were incorporated in the Republic of Singapore.

The Company, limited by guarantee, has been registered as a Charity, under the Charities Act, Cap. 37 with effect from 27 November 2002.

2. Basis of preparation

2.1 Statement of compliance

The financial statements have been prepared in accordance with Singapore Financial Reporting Standards (FRS).

2.2 Basis of measurement

The financial statements have been prepared on the historical cost basis except for certain financial assets and financial liabilities which are measured at fair values.

2.3 Functional and presentation currency

The financial statements are presented in Singapore dollars, which is the Company's functional currency.

2.4 Use of estimates and judgements

The preparation of financial statements in conformity with FRSs requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

There are no critical judgements in applying accounting policies that have significant effect on the amount recognised in the financial statements and no assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year.

Measurement of fair values

A few of the Company's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities.

When measuring the fair value of an asset or a liability, the Company uses market observable data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or a liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement (with Level 3 being the lowest).

The Company recognises transfers between levels of the fair value hierarchy as of the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in note 19.

3. Significant accounting policies

The Company adopted new or revised financial reporting standards and interpretations which became effective during the year. The initial adoption of these standards and interpretations did not have a material impact on the financial statements.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements, and have been applied consistently by the Company.

3.1 Foreign currency

Transactions in foreign currencies are translated to the functional currency of the Company at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are retranslated to the functional currency at the exchange rate at that date. The foreign currency gain or loss on monetary items is the difference between amortised cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortised cost in foreign currency translated at the exchange rate at the end of the reporting period.

Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are retranslated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary items in a foreign currency that are measured in terms of historical cost are translated using the exchange rate at the date of the transaction.

Foreign currency differences arising on retranslation are recognised in surplus or deficit.

3.2 Financial instruments

Non-derivative financial assets

The Company initially recognises loans and receivables on the date that they are originated. All other financial assets (including assets designated at fair value through profit or loss) are recognised initially on the trade date, which is the date that the Company becomes a party to the contractual provisions of the instrument.

The Company derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred, or it neither transfers nor retains substantially all of the risk and rewards of ownership and does not retain control over the transferred asset. Any interest in transferred financial assets that is created or retained by the Company is recognised as a separate asset or liability.

Financial assets and liabilities are offset and the net amount presented in the balance sheet when, and only when, the Company has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Company classifies non-derivative financial assets into the following categories: loans and receivables.

Loans and receivables

Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market. Such assets are recognised initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, loans and receivables are measured at amortised cost using the effective interest method, less any impairment losses.

Loans and receivables comprise trade and other receivables, and cash and cash equivalents.

Cash and cash equivalents comprise cash and bank balances.

Non-derivative financial liabilities

The Company initially recognises all financial liabilities on the trade date, which is the date that the Company becomes a party to the contractual provisions of the instrument.

The Company derecognises a financial liability when its contractual obligations are discharged, cancelled or expire.

Financial assets and liabilities are offset and the net amount presented in the balance sheet when, and only when, the Company has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Company classifies non-derivative financial liabilities into other financial liabilities category. Such financial liabilities are recognised initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, these financial liabilities are measured at amortised cost using the effective interest method.

Other financial liabilities comprise employee benefits, trade payables and other payables.

The Company do not have any financial assets and financial liabilities that:
- are offset in the balance sheet; or
- are subject to an enforceable master netting arrangement, irrespective of whether they are offset in the balance sheet.

3.3 Property, plant and equipment

Recognition and measurement

Items of property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes:

- the cost of materials and direct labour;
- any other costs directly attributable to bringing the asset to a working condition for its intended use;
- when the Company has an obligation to remove the asset or restore the site, an estimate of the costs of dismantling and removing the items and restoring the site on which they are located; and
- capitalised borrowing costs.

Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

Low value assets costing less than $1,000 individually are written off in the period of outlay.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

The gain or loss on disposal of an item of property, plant and equipment (calculated as the difference between the net proceeds from disposal and the carrying amount of the item) is recognised in surplus or deficit.

Subsequent costs

The cost of replacing a component of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the component will flow to the Company, and its cost can be measured reliably. The carrying amount of the replaced component is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in surplus or deficit as incurred.

Depreciation

Depreciation is calculated based on the cost of an asset, less its residual value. Significant components of individual assets are assessed and if a component has a useful life that is different from the remainder of that asset, that component is depreciated separately.

Depreciation is recognised as an expense in surplus or deficit on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment, unless it is included in the carrying amount of another asset.

Depreciation is recognised from the date that the property, plant and equipment are installed and are ready for use, or in respect of internally constructed assets, from the date that the asset is completed and ready for use.

The estimated useful lives for the current and comparative years are as follows:

Building improvements	3 to 10 years
Medical and laboratory equipment	3 to 8 years
Computers	3 years
Office equipment	5 years
Furniture and fittings	8 years

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

3.4 Intangible assets

Computer software, which is not an integral part of the related hardware, is accounted for as an intangible asset and is stated at cost less accumulated amortisation and accumulated impairment losses.

Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in surplus or deficit as incurred.

Amortisation

Amortisation is calculated based on the cost of asset, less its residual value.
Amortisation of computer software is recognised in surplus or deficit on a straight-line basis over its estimated useful life of 3 to 5 years, from the date that they are available for use.

Amortisation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

3.5 Impairment

i. *Non-derivative financial assets*

A financial asset not carried at fair value through profit or loss is assessed at the end of each reporting period to determine whether there is objective evidence that it is impaired. A financial asset is impaired if objective evidence indicates that a loss event(s) has occurred after the initial recognition of the asset, and that the loss event(s) had a negative effect on the estimated future cash flows of that asset that can be estimated reliably.

Objective evidence that financial assets are impaired can include default or delinquency by a debtor, restructuring of an amount due to the Company on terms that the Company would not consider otherwise, indications that a debtor or issuer will enter bankruptcy, adverse changes in the payment status of borrowers or issuers in the group, economic conditions that correlate with defaults or the disappearance of an active market for a security.

Loans and receivables

The Company considers evidence of impairment for loans and receivables at both specific asset and collective level. All individually significant loans and receivables are assessed for specific impairment. All individually significant loans and receivables found not to be specifically impaired are then collectively assessed for any impairment that has been incurred but not yet identified. Loans and receivables that are not individually significant are collectively assessed for impairment by grouping together loans and receivables with similar risk characteristics

In assessing collective impairment, the Company uses historical trends of the probability of default, timing of recoveries and the amount of loss incurred, adjusted for management's judgement as to whether current economic and credit conditions are such that the actual losses are likely to be greater or less than suggested by historical trends.

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An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the asset's original effective interest rate. Losses are recognised in surplus or deficit and reflected in an allowance account against loans and receivables. Interest on the impaired asset continues to be recognised. When the Company considers that there are no realistic prospects of recovery of the asset, the relevant amounts are written off. If the amount of impairment loss subsequently decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, then the previously recognised impairment loss is reversed through surplus or deficit.

ii. *Non-financial assets*

The carrying amounts of the Company's non-financial assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. An impairment loss is recognised if the carrying amount of an asset or its related cash-generating unit (CGU) exceeds its estimated recoverable amount.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or CGU.

Impairment losses are recognised in surplus or deficit. Impairment losses recognised in respect of CGUs are allocated to reduce the carrying amounts of the other assets in the CGU (group of CGUs) on a pro rata basis.

Impairment loss recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

3.6 Employee benefits

Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an employee benefit expense in surplus or deficit in the periods during which related services are rendered by employees.

Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognised for the amount expected to be paid under short-term cash bonus or profit-sharing plans if the Company has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

3.7 Income recognition

Grant income

Grant income designated for research purposes is recognised in surplus or deficit when the relevant qualifying costs are incurred.

Grants which are designated for property, plant and equipment, and intangible assets purchases whose individual value of more than $1,000 is taken to deferred income in the period of receipt. The deferred income is amortised over the useful life of the property, plant and equipment and intangible assets by crediting to the surplus or deficit an amount so as to match the related depreciation and amortisation expense.

Programme fees

Programme fees relate to fees or income which the Company receives when it carries out activities through direct service provision to undertake the work that contributes to its objectives. Programme fees are recognised in surplus or deficit when the relevant milestone is achieved.

Sponsorships

Sponsorships which are designated for specific events are taken to a sponsorships fund account. Sponsorship income is recognised in the surplus or deficit when relevant expenditures have been incurred. Net surplus or deficit is only taken to statement of comprehensive income when the relevant event is completed.

3.8 Research

Expenditure on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, is recognised in surplus or deficit as incurred.

3.9 Lease payments

Payments made under operating leases are recognised in surplus or deficit on a straight-line basis over the term of the lease. Lease incentives received are recognised as an integral part of the total lease expense, over the term of the lease.

3.10 Finance income and finance costs

Finance income comprises interest income on funds invested and net foreign currency gains that are recognised in surplus or deficit. Interest income is recognised as it accrues in surplus or deficit, using the effective interest method.

Finance costs comprise net foreign currency losses that are recognised in surplus or deficit.

Foreign currency gains and losses on financial assets and financial liabilities are reported on a net basis as either finance income or finance cost depending on whether foreign currency movements are in a net gain or net loss position.

3.11 Tax

The Company has been registered as a Charity, under Charities Act, Cap. 37 with effect from 27 November 2002. No provision for taxation has been made in the financial statements as the Company is a registered charity with income tax exemption.

3.12 New standards and interpretations not adopted

A number of new standards, amendments to standards and interpretations are effective for annual periods beginning after 1 April 2014, and have not been applied in preparing these financial statements. None of these are expected to have a significant effect on the financial statements of the Company. The Company does not plan to adopt these standards early.

4. Property, plant and equipment

	Building improvements $	Medical and laboratory equipment $	Computers $	Office equipment $	Furniture and fittings $	Total $
Cost						
At 1 April 2013	1,106,235	12,677,358	981,811	114,677	822,134	15,702,215
Additions	–	2,338,470	171,346	1,810	–	2,511,626
Disposals	–	(193,960)	(15,475)	–	–	(209,435)
At 31 March 2014	1,106,235	14,821,868	1,137,682	116,487	822,134	18,004,406
Additions	–	1,381,924	215,364	1,359	61,461	1,660,108
Disposals	(59,133)	(1,327,264)	(99,742)	–	(606,150)	(2,092,289)
At 31 March 2015	1,047,102	14,876,528	1,253,304	117,846	277,445	17,572,225
Accumulated depreciation						
At 1 April 2013	1,046,788	7,294,507	805,396	95,357	622,715	9,864,763
Depreciation charge for the year	14,224	1,091,921	114,169	6,507	37,481	1,264,302
Disposals	–	(387,289)	(13,378)	–	–	(400,667)
At 31 March 2013	1,046,788	7,294,507	805,396	95,357	622,715	9,864,763
Depreciation charge for the year	14,019	1,245,258	116,150	6,492	36,178	1,418,097
Disposals	–	(145,444)	(15,475)	–	–	(160,919)
At 31 March 2015	1,025,666	8,598,525	950,813	106,905	156,803	10,838,712
Carrying amounts						
At 1 April 2013	59,447	5,382,851	176,415	19,320	199,419	5,837,452
At 31 March 2014	45,428	6,427,547	231,611	14,638	163,241	6,882,465
At 31 March 2015	21,436	6,278,003	302,491	10,941	120,642	6,733,513

5. Intangible assets

	Computer software $
Cost	
At 1 April 2013	683,254
Additions	61,519
At 31 March 2014	744,773
Additions	500,411
At 31 March 2015	1,245,184
Accumulated amortisation	
At 1 April 2013	520,460
Amortisation charge for the year	109,852
At 31 March 2014	630,312
Amortisation charge for the year	154,364
At 31 March 2015	784,676
Carrying amounts	
At 1 April 2013	162,794
At 31 March 2014	114,461
At 31 March 2014	460,508

6. Trade and other receivables

	Note	2015 $	2014 $
Deposits and other receivables	7	13,489,578	9,568,292
Trade amounts due from:			
- Immediate holding company		284,877	215,914
- Intermediate holding company		277,757	150,776
- Related corporations		415,205	42,961
		14,467,417	9,977,943

Outstanding balances with related parties are unsecured. There is no allowance for doubtful debts arising from these outstanding balances.

The Company's exposure to credit and currency risks are disclosed in note 19.

7. Deposits and other receivables

	Note	2015	2014
		$	$
Deposits		15,567	893
Receivables from funding bodies		12,074,507	8,032,514
Grant receivables from third parties		1,391,212	1,530,551
Sundry receivables		8,292	4,334
	6	13,489,578	9,568,292

Receivables from funding bodies are non-interest bearing and are generally on 30 to 60 days credit term.

8. Cash and cash equivalents

	2015	2014
	$	$
Cash at bank and in hand	9,149,768	9,293,308

9. Accumulated fund

The Company is limited by guarantee and has no share capital. In the event of a winding up of the Company, the liability of each member of the Company is limited to such amount as may be required, but not exceeding the sum of one hundred dollars ($100). The accumulated fund represents the cumulative surplus of the Company.

The Company's reserve policy is to maintain funds at a minimum sufficient to cover budgeted operating and capital cost for the current fiscal year.

Capital management

Capital comprises the accumulated fund of the Company. The Company's operation is funded primarily from grants from various funding bodies and loan from immediate holding company. There was no change in the Company's approach to capital management during the year. The Company is not subject to externally imposed capital requirements.

10. Deferred income

	2015 $	2014 $
At cost	18,045,845	18,095,749
Less: Accumulated amortisation:		
At 1 April	11,438,659	10,129,800
Amortisation for the year	1,595,623	1,469,778
Disposal of assets funded by grants	(1,723,090)	(160,919)
At 31 March	11,311,192	11,438,659
	6,734,653	6,657,090
Non-current	4,257,067	5,209,630
Current	2,477,586	1,447,460
	6,734,653	6,657,090

Deferred income relates to grants received for the purchase of property, plant and equipment ("PPE") and intangible assets ("IA"). Deferred income is amortised over the periods necessary to match the depreciation of the PPE and amortisation of the IA purchased with the related grants as well as the donated PPE and IA.

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11. Trade payables

	2015 $	2014 $
Trade payables	1,171,400	1,681,771
Amounts due to:		
- Immediate holding company (trade)	891,498	235,307
- Intermediate holding company (trade)	508,940	570,877
- Related corporations (trade)	21,801	118,210
	2,593,639	2,606,165

Outstanding balances with related parties are unsecured.

The Company's exposure to currency and liquidity risks related to trade payables is disclosed in note 19.

12. Other payables

	2015 $	2014 $
Accrued operating expenses	5,000,028	2,185,344
Loans from immediate holding company	6,000,000	6,000,000
Research grants received in advance from government	219,633	261,901
Research grants received in advance from third parties	1,609,545	1,427,454
Refundable deposits	940	940
Sundry payables	530,262	229,128
	13,360,408	10,104,767

Loan from immediate holding company is unsecured, interest-free and repayable on demand.

The Company's exposure to currency and liquidity risks related to trade payables is disclosed in note 19.

13. Employee benefits

	2015 $	2014 $
Liability for short-term accumulating compensated absences	695,354	655,385

14. Operating / Capital expenditure grants

These grants are received mainly from National Medical Research Council, Biomedical Research Council, Singhealth Foundation, Singapore Health Services Pte Ltd, Singapore National Eye Centre Pte Ltd and SNEC-Health Research Endowment Fund for research projects.

15. Other income

	2015 $	2014 $
Other research grant and programme fees	4,447,581	3,439,952
Other miscellaneous income	281,412	151,561
	4,728,993	3,591,513

16. Finance costs

	2015 $	2014 $
Exchange loss (net)	(36,835)	(5,902)

17. Tax expense

The Company is a non-profit organisation registered with the Commissioner of Charities under the Charities Act. With effect from Year of Assessment 2008, all registered and exempt charities will enjoy automatic income tax exemption. Thus, no provision for taxation will be made in the financial statements.

18. Surplus for the year

The following items have been included in arriving at surplus for the year:

	Note	2015 $	2014 $
Amortisation of deferred income	10	(1,595,623)	(1,469,778)
Temporary occupation licence ("TOL") and other operating lease expense		2,802,764	433,730
Contributions to defined contribution plan included in staff costs		1,917,504	1,702,162

19. Financial risk management

Overview

The Company has exposure to the following risks from its use of financial instruments:

- credit risk
- liquidity risk
- market risk

This note presents information about the Company's exposure to each of the above risks, the Company's objectives, policies and processes for measuring and managing risk.

Risk management framework

Risk management is integral to the whole business of the Company. The Company has a system of controls in place to create an acceptable balance between cost of risks and the cost of managing the risks. The management continually monitors the Company's risk management process to ensure that an appropriate balance between risk and control is achieved. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities.

Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations, arises principally from the funding bodies and related parties, as and when they fall due.

The carrying amount of financial assets in the balance sheet represents the Company's respective maximum exposure to credit risk, before taking into account any collateral held. The Company does not hold any collateral in respect of its financial assets.

Cash is placed with financial institutions which are regulated.

At the reporting date, there is no significant concentration of credit risk.

The maximum exposure to credit risk for trade receivables of the Company and trade amounts with related parties (by type of debtor) is:

	2015 $	2014 $
Funding bodies	12,074,507	8,032,514
Corporations	2,392,910	1,945,429
	14,467,417	9,977,943

Impairment losses

The ageing of trade and other receivables at the reporting date is:

	Gross 2015 $	Impairment losses 2015 $	Gross 2014 $	Impairment losses 2014 $
No credit terms	13,289,151	–	8,674,587	–
Not past due	958,849	–	1,156,047	–
Past due 1 – 30 days	75,101	–	33,839	–
Past due 31 – 150 days	49,476	–	70,169	–
Past due over 150 days	94,840	–	43,301	–
	14,467,417	–	9,977,943	–

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due under normal and stressed conditions without incurring unacceptable losses or risking damage to the Company's reputation.

The Company's operation is funded primarily from grants from National Medical Research Council and loans from immediate holding company. As such, the Company's exposure to liquidity risk is minimised.

The Company monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Company's operations and to mitigate the effects of fluctuations in cash flows.

The following are the contractual maturities of financial liabilities, including estimated interest payments and excluding the impact of netting agreements:

	Note	Carrying amount	Total contractual cash flows	Within 1 year
		$	$	$
2015				
Trade payables	11	2,593,639	(2,593,639)	(2,593,639)
Other payables*	12	11,531,230	(11,531,230)	(11,531,230)
Employee benefits	13	695,354	(695,354)	(695,354)
		14,820,223	(14,820,223)	(14,820,223)
2014				
Trade payables	11	2,606,165	(2,606,165)	(2,606,165)
Other payables*	12	8,415,412	(8,415,412)	(8,415,412)
Employee benefits	13	655,385	(655,385)	(655,385)
		11,676,962	(11,676,962)	(11,676,962)

* Excludes research grants received in advance from government and third parties

Market risk

Market risk is the risk that changes in market prices, such as interest rates, foreign exchange rates and equity prices will affect the Company's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return

Interest rate risk

The Company has no significant exposure to interest rate risk.

Foreign currency risk

The financial assets and liabilities of the Company are primarily denominated in Singapore dollars.
The Company has no significant exposure to foreign currency risk.

Estimation of fair values

Fair value versus carrying amounts.

The carrying amounts of financial assets and financial liabilities are as follows. The fair value hierarchy is not included in the table below as the carrying amounts of financial assets and financial liabilities is a reasonable approximation of fair value.

	Note	Loans and receivables	Other financial liabilities	Total carrying amount	Fair value
		$	$	$	$
31 March 2015					
Cash and cash equivalents	8	9,149,768	–	9,149,768	9,149,768
Trade and other receivables	6	14,467,417	–	14,467,417	14,467,417
		23,617,185	–	23,617,185	23,617,185
Trade payables	11	–	(2,593,639)	(2,593,639)	(2,593,639)
Other payables*	12	–	(13,360,408)	(13,360,408)	(13,360,408)
Employee benefits	13	–	(695,354)	(695,354)	(695,354)
		–	(16,649,401)	(16,649,401)	(16,649,401)
31 March 2014					
Cash and cash equivalents	8	9,293,308	–	9,293,308	9,293,308
Trade and other receivables	6	9,977,943	–	9,977,943	9,977,943
		19,271,251	–	19,271,251	19,271,251
Trade payables	11	–	(2,606,165)	(2,606,165)	(2,606,165)
Other payables*	12	–	(10,104,767)	(10,104,767)	(10,104,767)
Employee benefits	13	–	(655,385)	(655,385)	(655,385)
		–	(13,366,317)	(13,366,317)	(13,366,317)

Measurement of fair values

Other financial assets and liabilities

The notional amounts of financial assets and liabilities with a maturity of less than one year (including trade and other receivables, cash and cash equivalents, trade payables, other payables and employee benefits) are assumed to approximate their fair values because of the short period to maturity

20. Commitments

At 31 March 2015, the Company has commitments for future minimum lease payments under non-cancellable operating leases (including those under Temporary Occupation License) as follows:

	2015 $	2014 $
Within 1 year	2,738,118	2,220,809
After 1 year but within 5 years	10,905,570	10,638,618
	13,643,688	12,859,427

The operating lease commitments mainly relate to the lease of space and office equipment. The leases run for a period of one to five years with an option to renew the lease after that date.

21. Related parties

Collectively, but not individually significant transactions

The Company charges its immediate holding company for manpower services provided and purchases services from its intermediate holding company, immediate holding company and related corporations.

Other related party transactions

Other than disclosed elsewhere in the financial statements, the transactions with related parties are as follows:

	2015 $	2014 $
Sale of manpower services		
Immediate holding company	(897,011)	(829,326)
Related corporation	(75,386)	–
Sale of other services		
Immediate holding company	(700)	(3,237)
Related corporation	(9,968)	(30,197)
Purchase of manpower services		
Intermediate holding company	–	15,602
Purchase of other services		
Intermediate holding company	1,112,901	555,348
Immediate holding company	404,400	244,543
Related corporations	197,809	177,604
Purchase of supplies and consumables		
Immediate holding company	2,647	8,004
Related corporations	187,579	347,000
Other expenses paid/payable		
Intermediate holding company	78,023	324,432
Immediate holding company	248,804	353,359
Related corporations	32,896	32,094

The Company occupies space at the premises of its intermediate and immediate holding companies. The current year rental of $341,862 (2014: $462,147)is waived by the immediate holding company.

No remuneration was paid to the Board of Directors during the year except the amount of $90,000 (2014: $90,000)to the Institute Director in his capacity as an employee.

Other than above, key management personnel compensation comprised:

	2015 $	2014 $
Short-term employee benefits	1,543,485	1,415,282
Contribution to defined contribution plan	64,184	36,043
	1,607,669	1,451,325

The number of key personnel whose remuneration exceeded $50,000 during the year were as follows:

	2015	2014
Number of personnel in bands:		
- $50,001 to $100,000	–	–
- $100,001 to $200,000	–	1
- $200,001 to $300,000	3	2
- $300,001 to $400,000	1	1
- $400,001 to $500,000	1	1