SINGAPORE EYE RESEARCH INSTITUTE

SIGHT MATTERS

Annual Report FY2021/2022

SINGAPORE EYE RESEARCH INSTITUTE

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 (SNEC), and affiliated to the National University of Singapore (NUS) and the Duke-NUS Medical School. In two decades, SERI has grown from a team of 5 to over 251 staff, encompassing clinician scientists, scientists, fellows, students, support staff, as well as more than 239 distinguished adjunct faculty members to become the largest eye research institute in the Asia-Pacific region. As of Mar 2022, SERI has published 4,831 peer-reviewed papers supported by S$390 million in competitive research grants. SERI has trained more than 210 current and past graduate students; and has been conferred over 1,057 national & international awards and 148 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.

CHAIRMAN'S MESSAGE

2021 was the year of resilience with SERI performing exceptionally well amidst all the challenges of a recouping world amassing a competitive grant funding worth $43.55 million and publishing about 500 papers!

SERI has long been known for its leading performance in publications and the broad spectrum of eye research that it undertakes, but adding a feather to our cap is the latest Elsevier-Stanford study that has recognized 21 scientists from SERI as being the Top 2% of researchers in the Ophthalmology and Optometry field. This study was consistent with the recognition from the web platform Expertscape, that has ranked some of our SNEC/SERI faculties as world top experts in the domains of Retinal Diseases, Angle-closure Glaucoma, Cornea, Tears, Deep Learning, Diabetic Retinopathy, Glaucoma, Macular Degeneration, Myopia, Retinal Diseases and Uveitis.

Congratulations to our entire faculty for their hard work and efforts in realizing our vision – to be the world-leading in basic science, clinical and translational eye and vision research.

Our patenting game has been strong with over 148 patent applications being filed during this period. Two major licensing deals were inked too– The technology of Eye drop guide has been licensed to IDB VISIONCARE (IDBV), a distributor of medical products for Malaysia and Brunei territories in 2020. Eye Drop Guide is a magnetic snap-fit modular eye drop assistive device that allows accurate, convenient and independent application of eye drops. The product is helpful for patients, seniors in particular, who face difficulty in positioning and administering eye drops.

The second licensing deal was between RetiKid and EyRIS – a global exclusive license for Chronic Kidney Diseases (CKD) screening using fundus images. RetiKid which was jointly devised by the SERI Ocular Epidemiology Group and Retina Group, is a deep learning algorithm that is able to identify early-stage CKD patients with just a simple non-invasive fundus image. Thus, it can be used for opportunistic screening for population at risk, i.e. people with high blood pressure, diabetes, obesity, smoking and family history of kidney disease.

I am happy that we, as a community are inching back to normalcy, and are back to workplace, with in-person events and meetings. We have truly realized the power of a community and the benefits of peers and colleagues around us in the past two years. My heartfelt gratitude to all our clinical, nursing and support staff for their immense support during our transition back to a semblance of normalcy. Let us forge ahead as a team with this renewed understanding and leverage on our strengths to take our institution to greater heights.

Professor Aung Tin
Chairman

EXECUTIVE DIRECTOR'S MESSAGE

2021 started off on a great note, with SERI being awarded the $20Mil centre grant entitled Singapore Advanced Multi-subspeciality Unified Research And Innovation Centre In Ophthalmology (SAMURAI). This grant focuses on optimizing and strengthening our existing core that was established under the previous core grants, but also acknowledges new areas of 'hot topics' e.g. AI and gene therapy, in order to propel the advancement of translational research in eye diseases. This funding will further increase SERI's international competitiveness as a leader in ophthalmology research and innovation.

I am pleased to note that several of our esteemed faculty have gained international recognition for their research work. Two independent entities namely the web platform Expertscape and an Elsevier- Stanford study, have shown that several scientists from the Singapore Eye Research Institute are top experts in the field of Ophthalmology and Optometry, specifically in the domains of Deep Learning, Retinal Diseases, Angle-closure Glaucoma, Cornea, Tears, Diabetic Retinopathy, Glaucoma, Macular Degeneration, Myopia, Retinal Diseases and Uveitis. Congratulations to all the faculty members and I hope, SERI continues to be a trailblazer in the field of eye research in the Asia-Pacific region.

I am also happy to announce that the mid-term review of the collaborative grant from NMRC named TAAP: Translational Asian Age-Related Macular Degeneration Program was viewed favourably and the panel was impressed with the effort and progress made in the program thus far. The program which was awarded a $24Mil Open Fund in 2018, aims to reduce blindness from Age-related macular degeneration by taking a translational approach and pursues this goal through five concurrent and integrated platforms: population health, pathophysiology, novel imaging techniques and biomarker, therapy and quality of life.

On the collaboration front, a new joint initiative with UCL Institute of Ophthalmology will enable UCL students from Masters program in Advanced Therapeutics, to undertake a research placement at SERI. This collaboration will offer students tremendous opportunity to deepen their preclinical science learning and they stand to benefit from the wealth of research knowledge available at two of the world's leading vision research centres. The initiative would also serve as the precursor for the joint PhD programme in future.

As the world is moving towards a hybrid working model, we've learnt to adapt to the changing circumstances. I hope all of you continue to work with resilience, resolve and will stay inspired. We, are here to support you in this transition, and I would like extend my sincere thanks to all of you for your hardwork and contributions. What drives us, is the desire to improve the lives of patients through our eye and vision research and I am here to enable you, on that journey.

Prof Jodhbir S Mehta
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

- SERI is one of the largest research institutes in Singapore and the largest eye research institute in the Asia-Pacific, with a faculty of 251, encompassing clinician scientists, scientists, fellows, students, and support staff.

- SERI has successfully secured external peer-reviewed competitive grant funding worth approximately S$43.55 million this year, and a cumulative quantum of approximately S$390 million.

- SERI continues its leading performance in publication, with 500 scientific papers this year, and with a cumulative publication quantum of 4,831 scientific papers.

- As of March 2022, the SERI faculty has received 1,057 national and international awards with 148 patent applications being filed during the same period.

- Since 1997, SERI has conducted 2,152 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 518 ongoing research projects at SERI, of which approximately 70% cover clinical/translational research, 12% basic research and 18% epidemiology, imaging and health service research.

- SERI has further contributed to the training of research manpower, including over 220 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

- **Review of SERI's Open Fund-Large Collaborative Grant for TAAP: Translational Asian Age-Related Macular Degeneration Program, by NMRC-Appointed International Scientific Advisory Board**

  SERI was awarded a $24 million Open Fund – Large Collaborative Grant from NMRC for a Translational Asian Age-related Macular Degeneration Program (TAAP) in 2018, to address the key knowledge gaps, unmet clinical and population needs in the field of Asian Age-related macular degeneration (AMD) by a broad-based interlinked "bench to bedside to population" approach, with the broad aim to reduce blindness from AMD. Led by Prof. Gemmy Cheung, the TAAP multidisciplinary team pursues this goal through five concurrent and integrated platforms: population health, pathophysiology, novel imaging techniques and biomarker, therapy and quality of life.

  The TAAP grant underwent a virtual mid-term review by NMRC-appointed International Scientific Advisory Board (SAB) and the Panel was impressed with the effort and progress made in the program.

- **SNEC/SERI Faculties Recognized as World Top Experts**
  Expertscape is a web platform that identifies and objectively ranks physicians and researchers that excel in the treatment and diagnosis of specific disease based on the research articles published in that area over the past 10 years (2010-2021).

  Some of the SNEC/SERI faculties are ranked as world top experts in the domains of Retinal Diseases, Angle-closure Glaucoma, Cornea, Tears, Deep Learning, Diabetic Retinopathy, Glaucoma, Macular Degeneration, Myopia, Retinal Diseases and Uveitis.

- **License Deal - Eye Drop Guide to IDB Visioncare**
  The Eye Drop Guide is a magnetic snap-fit modular eye drop assistive device that allows accurate, convenient and independent application of eye drops. The product is designed to be universal and able to fit variety of eye drop bottles and sizes. The device is effective in reducing wastage as well as preventing accidental over-dosage of eye medications, which may cause complications. The product is helpful for patients, seniors in particular, who face difficulty in positioning and administering eye drops.

  The Eye Drop Guide is the product of a joint development between SNEC and Ngee Ann Polytechnic. The technology has been licensed to IDB VISIONCARE (IDBV), a distributor of medical products, for Malaysia and Brunei territories in 2020. Previously in 2018, the technology is licensed to two other partners in China and Singapore for selected territories.

- **License Deal- CKD-DLS to EyRIS Singapore**
  SERI Visual Neuroscience Group devised an AI-based, deep learning system that can look at multiple photographs of the back of the eye and infer if the eye is normal or if it has abnormalities and their research was published in the prestigious medical journal, New England Journal of Medicine. CKD-DLS is a deep learning algorithm to detect stage 3 chronic kidney diseases through retina images. This is to address the current suboptimal CKD screening based on serum creatinine, i.e. invasive testing and lack of adhere to CKD screening program even for high risk population due to long waiting time. The CKD-DLS can be used for opportunistic screening for population at risk, i.e. people with high blood pressure, diabetes, obesity, smoking and family history of kidney disease. The CKD-DLS is able to identify early-stage CKD patients with just a simple non-invasive fundus image. This can also be coupled with other disease screening such as diabetic retinopathy and turnaround time is within a few minutes for follow up and referral.

  The technology has been recently licensed to EyRIS Singapore, a joint venture between SERI, NUS and a local IT company called NovaHealth. It is a global exclusive license to EyRIS for chronic kidney disease (CKD) screening using fundus images.

- **Renewal of SERI's Centre Grant: SAMURAI (Singapore Advanced Multi-Subspecialty Unified Research And Innovation Centre in Ophthalmology)**
  SERI was awarded $20 Mil Centre Grant entitled Singapore Advanced Multi-subspeciality Unified Research And Innovation Centre In Ophthalmology (SAMURAI).

  The SAMURAI Centre Grant focuses on optimizing and strengthening the existing core, that was established under the previous CGs (MASTER, MASTER II, and INCEPTOR), towards developing a more unified resource centre that can further propel the advancement of translational research in eye diseases, to meet the challenges of the new era, and eventually creating health and economic values for Singapore.

The funding through SAMURAI will further increase SERI's international competitiveness as a leader in ophthalmology research and innovation, and the translation of these research outcomes for both patient benefit and economic impact.

- **Joint SERI-UCL Master Programme**
  SERI recently established a joint initiative for students from UCL MSc Research Pathways in Advanced Therapeutics with Practice Programme to undertake a research placement in SERI.

  The programme would offer students tremendous opportunity to depend their preclinical science learning and to benefit from the wealth of research knowledge available at two of the world's leading vision research centres.

  The initiative would also serve as the precursor for the joint PhD programme in future.

- **SNEC/SERI Faculties Recognised as Top 2% of Researchers in Ophthalmology & Optometry Field**
  SERI continues to be a trailblazer in the field of eye research in the Asia-Pacific region as the Elsevier-Stanford study has shown that 21 scientists from the Singapore Eye Research institute are among the top 2% of researchers in the field of Ophthalmology & Optometry, especially in the field of Artificial Intelligence, Myopia and Glaucoma. The Elsevier-Stanford study created a public database of over 100,000 top-scientists based on citations and other metrics in which they were classified into 22 scientific fields and 176 sub-fields.

- **Plans and Activity to Establish a Joint SERI-IHPC Joint Lab: AI for Ophthalmology**
  SERI and IHPC have collaborated closely and successfully completed a few research projects with good outcomes in the past few years. To deepen the relationship and strengthen strategic collaborations further, and to seed future research programmes, SERI and IHPC have decided to set up a Joint Lab in AI.

  The joint Lab will be operated in a collaborative model with co-funding supported by IHPC and SERI over a period of 3 years. The two parties will explore co-funding on new un-funded projects and share co-working space. The Joint Lab will also propose AI and Digital Innovation Research Grant Calls for researchers between SERI and IHPC.

PERFORMANCE OVER THE PAST TWENTY-FIVE YEARS *(as of March 2022)*

- SERI has amassed an impressive array of publications over the years.

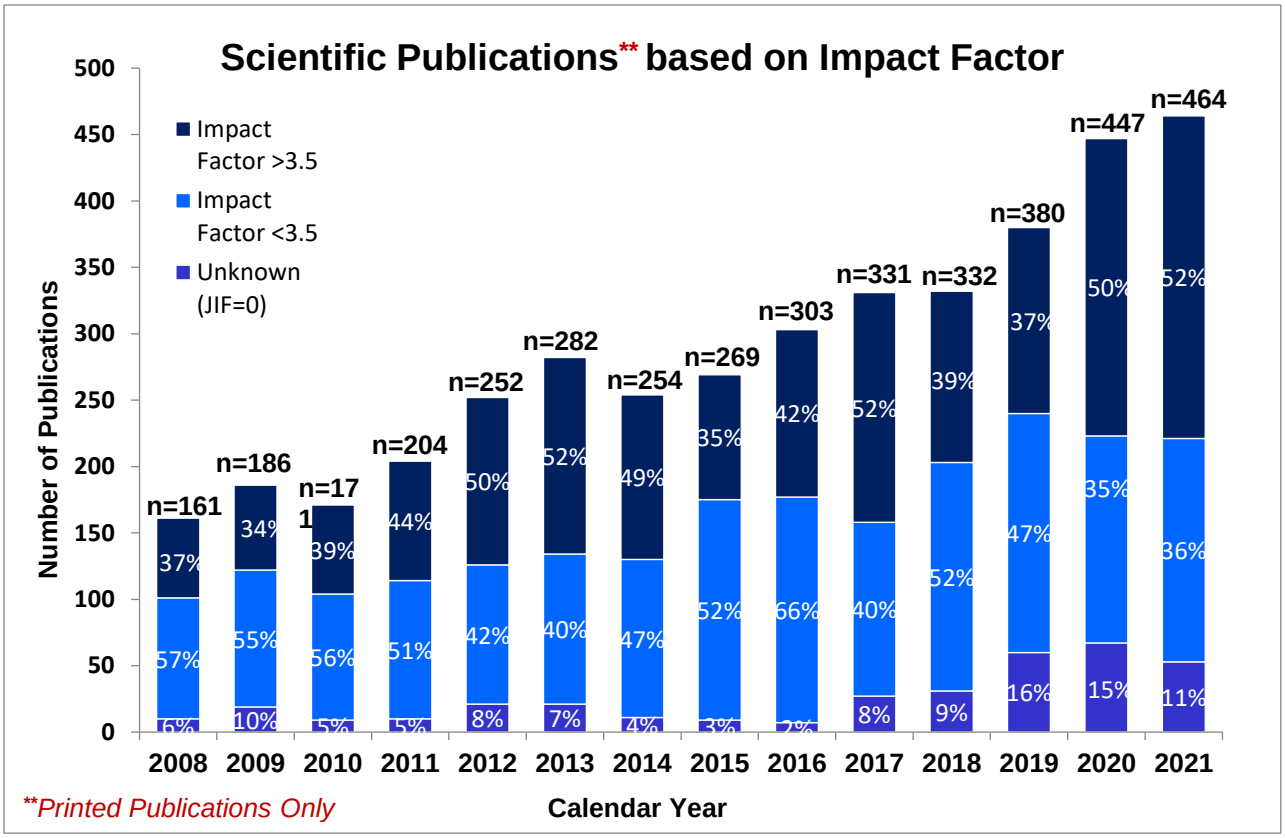

Figure 1: Number of yearly publications published at SERI

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

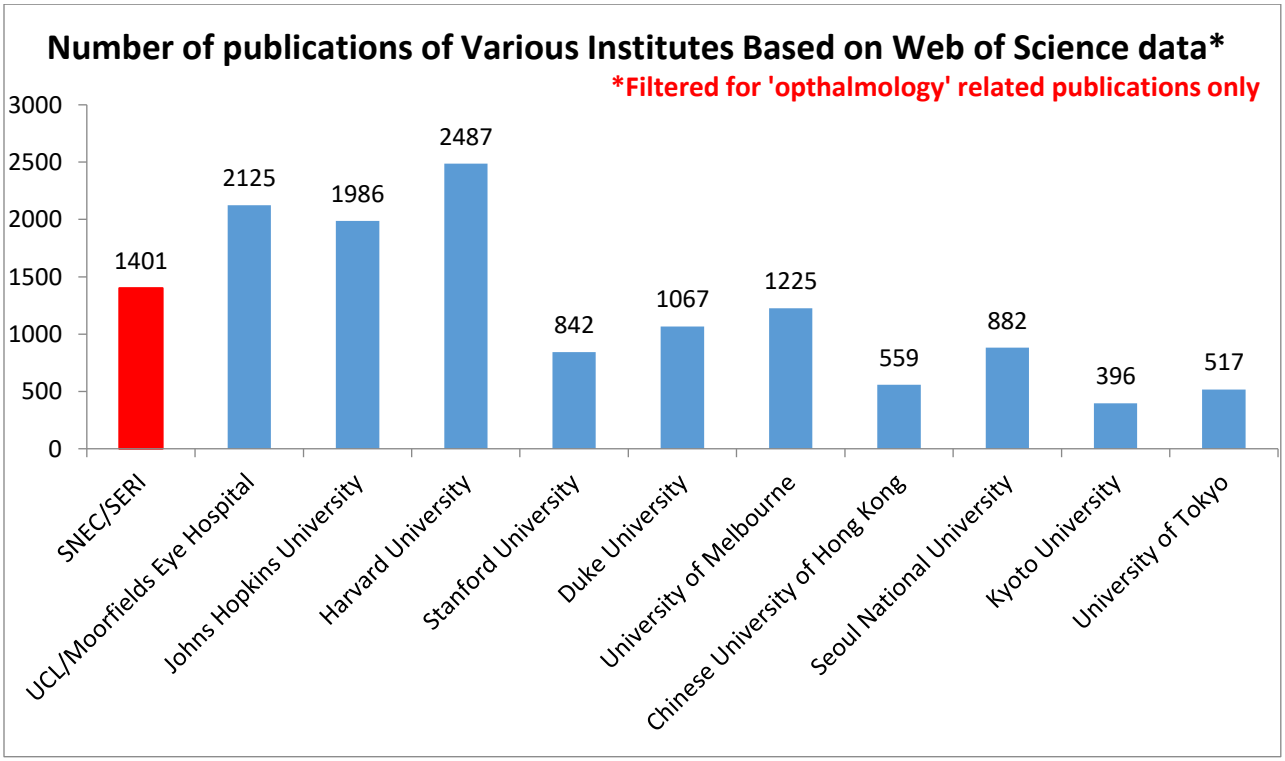

Figure 2: Number of publications by SERI and other institutions around the world, during the period of 2012 – 2021

- SERI's staff strength over the years.

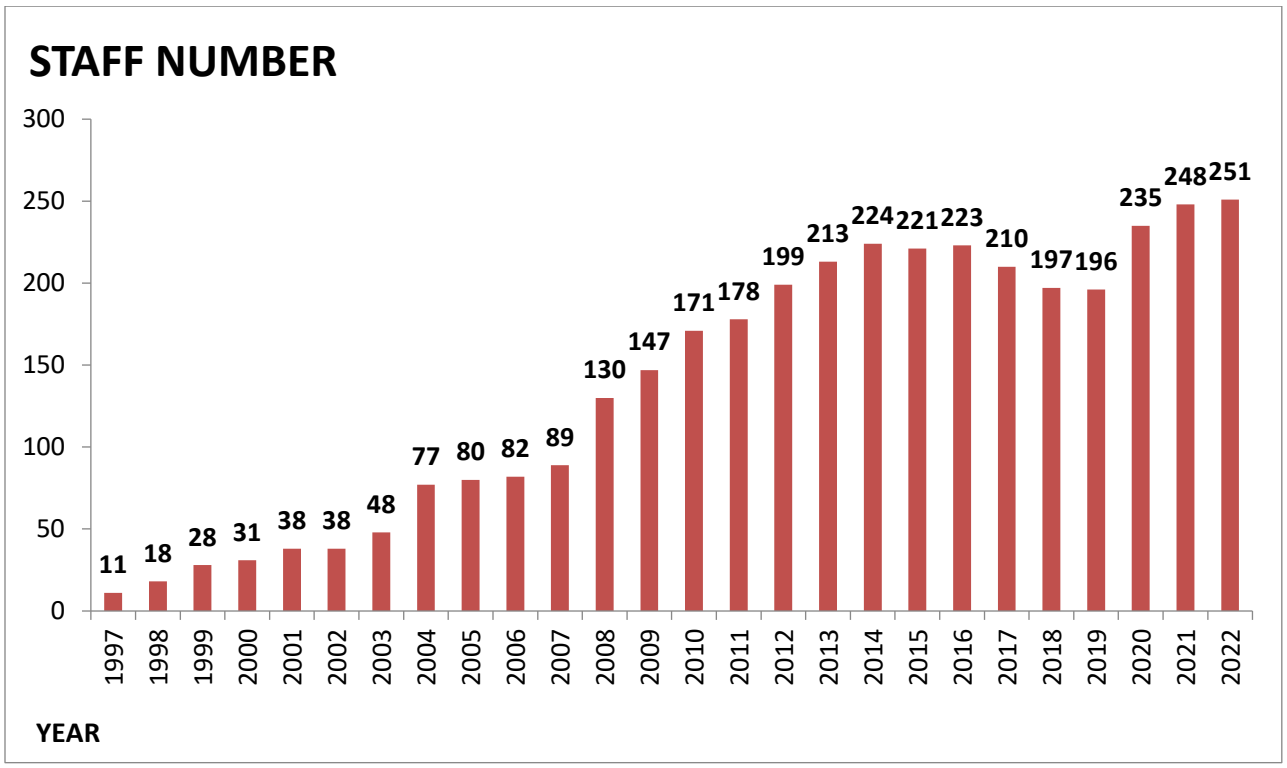

Figure 3: Number of staff members at SERI

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

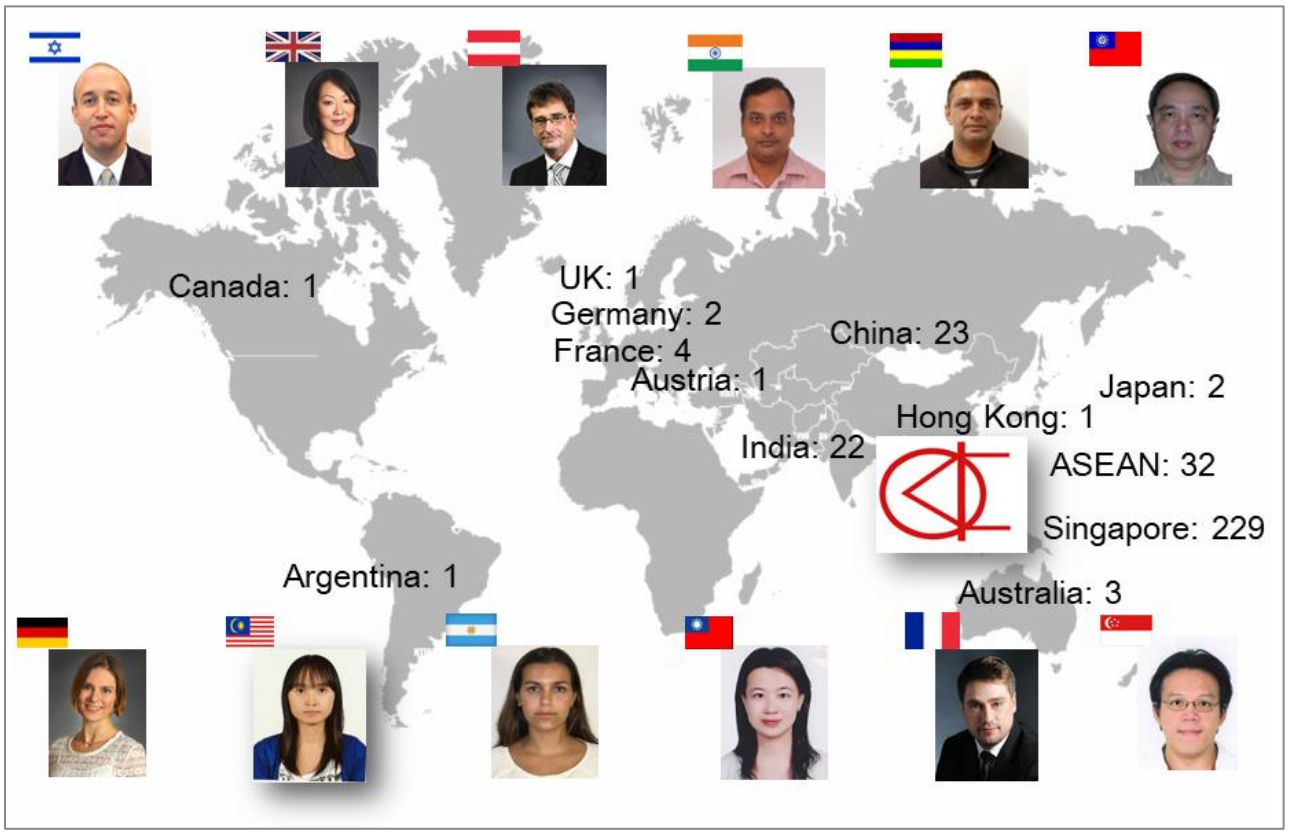

Figure 4: Nationalities of staff members at SERI

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

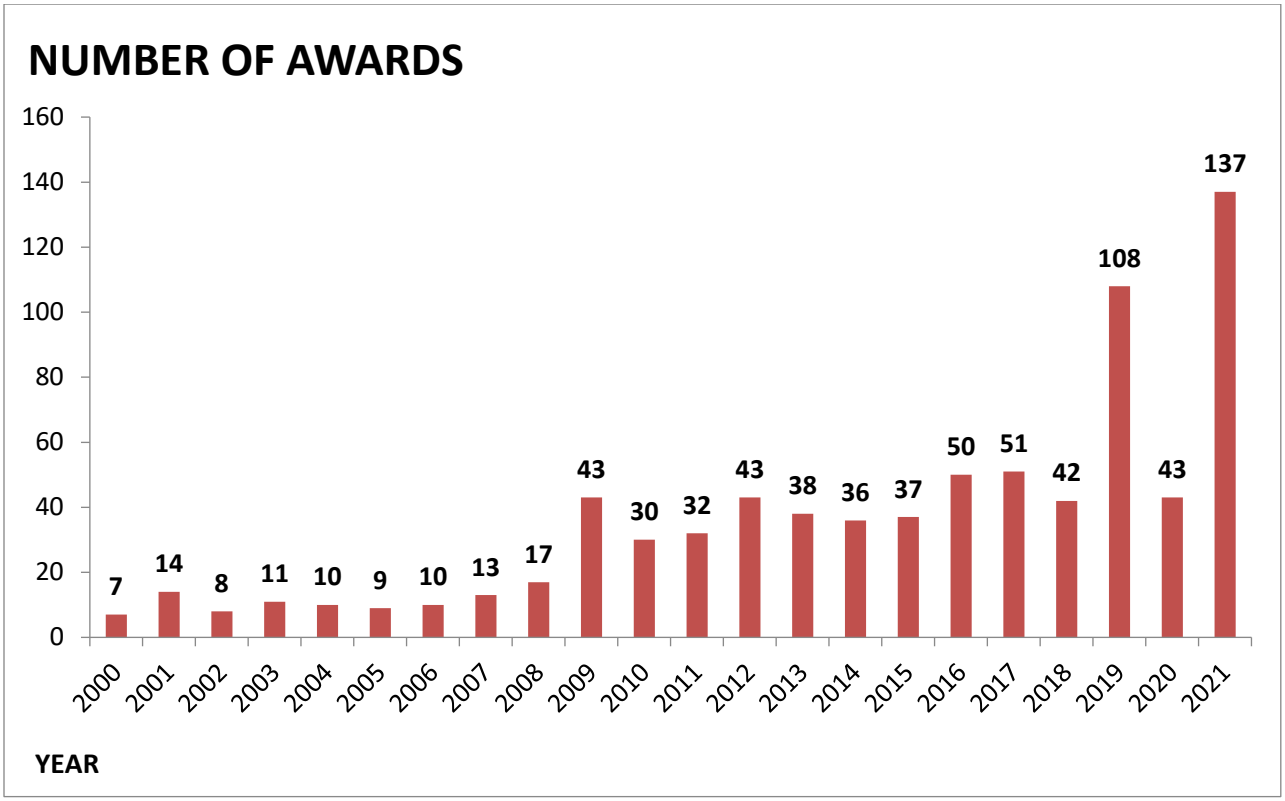

Figure 5: Number of awards received by SERI and its staff (Data from 1997-1999 are not available)

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

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 Medical School, as well as M C Tong Cardiothoracic Surgery Pte Ltd.

Prof Aung Tin
Medical Director,
Singapore National Eye Centre

Chairman,
Singapore Eye Research Institute

Prof Chong Yap Seng
Dean, Yong Loo Lin School of Medicine
National University of Singapore

Prof Vernon Lee
Senior Director (Communicable Diseases),
Ministry of Health

Prof Tan Sze Wee
Executive Director,
Agency For Science, Technology and Research

Ms Ooi Chee Kar
Chartered Accountant (*Singapore*)

Prof Benjamin Seet
Deputy Group CEO (Education & Research),
Group Chief Research Officer,
National Healthcare Group

Prof Thomas Coffman
Dean,
Duke-NUS Medical School

Mr Tan Shong Ye
Partner,
PricewaterhouseCoopers LLP

Ms Eileen Yeo
CEO,
Mornington Services Pte Ltd

Ms Poh Mui Hoon
Co-Founder,
Esseplore Pte Ltd

Prof Joseph Sung
Dean,
Lee Kong Chian School of Medicine
Nanyang Technological University

Mr Esmond Choo
Non-Executive Non-Independent Director ,
UOB-Kay Hian Holdings Limited

SERI'S DIRECTORS / STRATEGIC PLANNING COMMITTEE

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, including setting a strategic vision for 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.

The Committee's purview includes:

- Review of promotion/performance award recommendations
- Approval for overseas conference travel funded via core funding
- Approval for unbudgeted expenses

Prof Jodhbir Mehta
Executive Director

Prof Leopold Schmetterer
Scientific Director

Prof Ecosse Lamoureux
Director, Population Health and Epidemiology

Prof Tina Wong
Director, Clinical Translational Research

Assoc Prof Wang Xiaomeng
Director, Laboratory Translational Research

Dr Vandana Ramachandran
Director, Research & Academic Affairs

Dr Danny Belkin
Director, Technology Development & Commercialisation

Prof Jonathan Crowston
Director, Centre for Vision Research, Duke-NUS Medical School

SERI'S RESEARCH HEADS

The SERI Research Heads Committee serves as a principle body actively engaged in the review and implementation of SERI's research policies and strategies, as well as is the team 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 Jodhbir Mehta
Executive Director
Chairman

Prof Leopold Schmetterer
Scientific Director
Head, Ocular Imaging Research Group

Prof Eccosse Lamoureux
Director, Population Health and Epidemiology
Head, Population Health Research Group

Assoc Prof Wang Xiaomeng
Director, Laboratory Translational Research
Co-Head, Ocular Therapeutics & Drug Delivery Research Group
Head, Experimental & Basic Sciences, Genomics, Experimental Microscopy, Molecular & Cell Biology Research Platforms

Prof Tina Wong
Director, Clinical Translational Research
Co-Head, Ocular Therapeutics & Drug Delivery Research Group

Dr Vandana Ramachandran
Director, Research & Academic Affairs

Dr Danny Belkin
Director, Technology Development & Commercialisation

Prof Jonathan Crowston
Director, Centre for Vision Research, Duke-NUS Medical School
Head, Glaucoma Research Group

Dr Kelvin Teo
Director, Research Clinic
Head, Clinical Research/Trials Research Platform

Prof Cheng Ching-Yu
Head, Ocular Epidemiology Research Group & Data Science Research Platform

Prof Chee Soon Phaik
Head, Cataract & Uveitis Research Group

Prof Dan Milea
Head, Visual Neuroscience Research Group

SERI'S RESEARCH HEADS (*continued*)

Prof Louis Tong
Head, Ocular Surface Research Group

Prof Saw Seang Mei
Co-Head, Myopia Reearch Group

Prof Gemmy Cheung
Head, Retina Research Group

Assoc Prof Audrey Chia
Co-Head, Myopia Research Group

Assoc Prof Lakshminarayanan Rajamani
Co-Head, Ocular Infections & Anti-Microbials Research Group

Assoc Prof Shamira Perera
Co-Head, Bioengineering & Devices Research Group

Assoc Prof Michael Girard
Co-Head, Bioengineering & Devices Research Group

Assoc Prof Amutha Barathi
Head, Translational Pre-Clinical Model Research Platform

Dr Anita Chan
Head, Translational Ophthalmic Pathology Research Platform

Assoc Prof Zhou Lei
Head, Proteomics Research Platform

Assoc Prof Daniel Ting
Head, AI & Digital Innovations Research Group

Adj Assoc Prof Rupesh Agrawal
Co-Head, Ocular Infections & Anti-Microbials Research Group

Ms Sangeetha Nagarajan
Head, Data Management Research Platform

SNEC'S RESEARCH & INNOVATIVE COMMITTEE

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 Health Research Endowment Fund (HREF) / SingHealth Foundation (SHF)-SNEC Fund / SERI-Lee Foundation Grant / Heroes Fund / Lee Foundation Donation Fund for research projects.
- Provides directions for the development of SERI's translational and clinical research capabilities.

Prof Jodhbir Mehta
Head & Senior Consultant,
Corneal & External Eye Disease Dept, SNEC

Executive Director, SERI

Prof Tina Wong
Senior Consultant, Glaucoma Dept, SNEC

Director, Clinical Translational Research, SERI

Prof Louis Tong
Senior Consultant, Corneal & External Eye Disease Dept, SNEC

Head, Ocular Surface Research Group, SERI

Prof Dan Milea
Senior Consultant, Neuro-Ophthalmology Dept, SNEC

Head, Visual Neuroscience Research Group, SERI

Prof Gemmy Cheung
Head & Senior Consultant, Medical Retina Dept, SNEC

Head, Retina Research Group, SERI

Prof Jonathan Crowston
Senior Consultant, Glaucoma Dept, SNEC

Head, Glaucoma Research Group, SERI

Assoc Prof Shamira Perera
Senior Consultant, Glaucoma Dept, SNEC

Co-Head, Bioengineering & Devices Research Group, SERI

Clin Assoc Prof Lee Shu Yen
Head & Senior Consultant,
Surgical Retina Dept, SNEC

Clin Assoc Prof Sharon Tow
Senior Consultant,
Neuro-Ophthalmology Dept, SNEC

Assoc Prof Gavin Tan Siew Wei
Senior Consultant, Surgical Retina Dept, SNEC

Clinician Scientist, SERI

TEACHING & TRAINING

During this period no research seminars, courses and talks were conducted due to the Covid-19 pandemic.

OUR COLLABORATIONS

Local Institutions

- Bioinformatics Institute (BII)
- Bioprocessing Technology Institute (BTI)
- Changi General Hospital Pte Ltd
- Duke-NUS Medical School
- Genome Institute of Singapore (GIS)
- Health Science Authority (HSA)
- Institute for Infocomm Research (I2R)
- Institute of High Performance Computing (IHPC)
- Khoo Teck Puat Hospital
- KK Women's and Children's Hospital
- Nanyang Polytechnic
- National Cancer Centre (NCC) Singapore
- National Dental Centre of Singapore Pte Ltd
- National Heart Centre of Singapore Pte Ltd
- National Healthcare Group Pte Ltd
- National Kidney Foundation (NKF)
- National Neuroscience Institute of Singapore (NNI)
- Nanyang Technological University (NTU)
- National University Hospital (Singapore) Pte Ltd
- National University of Singapore (NUS)
- Ngee Ann Polytechnic (NP)
- Sengkang General Hospital (SKH)
- Singapore Clinical Research Institute
- Singapore Chung Hwa Medical Institution
- Singapore General Hospital Pte Ltd (SGH)
- Singapore Health Services Pte Ltd (SHS)
- Singapore Management University
- Singapore-MIT Alliciance for Research and Technology
- Singapore National Eye Centre (SNEC)
- SingHealth Polyclinics (SHP)
- Singapore Translational Immunology and Inflammation Centre (STIIC)
- Tan Tock Seng Hospital (TTSH)

Overseas Institutions (Academic)

- Affiliated Hospital of Inner Mongolia Medical University
- Aravind Eye Hospital
- Asian Eye Institute, Inc
- Asahikawa Medical University
- Beijing Tongren Hospital
- Cardiff University
- Columbia University
- Duke University
- Harvard Medical School
- Hyderabad Eye Research Foundation
- IBM TJ Watson Research Centre
- Imperial College London Diabetes Centre
- Institute for Biomechanics, ETH Zurich
- Institute for Innovative Ocular Surgery
- Johns Hopkins University
- King Khaled Eye Specialist Hospital (KKESH)
- LV Prasad Eye Institute
- Maastricht University
- Monash University
- Moorfields Eye Hospital
- Narayana Nethralaya Foundation (NNF)
- New York University, USA
- Ningbo Institute of Materials Technology and Engineering
- Ohio State University
- Riverside Research Institute
- Save Sight Institute, University of Sydney
- Shinchon Severance Hospital
- The Chinese University of Hong Kong
- The First Affiliated Hospital of Kunming Medical University
- The Queen's University of Belfast
- The University Court of the University of Edinburgh
- The University of Tokyo
- Tianjin Medical University Eye Hospital
- University of Auckland
- University of Copenhagen in Denmark
- University of Lublin
- University of Sheffield

- University of Southern Denmark
- University of Newcastle
- Vietnam National Institute of Ophthalmology
- Wenzhou Medical University
- Yonsei Medical Centre
- Yonsei University

Industry Collaborations

- AceVision
- Acufocus Inc
- Advanced Eye Centre
- Aier Eye Hospital Group Cop. Ltd
- Alcon Pte Ltd
- Aldropika Therapeutics
- Allergan Singapore Pte Ltd
- ASAN Medical Center
- Astatine Ventures Pty Ltd
- Bayer (South East Asia) Pte Ltd
- Belle Healthcare Medical Technology Co. Ltd
- BELKIN Vision Ltd
- Biolight Life Sciences Ltd
- Boehringer Ingelheim International GmbH (BI)
- Boehringer Ingelheim Singapore Pte Ltd
- BSI Group Singapore
- CapaBio Pte Ltd
- Carl Zeiss Pte Ltd
- Chiltern International Pte. Ltd
- CLINREG Consulting Services
- Cordlife Group Limited
- Cylite Pte Ltd
- D.O.R.C. Dutch Ophthalmic Research Center (International) B.V.
- Dompe
- Experimental Biotherapeutics Centre
- Exonate Limited
- EyeYon Medical Ltd
- Financiere De L'ombree (EOLANE)
- Formugenix Pte Ltd
- Gemini Therapeutics, Inc
- Geuder AG
- Gilead Sciences, Inc
- Gobiquity Inc
- Graybug Vision Inc
- Grey Innovation Pty Ltd
- Heidelberg Engineering GmbH
- International Agency for the Prevention of Blindness (IAPB)
- Johnson and Johnson Vision Care, Inc.
- Kowa Company Ltd
- Lars Nelleman Consulting
- L'occitane Singapore Pte Ltd
- Leave a Nest Singapore Private Ltd
- Leica Microsystems (Schweiz) AG
- Life Bridge Partners Pte Ltd
- Matrix Medical Consulting, Inc
- Medi Whale Inc.
- Menarini Biomarkers Singapore Pte Ltd
- Merck Sharp & Dohme Corp
- Microsoft
- MSD International GmbH (Singapore Branch)
- MuPharma Pty Ltd
- Nidek Co., Ltd
- Novartis (Singapore) Pte Ltd
- NOXXON Pharma AG
- O.D. Ocular Discovery Ltd
- OliX Pharmaceuticals, Inc
- ONL Therapeutics, Inc.
- Optomed Oy
- Parexel International (Singapore) Pte Ltd
- Pharmaceutical Research Associates Singapore Pte Ltd
- Physio-Logic Ltd
- Pixium Vision
- Quark Pharmaceuticals, Inc.
- Reopia Optics
- Roche Singapore Pte Ltd
- Samie Intellab Pte Ltd
- Sanofi- Aventis Singapore Pte Ltd
- Santen Pharmaceutical Asia Pte Ltd
- Santen Pharmaceutical Co. Ltd
- Seoul Semiconductor Co. Ltd
- SGVector Pte Ltd

- HistoIndex Pte Ltd
- Hogan Lovells US LLP
- HOYA Medical Singapore Pte Ltd
- INC Research LLC
- InnoVealth Pte Ltd
- Integrated Decision Systems Consultancy Pte Ltd
- Inteq Communications Pte Ltd
- Interactive Micro-organisms Laboratories Pte Ltd
- SinSA Labs Inc
- Taggle Pte Ltd
- Thesis Pte Ltd
- Topcon Corporation
- Ushio Asia Pacific Pte Ltd
- Verily Life Sciences LLC
- Yukti Bioscience Pte Ltd
- Zicom Medtacc Pte Ltd
- Zig Ventures Limited

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**
125th Annual Meeting of the Japanese Ophthalmological Society	8 – 11 Apr 2021	Virtual conference
2021 Midyear Meeting of the Philippine Academy of Ophthalmology	30 Apr – 2 May 2021	Virtual conference
ARVO 2021	1 – 7 May 2021	Virtual conference
BRASCRS 2021 – XI Brazilian Congress of Cataract and Refractive Surgery	12 – 15 May 2021	Virtual conference
5th Asia-Pacific Glaucoma Congress	4 – 8 Jun 2021	Virtual conference
16th International Congress of Behavioural Medicine (ICBM) 2021	7 – 11 Jun 2021	Virtual conference
9th World Glaucoma Congress 2021	30 Jun – 3 Jul 2021	Virtual conference
PROMS Down Under 2021 Conference	8 – 9 Jul 2021	Virtual conference
33rd APACRS-SNEC 30th Anniversary Virtual Meeting	30 – 31 Jul 2021	Virtual conference
Cornea Connect	3 – 5 Sep 2021	Virtual conference
36th Asia-Pacific Academy of Ophthalmology Congress	5 – 11 Sep 2021	Virtual conference
EURETINA 2021 Virtual	9 – 12 Sep 2021	Virtual conference
IEEE International Ultrasonics Symposium	11 – 16 Sep 2021	Virtual conference
II Cornea Colombian Meeting	23 – 25 Sep 2021	Virtual conference
European Association for Vision and Eye Research (EVER) Congress 2021	2 Oct 2021	Virtual conference
Cell-NCI Symposium: Beyond Cancer Genomics Toward Precision Oncology	4 – 6 Oct 2021	Virtual conference
ASN Kidney Week 2021	4 – 7 Nov 2021	Virtual conference
American Academy of Ophthalmology (AAO) 2021	12 – 15 Nov 2021	Virtual conference
AAPPO Virtual Congress 2021	4 – 5 Dec 2021	Virtual conference
14th Asia-Pacific Vitreo-retina Society Congress (APVRS 2021)	11 – 12 Dec 2021	Virtual conference
NUH 36 Years Anniversary International Eye Conference	21 – 22 Jan 2022	Virtual conference
10th International Singapore Lipid Symposium	8 – 10 Mar 2022	Virtual conference
LOCAL ACTIVITIES		
TOPIC	**DATE**	**VENUE**
SingHealth Duke-NUS Scientific Congress 2021	17 – 18 Sep 2021	Virtual conference
NUHS virtual conference 2021	23 Oct 2021	Virtual conference
22nd National Eye Care Day	20 Nov 2021	Virtual webinar
Singapore Research Ethics Conference 2021	23 – 25 Nov 2021	Virtual conference

THE EYE RUN/CYCLE 2021

SNEC-SERI's inaugural virtual fundraiser, The Eye Run/Cycle 2021, raised more than $1 million. There were 47 mini-campaigns championed by individuals and teams to boost the fundraising efforts. The funds raised will go towards uncovering new ways to detect, diagnose and develop future treatments for eye diseases. It will also support the training of healthcare professionals to meet the evolving needs of patients.

ACHIEVEMENTS

OUR AWARDS

Local Awards

- **National Medical Research Council: NMRC Clinician Scientist (CS) Award - Investigator** [Mar 2022]
  "Risk Stratification of Neuropathic Ocular Surface Dysfunction Using Neural Imaging Metrics, Molecular Biomarkers, and Artificial Intelligence"
  Dr Liu Yu-Chi

- **National Medical Research Council: NMRC HPHSR Clinician Scientist Award** [Mar 2022]
  "Refinement and Prospective Validation of a Deep Learning Algorithm for Detecting Chronic Kidney Disease Using Retinal Images (RetiKid)"
  A/Prof Charumathi Sabanayagam

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Dr Allan Fong

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Anshu Arundhati

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Dr Jayant Venkatramani Iyer

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Anna Tan

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  A/Prof Audrey Chia

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Quah Boon Long

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Doric Wong

- **National Medical Research Council: NMRC Transition Award** [Mar 2022]
  "Widefield and Multi-modal Corneal Imaging to Investigate Corneal Endothelial Cell Loss following Descemet Membrane Endothelial Keratoplasty (DMEK)"
  A/Prof Marcus Ang

- **SingHealth Associate in Education (AIE) 2021** [Feb 2022]
  Ms Chia Lai Cheng

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  A/Prof Marcus Ang

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Khor Wei Boon

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Prof Ian Yeo

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Sunny Shen

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Dr Sonal Farzavandi

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Mohamad Rosman

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Clin A/Prof Edmund Wong

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Ms Serene Low

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Ms Chua Soh Cheng

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Mr Lee Lin Jun

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Chan Tat Keong

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Wee Tze Lin

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Ng Wei Yan

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Prof Louis Tong

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Prof Tina Wong

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Clin A/Prof Ho Ching Lin

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  A/Prof Shamira Perera

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Olivia Huang

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Ms Tng Hui Shan

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Ms Amalia Binte Juhari

- **Singapore Health Quality Services Award 2022 – STAR** [Feb 2022]
  Mr Enjoe Tan

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Wong Jenn Chyuan

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Melissa Wong

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Clin A/Prof Lim Li

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Ong Hon Shing

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Clin A/Prof Boey Pui Yi

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Clin A/Prof Rahat Husain

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Annabel Chew

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Fiona Lim

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Chan Choi Mun
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Ranjana Mathur
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Loo Jing Liang
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Clin A/Prof Sharon Tow
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Christine Yau
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Anita Chan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Prof Chee Soon Phaik
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Yvonne Chung
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Livia Teo
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Tan Licia
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Gillian Teh
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Saadia Forooqui
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Deborah Tan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Grace Wu
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  A/Prof Gavin Tan
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  A/Prof Daniel Ting
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  Dr Andrew Tsai
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Seshasai Sudarshan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Dr Claire Wong
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chua Li Hong
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Ganchalee Sae Gan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Audrey Ann Loh

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Tai Cheah Ee
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Tan Geok Koon
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Wendy Wong
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Yick Kit Ngoh
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Mr Yip Chee Kin
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chan Sze Lin
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Mr Ivan Khoo
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Lee Siew Hwa
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Florence Ling
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Mohanaa D/O Paramasivam
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Wendy Thian
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Valerie A/p Varugeesu
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Yeo Sze Hui
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Leong Tuck May
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Marine Lim
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Rachel Goh
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Kueh Jee Kim
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Goh Boon Pei
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Tan Lay Har
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Yuslimah Binte Yusof
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Zainorah Bte Alias
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chong Yoke Lan

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms K Komala
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Li Peizhen
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Letitia Livia Lourds
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Shirley Lui
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chung Tong Aik
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chng Bee Bee
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Alicia Augustina Tan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Chung Chee Hong
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  Ms Ling Ngiik Ai
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  Ms Low Chia Shin
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  Ms Grace Tan
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  Ms Thiri Mya San
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  Mr Wu Jie
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  Ms Huda Dezzira
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  Ms Law Kui Xuan
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Nur Shaheerah
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Nur Soleha
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  Ms Cynthia Seah
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  Mr David Ang
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  Ms Asminy Bte Harun
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  Ms Esther Ang
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  Mr Alwin Tan

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  Ms Tiffany Yo Eri
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  Ms Angeline Ng
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Kalaraine D/O Thanapal
- Ms Thiri Mya San**Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Mr Tan Chee Meng
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  Ms Salma Binte Ahmad
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  Ms Karolyn Peh
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  Ms Zabaria Bte Yusoff
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  Ms Khoo Siew Lee
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  Ms Ng Ying Wen
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  Ms Shaila D/O Raghavan
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  Mr Chan Wei Khiet
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  Ms Chin Lee Yin
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  Ms Leow Poi Koon
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  Ms Ooi Ya Ying
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  Ms Fong Yee Wei
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  Ms Cheryl Tan
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  Ms Anna Sim
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  Ms Gao Fei
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  Ms Susan Teo
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  Ms Sheryl Soo
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Ms Serene Ku

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Janie Tay
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  Ms Eng Sze Yin
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  Ms Fong Ee Mei
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  Ms Lim Sei Chiu
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Pan Hui Yi
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Chan Jin Hoe
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  Dr Ng Sok Hoon
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  Dr Beau Fenner
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  Dr Bryan Sim
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  Dr Arun Kumar Narayanaswamy
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Woo Jyh Haur

Ms Manivannan Udayaraj

- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms See Swee Tin
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Ms Charmaine Tan Yanting
- **Singapore Health Quality Services Award 2022 – GOLD** [Feb 2022]
  Mr Michael Tham Sue Hou
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  Ms Yip Mei Chue
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  Dr Wesley Chong
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  Dr Shaun Sim
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  Dr Lee Yi Fang
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  Dr Tan Peng Yi
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  Prof Jodhbir Mehta
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  Prof Aung Tin
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  Dr Kiew Sieh Yean

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Prof Jonathan Crowston
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  Dr Ng Si Rui
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  Dr Low Jin Rong
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  Dr Kelvin Teo
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  Prof Gemmy Cheung
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  Clin A/Prof Seah Lay Leng
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  Dr Choo Chai Teck
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  Dr Yvonne Ling
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  Dr Yong Kailing
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  Dr Yang Xu
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Tay Su Ann
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Clin A/Prof Lee Shu Yen
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Daniel Chua
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Farah Ibrahim
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Clin Prof Ang Chong Lye
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Charles Ong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Lim Sing Hui
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  Dr Nicholas Tan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Christopher Sun
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Jessica Choo
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Cheong Kai Xiong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Debra Quek
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]

Dr Stanley Poh

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Zelyn Sim
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Linnett Lim
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Chua Siew Lang
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Eunice Loh
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Santhi D/O Perumal
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Ramilo Ann Sonseray Dones
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Lily Phua
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Goh Jun Jiao
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Linda Siew
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Chua Gek Hwa
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Teo Ka Hoon

Ms Cheryl Kek

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Aisah Bte Md Said
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Seah Lea Choo
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Nurhuda Binte Hassan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Ng Mee Fong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Ng Tying Ying
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Muhammad Syawal Bin Saipifi
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Soh Wee Wee
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Rachel Oon
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Liang Yee Ping
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Rosalie Lim
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Jason Mok

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Mahaboo Nisa D/O Adbul Hatheem
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Ong Suat Kheng
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Siti Sulaiha Binte Mohd Yusof
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Joseph Ho
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Wee Bee Choo
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Chan Gam Fook
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Abigail Ruth Hendriks
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Lim Mun Ching
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Carin Tan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Wee Hui Ling
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Shirlyn Sam
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Lim Yong Ern
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Tan Yi Ling
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Wang Yanzhen
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Kakeru Ode
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Koek Chiee Yang
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Yap Xin Yu
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Jessica Lin
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Kok Khar Mei
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Emily Chan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Wong Li Ying
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Nancy Koh
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]

Ms Carol Ho

Mr Tan Choy Hong

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Pounggothai D/O Tariran Nani
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Roch Sebestian
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Jasmine Lim
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Chua Shu Kuan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Saroja D/O Ramasamy
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Chanel Tan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Fish Lee
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Mr Nurkhaimawan Bin Suriyadi
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Zuliana Bte Zainul
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Stella Ng
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Tay Lay Hiong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Shivani Majithia
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Dr Thakur Sahil
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Teo Hui Ting
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Teo Cong Ling
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Leow Zhun Hong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Toh Ai Nee
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Serena Chew
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Hui Kit Ru
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Lucinda Loh Yinshan
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Jessica Wong
- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Siah Wai Sum

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Augoora Malika

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Geselia Chong Hui Shyan

- **Singapore Health Quality Services Award 2022 – SILVER** [Feb 2022]
  Ms Helen Goh

- **SingHealth Publish! Award** [Jan 2022]
  Artificial Intelligence to Detect Papilledema From "Ocular Fundus Photographs"
  Dr Raymond Najjar

- **National Medical Research Council (NMRC): NMRC Research Training Fellowship (RTF) - Overseas Research Attachment** [Dec 2021]
  "A New Model for Glaucoma Screening and Management of Stable Glaucoma Patients in the Community in Singapore– learning from Experience in the UK"
  Dr Fiona Lim

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Thiyagarajan Jayabaskar

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Eileen Lim

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Heidi Tai

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Chitra Vallei D/O Govindasamy

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Mr Lakshmanasamudram Sethuraman Mohanram

- **SingHealth Publish! Award** [Jan 2022]
  "Artificial Intelligence to Detect Papilledema From Ocular Fundus Photographs"
  Prof Dan Milea

- **6th Annual Peptides and Proteins Symposium Singapore (P2S2-2021):** Young Investigator Award [Dec 2021]
  "Preclinical Evaluation of Anti-angiogenic Peptide for Age-related Macular Degeneration (AMD)"
  Mr Sai Bo Bo Tun

- **SingHealth Family Target Zero Harm 2021 Award: Individual Award** [Sep 2022]
  Ms Sim Jia Hui Angeline

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Prof Ian Yeo Yew San

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Haslina Binte Hamzah

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Claire Ong

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  A/Prof Vicki Drury

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Chiam Pei Yu Nathalie

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Ferrer Janice Silva

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Howard Yu Cajucom-Uy

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Eunice Loh Tse Ching

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Mr Ho Eng Siang Joseph

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Ilyana Ibrahim

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Lim Shiow Huey Priscilla

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Lin Xin Tian Cynthia

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Loo Yunhua

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Ng Wei Yan

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Sim Khung Peng Shaun Sebastian

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Sonal Kaizad Farzavandi

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Tan Tien-En

- **National Medical Research Council (NMRC): NMRC Transition Award** [Sep 2021]
  "Comparison of Focal Inner and Outer Retina Structure and Function to Accurately Diagnose Glaucoma in High Myopia Eyes"
  Dr Rachel Chong

  Ms Joanna Chia Lai Cheng

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Lim Sing Hui

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Lisa Ong

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms N Reena

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  A/Prof Rajamani Lakshminarayanan

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Dr Sim Xiangrong Bryan

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Mr Tan Ai Wei, Alwin

- **AM•EI Golden Apple Awards 2021: Programme Excellence Award** [Sep 2021]
  Ms Zhang Kailin Karen

- **SingHealth Duke-NUS Scientific Congress 2021: Clinical Research (Senior) Award - Best Poster** [Sep 2021]
  Dr Tan Tien-En

- **SingHealth Duke-NUS Scientific Congress 2021: Best Student Award - Most Popular Abstracts Paper** [Sep 2021]
  Ms Li Mijie

- **National Day Awards 2021: Public Administration Medal (Bronze)** [Aug 2021]
  Clin A/Prof Edmund Wong

- **National Day Awards 2021: Long Service Medal** [Aug 2021]

Dr Loh Huey Peng

- **SingHealth Duke-NUS Scientific Congress 2021: Clinical Research (Senior) Award - Most Popular Oral Presentation** [Sep 2021]
  Dr Tham Yih Chung

- **SingHealth Duke-NUS Scientific Congress 2021: Best Student Award - Best Student** [Sep 2021]
  Mr Vu Tai Anh

- **National Medical Research Council (NMRC): Clinician Scientist Award - Investigator** [Aug 2021]
  "Personalizing Diabetic Retinopathy Screening Intervals via Risk Stratification using an Artificial Intelligence-Enabled Multi-modal Machine Learning Approach"
  A/Prof Daniel Ting

- **National Day Awards 2021: Long Service Medal** [Aug 2021]
  Clin A/Prof Lee Shu Yen

- **SNEC/SERI Nurses Day 2021: Rising Star Award – Registered Nurse** [Jul 2021]
  Ms Celine Tay

- **National Day Awards 2021: Efficiency Medal** [Aug 2021]
  Ms Michelle Teo

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Lucy Low Poh Leng

- **SNEC/SERI Nurses Day 2021: Nursing Practice Excellence Award – Enrolled Nurse** [Jul 2021]
  Ms Ho Sweet Fong

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Lee Jia Le

- **SNEC/SERI Nurses Day 2021: SNEC Director of Nursing Award 2021** [Jul 2021]
  Mr Cedric Yeo

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Audrey Ann Loh

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Soh Wee Wee

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Charmaine Tan

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Lim Hui Khee

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Evelyn Yeo

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Pamela Swee

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Ivan Khoo

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Wee Bee Choo

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Nurzafirah Binte Modamed Noor

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Chua Hui Qi

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Teo Hui Geok Dolly

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Lee Mui Leng

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Ruan Lili

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Chua Soh Cheng

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Shariffah Adawiyah Binte Hydrerali Alatta

- **Ministry of Health: Nurses' Merit Award 2021** [Jul 2021]
  Ms Guo Yan

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Dr Raymond Najjar

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Mr Venkatesh Mayandi

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Dr Seet Li Fong

- **SNEC/SERI Nurses Day 2021: SNEC Best Caring Nurses' Award 2021** [Jul 2021]
  Ms Ng Mee Fong

- **GCEO Excellence Awards 2021: Outstanding Adminstrative & Ancillary Staff Award** [Jul 2021]
  Dr Thiyagarajan Jayabaskar

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Prof Dan Milea

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Dr Ong Hon Shing

- **SNEC/SERI Research Day 2021: Top 5 Scientific Research Publications Award** [Mar 2021]
  Dr Tham Yih Chung

- **SNEC/SERI Research Day 2021: Richard Fan Gold Medal - Outstanding Senior Resident 2021** [Mar 2021]
  Dr Beau James Fenner

International Awards

- **Australian Academy of Health and Medical Sciences (AAHMS) 2021: Corresponding Fellow** [Oct 2021]
  Prof Wong Tien Yin

- **36th APAO Virtual Congress: Senior Achievement Award 2021** [Sep 2021]
  Clin Prof Donald Tan

- **36th APAO Virtual Congress: Achievement Award 2021** [Sep 2021]
  Clin A/Prof Anna Tan

- **36th APAO Virtual Congress: Achievement Award 2021** [Sep 2021]
  A/Prof Donny Hoang

- **36th APAO Virtual Congress: Outstanding Service in Prevention in Blindness Award 2020** [Sep 2021]
  Prof Louis Tong

- **American Academy of Ophthalmology (AAO): Secretariat Award 2021** [Jul 2021]
  A/Prof Marcus Ang

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: BrightFocus Foundation Travel Grant** [Apr 2021]
  Dr Jacqueline Chua

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: Sek-Jin Chew Travel Grant** [Apr 2021]
  Ms Li Mijie

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO International Travel Grant** [Apr 2021]
  Dr Rose Tan

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]
  Ms Isabella Loh

- **European Vision & Eye Research (EVER) 2021: Rapid Fire Presentation** [Oct 2021]
  "Multivariate Normative Comparison, a Novel Method for Improved use of the Retinal Nerve Fiber Layer Thickness to Detect Early glaucoma"
  Dr Jacqueline Chua

- **36th APAO Virtual Congress: Nakajima Award 2021** [Sep 2021]
  A/Prof Daniel Ting

- **36th APAO Virtual Congress: Outstanding Service in Prevention in Blindness Award 2021** [Sep 2021]
  Prof Leopold Schmetterer

- **36th APAO Virtual Congress: Susrata Lecture 2020** [Sep 2021]
  Prof Chee Soon Phaik

- **36th APAO Virtual Congress: Distinguished Service Award 2020** [Sep 2021]
  Dr Jayant Iyer

- **World Glaucoma Association: Founders Award 2021** [Jun 2021]
  Prof Aung Tin

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: Josh Wallman Travel Grant** [Apr 2021]
  Mr Renick Lee

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO International Travel Grant** [Apr 2021]
  Mr Haris Cheong

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO International Travel Grant** [Apr 2021]
  Dr Jiang Liqin

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]
  Dr Ho Kam Chun

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]
  Mr Sai Bo Bo Tun

- **Japan Agency for Medical Research and Development 2021: Interstellar Initiative Healthy Longevity Award** [Apr 2021]
  Clin A/Prof Anna Tan

Dr Sayantan Biswas

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]
  Dr Kazuyo Ito

- **Association for Research in Vision and Ophthalmology (ARVO) 2021: ARVO Foundation Travel Grant** [Apr 2021]
  Mr Walter Lam

OUR GRANTS

NMRC

- **"Retinal Microvascular Changes in Pre-diabetes: Predicting the Progression to Diabetes and Evaluating the Response to Exercise. The Pre-DICTED EYE study"**
  A/Prof Gavin Tan; S$1,046,472.00

- **"Revisiting the Structure/function Relationship in Glaucoma for Improved Patient Care"**
  Prof Leopold Schmetterer; S$1,249,913.00

- **"Developing Hyperspectral OCT as a Clinical Test to Detect Neural Dysfunction in Degenerative Diseases of the Optic Nerve and Retina"**
  Prof Leopold Schmetterer; S$5,656,864.95

- **"Personalizing Diabetic Retinopathy Screening Intervals via Risk Stratification using an Artificial Intelligence-enabled Multi-modal Machine Learning Approach"**
  A/Prof Daniel Ting; S$674,995.00

- **"Comparison of Focal Inner and Outer Retina Structure and Function to Accurately Diagnose Glaucoma in High Myopia Eyes"**
  Dr Rachel Chong; S$312,000.00

- **"SAMURAI (Singapore Advanced Multi-subspeciality Unified Research And Innovation Centre In Ophthalmology)"**
  Prof Aung Ting, S$20,000,000.00

- **"Healthy Living Through Personalized Monitoring of Eyelid Care"**
  Prof Louis Tong; S$58,000.00

- **"Novel AI-driven Ageing Biomarker Based on Retinal Photos for Mortality Risk Stratification"**
  Prof Cheng Ching-Yu; S$58,000.00

- **"Modulatory Effects of Mesenchymal Stem Cells-derived Extracellular Vesicles on Conjunctival Innate Immune Responses to Viral Infections"**
  Dr Ong Hon Shing; S$200,000.00

- **"Scleral Biomechanical Properties in Pathologic Myopia and Myopic Glaucoma"**
  Dr Donny Hoang; S$75,000.00

- **"Targeted Cell-based Therapeutic Program for Corneal Blindness"**
  Prof Jodhbir Mehta; S$100,000.00

- **"Optimising Surgical Management and Patient-related Outcomes of Epiretinal Membrane: Predictive Analytics and Randomised Trial"**
  Dr Cheung Ning; S$75,000.00

- **"Improved Detection of Glaucomatous Structural Damage Using Wide-field Optical Coherence Tomography"**
  Dr Jacqueline Chua; S$50,000.00

- **"Singapore Angle Closure Glaucoma Program: From Genetics to Precision Medicine and Therapy"**
  Prof Aung Tin; S$180,966.00

- **"Using Novel Imaging Biomarkers to Predict Vascular Endothelial Growth Factor Inhibitor Retreatment Load for Neovascular Age Related Macular Degeneration"**
  Dr Kelvin Teo; S$50,000.00

- **"Community-based Screening for Pathological Visual Impairment among Elderly Residents using Artificial-intelligence Integrated Retinal Imaging"**
  Dr Tham Yih Chung; S$50,000.00

- **"Development and Validation of a Myopia-specific Item Bank Administered using Computerized Adaptive Testing: The MyoCAT Study"**
  Dr Ryan Man; S$50,000.00

- **"TAAP: Translational Asian Age-related Macular Degeneration Program"**
  Prof Gemmy Cheung; S$300,000.00

- **"Studying Neurorecovery of Retinal Ganglion Cells in Ageing after Glaucomatous Injury"**
  Dr Katharina Bell; S$199,870.00

- **"An Intensive, Practical, and Personalized Care Planning to Improve Glycemic Control, Clinical, Ocular, and Patient Centred Outcomes in Poorly Controlled Patients with Diabetic Retinopathy"**
  Prof Ecosse Lamoureux; S$43,323.00

- **"Optimising the Assessment of Quality of Life in Glaucoma using Item Bank and Computer Adaptive Testing Systems"**
  Prof Ecosse Lamoureux; S$75,000.00

- **"Translational Program in Ocular Surface and Dry Eye"**
  Prof Louis Tong; S$62,957.53

- **"Investigating the Genetic and Phenotypic Architecture of Advanced Primary Angle Closure Glaucoma for Stratified Disease management"**
  Dr Monisha Nongpiur; S$75,000.00

- **"An Innovative and Patient-centric Research Program Targeting the Ageing Singaporeans: The PopulatION HEath and Eye Disease PRofile in Elderly Singaporeans (PIONEER) Study"**
  Prof Ecosse Lamoureux; S$100,000.00

- **"Harnessing LOXL1 as a Therapeutic Candidate for Exfoliation Syndrome and Exfoliation Glaucoma"**
  Prof Aung Tin; S$100,000.00

- **"The Singapore Epidemiology of Eye Diseases (SEED) Study 3 – Prospective Multi-ethnic Cohort Study of 12-year Incidence, Risk Factors, and Impact of Major Age-related Eye Diseases"**
  Prof Cheng Ching-Yu; S$99,716.00

- **"Investigating the Role of the Primary Angle Closure Glaucoma (PACG) Susceptibility Gene, PLEKHA7 in PLEKHA7-/- Mutant Rats"**
  Dr Anita Chan; S$75,000.00

- **"A Study to Identify Markers of Early Retinal Cell Fate Commitment in Pluripotent Stem Cells in Vitro"**
  Dr Shweta Singhal; S$50,000.00

- **"Bayesian Machine Learning Approach to Identify Markers of Progression in Primary Angle Closure Glaucoma"**
  Dr Monisha Nongpiur; S$75,000.00

- **"Rational Design and Effectiveness of Cell-selective Anti-microbial Peptides (ROADMAP) for Fungal Keratitis"**
  A/Prof Lakshminarayanan Rajamani; S$765,302.00

- **"INTEgRating bRain, Eye And Cardiac Research (INTER-REACH): How the Scarecrow found a Brain, the Lion Vision to Locate Courage and the Tin Man a Heart"**
  Prof Leopold Schmetterer; S$1,269,000.00

- **"Refinement and Prospective Validation of a Deep Learning Algorithm for Detecting Chronic Kidney Disease Using Retinal Images (RetiKid)"**
  A/Prof Charumathi Sabanayagam; S$499,775.50

- **"Risk Stratification of Neuropathic Ocular Surface Dysfunction Using Neural Imaging Metrics, Molecular Biomarkers, and Artificial Intelligence"**
  Dr Liu Yu Chi; S$675,000.00

- **"Widefield and Multi-modal Corneal Imaging to Investigate Corneal Endothelial Cell Loss following Descemet Membrane Endothelial Keratoplasty (DMEK)"**
  A/Prof Marcus Ang; S$675,000.00

- **"The Singapore Lymphoma Translational Study (SYMPHONY)"**
  Dr Anita Chan; S$87,000.00

A*Star/ Duke-NUS/ MOH/ Others

- **"Anti-Infective Nanocoating for Medical Devices"**
  A/Prof Lakshminarayanan Rajamani; S$125,000.00
- **"Digital and Precision Community Screening Platform for Ageing Diseases: Vision, Metabolism and Heart"**
  Prof Cheng Ching Yu; S$2,199,260.00
- **"MARIO: Multimodal AI-driven Decision Making for Ophthalmology"**
  Prof Wong Tien Yin; S$3,245,100.00
- **"The Biomechanical Phenotype of Normal Tension Glaucoma".**
  Dr Michael Girard; US$200,000
- **"Artificial Intelligence in Medicine Transformation Program (AIMx)"**
  A/Prof Daniel Ting; S$957,540.00
- **"IMCB-NUS-SERI-XCell Joint Lab: RECET (Regenerative Cell Therapies)"**
  Prof Gemmy Cheung; S$300,000.00
- **"Proteolytic Stability and Bioavailability of Branched Antifungal Peptide"**
  A/Prof Lakshminarayanan Rajamani; S$50,000.00
- **"Artificial Intelligence (AI) and Digital Health"**
  A/Prof Daniel Ting; S$160,000.00
- **"Minimally-invasive Treatment for Chronic Angle Closure Glaucoma".**
  A/Prof Shamira Perera; S$175,200.00
- **"Ocular Biomaterials for Vitreoretinal Therapeutic Applications (OrBiTAl)"**
  Prof Gemmy Cheung & Prof Tina Wong; S$980,000.00

SingHealth

- **"Structural Changes of the Optic Nerve Head in Different Body Positions in Subjects with Obstructive Sleep Apnea and Normaltension Glaucoma: A Pilot Study using Optical Coherence Tomography"**
  Dr Tin Aung Tun; S$50,000.00
- **"3D AI Technologies to Discriminate Between Benign Optic Nerve Head Drusen and Potentially Life-threatening Papilledema due to Neurological Disorders"**
  Dr Michael Girard; S$80,000.00
- **"Retinal Vascular Imaging in the Healthy Early Life Moments in Singapore (HELMS) Model of Care"**
  Dr Ng Wei Yan; S$150,000.00
- **"Multi-centre Implementation of Artificial Intelligence (AI)-based Eye Screening in Singapore"**
  Dr Dinesh Gunasekeran; S$65,000.00

Commercial

- **"A Phase IIIB, Global, Multicenter, Randomized, Visual Assessor-masked Study of the Efficacy, Safety, and Pharmacokinetics of a 36-week Refill Regimen for the Port Delivery System with Ranibizumab in Patients with Neovascular Age-related Macular Degeneration (Velodrome)"**
  A/Prof Lee Shu Yen; S$272,020.24

- **"A Multicenter, Open-label Extension Study to Evaluate the Long-term Safety and Tolerability of Faricimab in Patients with Diabetic Macular Edema (RHONE-X)"**
  A/Prof Gavin Tan; S$27,528.26

- **"Single Site, Feasibility Study to Evaluate the Safety of the Endoart® for Treatment of Subjects Suffering from Corneal Edema"**
  Prof Jodhbir Mehta; S$149,938.71

- **"A Multicenter, Open-label Extension Study to Evaluate the Long-term Safety and Tolerability of Faricimab in Patients with Neovascular Age-related Macular Degeneration (Avonelle-X)"**
  Prof Gemmy Cheung; S$28,517.26

- **"Retro-prospective Evaluation of the Clinical Safety and Effectiveness of Hydrophilic Acrylic Intraocular Lens"**
  Dr Mohamad Rosman; S$141,641.93

- **"Testing Small Molecule Compound in Laser-induced CNV in Non-Human Primate Model"**
  Dr Amutha Barathi; S$272,993.49

- **"Direct Selective Laser Trabeculoplasty for Primary Open Angle Glaucoma and Ocular Hypertension in Ethnic Chinese Population The Zhuiguang 追光 Trial"**
  A/Prof Shamira Perera; S$165,595.79

- **"Evaluation of Visual Outcomes in Patients with Complex Corneas Implanted with IC-8 IOL"**
  Prof Jodhbir Mehta; S$69,993.32

- **"To Establish In-vivo Baseline Efficacy of AAV2-RPE65 Gene Therapy by Subretinal Injection in a Murine Model of RD12 Mice"**
  Prof Jodhbir Mehta; S$122,028.26

- **"Evaluation of Anti-inflammatory Small Molecule Inhibitor in AKIMBA PDR Model"**
  Dr Amutha Barathi; S$80,003.37

- **"Clinical Investigation of the Cheetah System for the Correction of Myopic Refractive Errors with and Without Astigmatism"**
  Prof Jodhbir Mehta; S$613,490.21

OUR PUBLICATIONS

- Karthikeyan SK, Ashwini DL, Priyanka M, Nayak A, Biswas S. **Physical Activity, Time Spent Outdoors, and Near Work in Relation to Myopia Prevalence, Incidence, and Progression: An Overview of Systematic Reviews and Meta-analyses.** *Indian J Ophthalmol.* 2022 Mar;70(3):728-739. doi: 10.4103/ijo.IJO_1564_21.

- Zheng F, Chua J, Sim YC, Tan B, Yu M, Wong QY, Dan YS, Chong RS, Cheung CMG, Ang M, Lee SY, Wong TY, Schmetterer L, Wong CW, Hoang QV; SNEC Retina Group. **Macular Sensitivity and Capillary Perfusion in Highly Myopic Eyes with Myopic Macular Degeneration.** *Retina.* 2022 Mar 1;42(3):529-539. doi: 10.1097/IAE.0000000000003333.

- Thabane A, Phillips MR, Wong TY, Thabane L, Bhandari M, Chaudhary V; Retina Evidence Trials InterNational Alliance (R.E.T.I.N.A.) Study Group. **The Clinician's Guide to Randomized Trials: Interpretation.** *Eye (Lond).* 2022 Mar;36(3):481-482. doi: 10.1038/s41433-021-01866-7.

- Paez-Mayorga J, Lukin I, Emerich D, de Vos P, Orive G, Grattoni A. **Emerging Strategies for Beta Cell Transplantation to Treat Diabetes.** *Trends Pharmacol Sci*. 2022 Mar;43(3):221-233. doi: 10.1016/j.tips.2021.11.007.

- Seah I, Sng CCA, Ang M. **Endothelial Cell Loss Associated with Minimally Invasive Glaucoma Surgery.** *Curr Opin Ophthalmol.* 2022 Mar 1;33(2):119-129. doi: 10.1097/ICU.0000000000000830.

- Moriyama AS, Pessoa JLE, Bessa TRS, Pereira NC, Mehta JS, Hofling-Lima AL, Forseto ADS. **The Impact of the COVID-19 Pandemic on Corneal Transplantation in Brazil.** *Cornea.* 2022 Mar 1;41(3):322-327. doi: 10.1097/ICO.0000000000002949.

- Li M, Tan CS, Foo LL, Sugianto R, Toh JY, Sun CH, Yap F, Sabanayagam C, Chong FM, Saw SM. **Dietary Intake and Associations with Myopia in Singapore Children.** *Ophthal Physl Opt.* 2022 Mar;42(2):319-326. doi: 10.1111/opo.12929.

- Sharma A, Cheung CMG, Arias-Barquet L, Ozdek S, Parachuri N, Kumar N, Hilely A, Zur D, Loewenstein A, Vella G, Bandello F, Querques G. **Reply.** *Retina*. 2022 Mar 1;42(3):e20-e22. doi: 10.1097/IAE.0000000000003366.

- Inoda S, Takahashi H, Inoue Y, Tan X, Tampo H, Arai Y, Yanagi Y, Kawashima H. **Cytokine Profiles of Macular Neovascularization in the Elderly based on a Classification from a Pachychoroid/Drusen Perspective.** *Graefes Arch Clin Exp Ophthalmol.* 2022 Mar;260(3):747-758. doi: 10.1007/s00417-021-05445-0.

- Invernizzi A, Staurenghi G, Cheung CMG, Teo KYC. **Reply to Comment on: "Outer Retinal Layer Thickening Predicts the Onset of Exudative Neovascular Age-related Macular Degeneration".** *Am J Ophthalmol.* 2022 Mar;235:330-331. doi: 10.1016/j.ajo.2021.09.038.

- Xu BY, Friedman DS, Foster PJ, Jiang Y, Porporato N, Pardeshi AA, Jiang Y, Munoz B, Aung T, He M. **Ocular Biometric Risk Factors for Progression of Primary Angle Closure Disease: The Zhongshan Angle Closure Prevention Trial.** *Ophthalmology.* 2022 Mar;129(3):267-275. doi: 10.1016/j.ophtha.2021.10.003.

- Nusinovici S, Li H, Thakur S, Baskaran M, Tham YC, Zhou L, Sabanayagam C, Aung T, Silver D, Fan Q, Wong TY, Crowston J, Cheng CY. **High-Density Lipoprotein 3 Cholesterol and Primary Open-angle Glaucoma: Metabolomics and Mendelian Randomization Analyses.** *Ophthalmology.* 2022 Mar;129(3):285-294. doi: 10.1016/j.ophtha.2021.09.013.

- Teo KY, Invernizzi A, Staurenghi G, Cheung CMG. **COVID-19-related Retinal Micro-vasculopathy - A Review of Current Evidence.** *Am J Ophthalmol.* 2022 Mar;235:98-110. doi: 10.1016/j.ajo.2021.09.019.

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FINANCIAL REPORT

Directors' statement

The directors are pleased to present their statement to the member together with the audited financial statements of Singapore Eye Research Institute (the "Company") for the financial year ended 31 March 2022.

Opinion of the directors

In the opinion of the directors,

(i) the financial statements of the Company are drawn up so as to give a true and fair view of the financial position of the Company as at 31 March 2022 and the financial performance, changes in funds and cash flows of the Company for the year ended on that date in accordance with the provisions of the Companies Act 1967, the Charities Act 1994 and other relevant regulations and Financial Reporting Standards in Singapore; and

(ii) at the date of this statement, having regards to the financial support from the immediate holding company, there are reasonable grounds to believe that the Company will be able to pay its debts as and when they fall due.

Directors

The directors of the Company in office at the date of this statement are:

Prof. Aung Tin	
Ms. Ooi Chee Kar	
Prof. Seet Hun Yew Benjamin	
Prof. Thomas M Coffman	
Prof. Vernon Lee Jian Ming	
Prof. Chong Yap Seng	
Prof. Tan Sze Wee	
Mr. Tan Shong Ye	
Ms. Eileen Yeo Hwee Leng	(Appointed on 1 November 2021)
Ms. Poh Mui Hoon	(Appointed on 1 November 2021)
Prof. Joseph Sung Jao Yiu	(Appointed on 1 January 2022)
Mr. Esmond Choo Liong Gee	(Appointed on 1 January 2022)

Directors' Interests

The Company has no share capital and debentures 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.

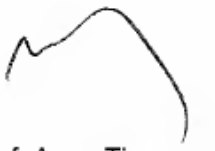
Options

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

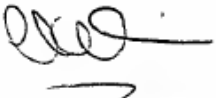
Auditor

Ernst & Young LLP have expressed their willingness to accept re-appointment as auditor.

On behalf of the board of directors,



Prof. Aung Tin
Director



Ms. Ooi Chee Kar
Director

Singapore

5 September 2022

INDEPENDENT AUDITORS' REPORT
For the financial year ended 31 March 2022

Independent auditor's report to the member of Singapore Eye Research Institute

Report on the audit of the financial statements

Opinion

We have audited the financial statements of Singapore Eye Research Institute (the "Company"), which comprise the balance sheet as at 31 March 2022, statement of comprehensive income and statement of cash flows of the Company for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements are properly drawn up in accordance with the provisions of the Companies Act 1967 (the "Act"), the Charities Act 1994 and other relevant regulations (the "Charities Act and "Regulations") and Financial Reporting Standards in Singapore (FRS) so as to give a true and fair view of the financial position of the Company as at 31 March 2022 and of the financial performance and cash flows of the Company for the year ended on that date.

Basis for opinion

We conducted our audit in accordance with Singapore Standards on Auditing (SSAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company in accordance with the Accounting and Corporate Regulatory Authority (ACRA) Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities (ACRA Code) together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

Management is responsible for the other information. Other information comprises directors' statement set out on pages 1 and 2, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independent auditor's report to the member of Singapore Eye Research Institute

Responsibilities of management and directors 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 Act, the Charities Act and Regulations and FRSs, 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.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

The directors' responsibilities include overseeing the Company's financial reporting process.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit 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 Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

Independent auditor's report to the member of Singapore Eye Research Institute

Auditors' responsibilities for the audit of the financial statements (cont'd)

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on other legal and regulatory requirements

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

During the course of our audit, nothing has come to our attention that causes us to believe that during the year:

(a) the Company has not used the donation moneys in accordance with its objectives as required under Regulation 11 of the Charities (Institutions of a Public Character) Regulations; and

(b) the Company has not complied with the requirements of Regulation 15 of the Charities (Institutions of a Public Character) Regulations.

Ernst & Young LLP

Public Accountants and
Chartered Accountants
Singapore

5 September 2022

FINANCIAL STATEMENTS

Balance sheet
As at 31 March 2022

	Note	2022 $	2021 $
Assets			
Property, plant and equipment	4	10,371,681	9,872,368
Intangible assets	5	40,520	92,867
Trade and other receivables	6	56,916	33,581
Non-current assets		10,469,117	9,998,816
Trade and other receivables	6	24,448,167	21,250,459
Prepayments		50,647	161,744
Cash and cash equivalents	8	12,076,761	11,647,664
Current assets		36,575,575	33,059,867
Total assets		47,044,692	43,058,683
Accumulated fund	9	136,832	(1,894,012)
Liabilities			
Deferred income	10	3,624,278	4,394,925
Other payables	12	1,627,668	–
Non-current liabilities		5,251,946	4,394,925
Trade payables	11	5,975,240	6,494,106
Other payables	12	32,998,335	28,184,157
Deferred income	10	1,415,406	4,800,843
Employee benefits	13	1,266,933	1,078,664
Current liabilities		41,655,914	40,557,770
Total liabilities		46,907,860	44,952,695
Total accumulated fund and liabilities		47,044,692	43,058,683

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Statement of comprehensive income

For the financial year ended 31 March 2022

	Note	2022 $	2021 $
Operating expenditure grants	15	41,169,480	36,320,646
Amortisation of deferred income	10	2,153,625	1,868,226
Government subvention	18	835,658	216,618
Other income	16	4,149,836	4,816,126
		48,308,599	43,221,616
Staff costs		(22,477,618)	(19,009,474)
Supplies and consumables		(4,207,845)	(3,751,037)
Depreciation of property, plant and equipment	4	(3,049,389)	(2,791,866)
Amortisation of intangible assets	5	(68,405)	(38,878)
Rental and utilities		(639,332)	(732,738)
Purchased and contracted services		(11,647,903)	(12,590,865)
Repairs and maintenance		(1,989,229)	(2,127,000)
(Impairment loss)/reversal of impairment loss on trade and other receivables		(31,327)	43,185
Other operating expenses		(2,119,290)	(3,107,376)
Results from operating activities		2,078,261	(884,433)
Net finance costs	17	(47,417)	(63,301)
Surplus/(deficit) before tax		2,030,844	(947,734)
Tax expense	19	–	–
Surplus/(deficit) for the year, representing total comprehensive income/(loss) for the year	20	2,030,844	(947,734)

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Statement of changes in funds
For the financial year ended 31 March 2022

	Accumulated funds $
Balance at 1 April 2020	(946,278)
Net deficit, representing total comprehensive loss for the year	(947,734)
Balance at 31 March 2021	(1,894,012)
Balance at 1 April 2021	(1,894,012)
Net surplus, representing total comprehensive income for the year	2,030,844
Balance at 31 March 2022	136,832

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

Statement of cash flows
For the financial year ended 31 March 2022

	Note	2022 $	2021 $
Cash flows from operating activities			
Surplus/(deficit) before tax		2,030,844	(947,734)
Adjustments for:			
Depreciation of property, plant and equipment	4	3,049,389	2,791,866
Loss on disposal of property, plant and equipment	20	93,590	153,989
Interest expense		42,958	65,681
Amortisation of intangible assets	5	68,405	38,878
Intangible assets written off	20	–	4,916
Impairment loss/(reversal of impairment loss) on trade and other receivables		31,327	(43,185)
Amortisation of deferred income	10	(2,153,625)	(1,868,226)
Operating cash flows before changes in working capital		3,162,888	196,185
Changes in working capital:			
(Increase)/decrease in trade and other receivables		(3,252,370)	4,542,965
Decrease in prepayments		111,097	56,474
(Decrease)/increase in deferred income		(3,216,855)	2,098,255
Increase/(decrease) in trade and other payables		4,257,060	(4,865,503)
Increase in employee benefits		188,269	127,507
Net cash generated from operating activities		1,250,089	2,155,883
Cash flows from investing activities			
Purchase of property, plant and equipment		(1,040,291)	(3,289,207)
Purchase of intangible assets		(16,058)	(15,127)
Grants for capital expenditure		1,214,396	2,554,225
Net cash generated from/(used in) investing activities		158,047	(750,109)
Cash flows from financing activities			
Interest paid		(42,958)	(65,681)
Payment of principal portion of lease liabilities		(936,081)	(902,522)
Net cash used in financing activities		(979,039)	(968,203)
Net increase in cash and cash equivalents		429,097	437,571
Cash and cash equivalents at beginning of the year		11,647,664	11,210,093
Cash and cash equivalents at end of the year	8	12,076,761	11,647,664

The accompanying accounting policies and explanatory notes form an integral part of the financial statements.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 March 2022

1. Corporate information

Singapore Eye Research Institute ('the Company') is incorporated in the Republic of Singapore. The address of the Company's registered office is at 10 Hospital Boulevard #19-01, Singapore 168582.

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

The immediate, intermediate holding companies and ultimate controlling 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[1] 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 1994 with effect from 27 November 2002.

2. Basis of preparation

2.1 Going Concern

As at 31 March 2022, the Company is in a net current liability position of $5,080,339 (2021: $7,497,903). Notwithstanding this, the directors of the Company consider that it is appropriate for the Company to prepare its financial statements on a going concern basis as the immediate holding company has agreed to provide financial support as is necessary for the next twelve months to enable the Company to continue its operations and to meet its liabilities as and when they fall due.

2.2 Statement of compliance

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

2.3 Basis of measurement

The financial statements have been prepared on the historical cost basis except as otherwise described in the notes below.

2.4 Functional and presentation currency

These financial statements are presented in Singapore dollars ($), which is the Company's functional currency.

[1] *Under the Singapore Minister for Finance (Incorporation) Act 1959, the Minister for Finance is a body corporate*

2. Basis of preparation (cont'd)

2.5 Use of estimates and judgements

The preparation of the 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.

Information about critical judgements in applying accounting policies that have the most significant effect on the amount recognised in the financial statements and assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year are included below:

Useful lives of property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets, are stated at cost and depreciated/amortised on a straight-line basis over their estimated useful lives. The estimated useful lives represent the estimate of the periods that management expects to derive economic benefits from these assets. In estimating these useful lives and in determining whether subsequent revisions to useful lives are necessary, management considers the likelihood of technical obsolescence arising from changes in technology and intended use.

Valuation of trade receivables – measurement of expected credit losses ("ECL") allowance

The Company applies the simplified approach to provide for ECLs for all trade receivables. Loss rates are based on actual credit loss experience over the past one to five years. These rates are adjusted by scalar factors to reflect differences between economic conditions during the period over which the historic data has been collected, current conditions and the Company's view of economic conditions over the expected lives of the receivables. These scalar factors are calculated using statistical models that determine numeric co-relation of loss rates with relevant economic variables.

Measurement of fair values

Information about the measurement of fair values and the assumptions made in measuring fair values is described in Note 21.

3. Significant accounting policies

3.1 Foreign currency

Foreign currency transactions

Transactions in foreign currencies are measured in the functional currency of the Company and recorded on initial recognition in the functional currency at exchange rates approximating those ruling at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated at the rate of exchange ruling at the end of the reporting period. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was measured.

Exchange differences arising on the settlement of monetary items or on translating monetary items at the end of the reporting period are recognised in surplus or deficit.

3.2 Financial instruments

(i) Recognition and initial measurement

Non-derivative financial assets and financial liabilities

Trade receivables are initially recognised when they are originated. All other financial assets and financial liabilities are initially recognised when the Company becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus, for an item not at fair value through profit or loss ("FVTPL"), transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

Financial liabilities are initially recognised when the Company becomes a party to the contractual provisions of the instrument. The Company determines the classification of its financial liabilities at initial recognition. All financial liabilities are recognised initially at fair value plus in the case of financial liabilities not at fair value through profit or loss, directly attributable transaction costs.

(ii) Classification and subsequent measurement

Non-derivative financial assets

On initial recognition, a financial asset is classified as measured at amortised cost.

Financial assets are not reclassified subsequent to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

3. Significant accounting policies (cont'd)

3.2 Financial instruments (cont'd)

(ii) Classification and subsequent measurement (cont'd)

Subsequent measurement and gains and losses

A financial asset is measured at amortised cost if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

These assets are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognised in surplus or deficit. Any gain or loss on derecognition is recognised in surplus or deficit.

Non-derivative financial liabilities

Such financial liabilities are subsequently measured at amortised cost using the effective interest method.

(iii) Derecognition

Financial assets

The Company derecognises a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Company neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

Financial liabilities

The Company derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire. The Company also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value.

On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognised in surplus or deficit.

3. Significant accounting policies (cont'd)

3.2 Financial instruments (cont'd)

(iv) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the balance sheet when, and only when, the Company currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

The Company does 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.

(v) Cash and cash equivalents

Cash and cash equivalents comprise cash and bank balances and deposits with financial institutions that are subject to an insignificant risk of changes in their fair value, and are used by the Company in the management of its short-term commitments.

3.3 Property, plant and equipment

Recognition and measurement

Items of property, plant and equipment are stated 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 assets to a working condition for their intended uses;
- 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, if any.

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

Construction-in-progress comprises the capitalised costs of on-going capital projects.

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 is recognised in surplus or deficit.

3. Significant accounting policies (cont'd)

3.3 Property, plant and equipment (cont'd)

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.

Construction-in-progress is not depreciated.

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:

Medical and laboratory equipment	8 years
Computers	3 years
Office equipment	5 years
Furniture and fittings	8 years
Motor vehicles	5 years

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted if appropriate.

3.4 Leases

The Company assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Company as a lessee

The Company applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Company recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

3. Significant accounting policies (cont'd)

3.4 Leases (cont'd)

Company as a lessee (cont'd)

a. Right-of-use assets

The Company recognises right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, as follows:

Building and office space	3 years

If ownership of the leased asset transfers to the Company at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

The right-of-use assets are also subject to impairment. Refer to accounting policies in Note 3.6 (ii). The Company's right-of-use assets are included in property, plant and equipment (Note 4).

b. Lease liabilities

At the commencement date of the lease, the Company recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Company and payments of penalties for terminating the lease, if the lease term reflects the Company exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognised as expenses (unless they are incurred to produce inventories) in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Company uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

The Company's lease liabilities are included in other payables (Note 12).

3. Significant accounting policies (cont'd)

3.4 Leases (cont'd)

Company as a lessee (cont'd)

c. Short-term leases and leases of low-value assets

The Company applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognised as expense on a straight-line basis over the lease term.

Leases in which the Company does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in income in surplus or deficit due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as income in the period in which they are earned.

3.5 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.

No amortisation is provided on software development-in-progress.

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.

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 3-5 years, from the date that they are available for use.

Amortisation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted if appropriate.

3. Significant accounting policies (cont'd)

3.6 Impairment

(i) Non-derivative financial assets

The Company recognises loss allowances for ECLs on financial assets measured at amortised cost.

Loss allowances of the Company are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from default events that are possible within the 12 months after the reporting date (or for a shorter period if the expected life of the instrument is less than 12 months); or
- Lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial instrument.

Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the Group in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets carried at amortised cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the borrower or issuer;
- a breach of contract such as a default or being more than 1 to 3 years, taking into consideration historical payment track records, current macroeconomics situation as well as the general industry trend;
- the restructuring of a loan or advance by the Company on terms that the Company would not consider otherwise;
- it is probable that the borrower will enter bankruptcy or other financial reorganisation; or
- the disappearance of an active market for a security because of financial difficulties.

However, financial assets that are considered as 'credit-impaired' would still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

Presentation of allowance for ECLs in the balance sheet

Loss allowances for financial assets measured at amortised cost are deducted from the gross carrying amount of these assets.

3. Significant accounting policies (cont'd)

3.6 Impairment (cont'd)

(i) Non-derivative financial assets (cont'd)

Write-off

The gross carrying amount of a financial asset is written off (either partially or in full) to the extent that there is no realistic prospect of recovery. This is generally the case when the Company determines that the debtor does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

Simplified approach

The Company applies the simplified approach to provide for ECLs for all trade receivables. The simplified approach requires the loss allowance to be measured at an amount equal to lifetime ECLs.

General approach

The Company applies the general approach to provide for ECLs on all other financial instruments. Under the general approach, the loss allowance is measured at an amount equal to 12-month ECLs at initial recognition.

At each reporting date, the Company assesses whether the credit risk of a financial instrument has increased significantly since initial recognition. When credit risk has increased significantly since initial recognition, loss allowance is measured at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment and including forward-looking information.

If credit risk has not increased significantly since initial recognition or if the credit quality of the financial instruments improve such that there is no longer a significant increase in credit risk since initial recognition, loss allowance is measured at an amount equal to 12-month ECLs.

The Company considers a financial asset to be in default when:

- the borrower is unlikely to pay its credit obligations to the Company in full, without recourse by the Group to actions such as realising security (if any is held); or
- the financial asset is more than 1 to 3 years past due, taking into consideration historical payment track records, current macroeconomics situation as well as the general industry trend.

The maximum period considered when estimating ECLs is the maximum contractual period over which the Company is exposed to credit risk.

3. Significant accounting policies (cont'd)

3.6 Impairment (cont'd)

(i) Non-financial assets

The carrying amounts of the Company's non-financial assets, other than inventories, 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.

The Company's corporate assets do not generate separate cash inflows and are utilised by more than one CGU. Corporate assets are allocated to CGUs on a reasonable and consistent basis and tested for impairment as part of the testing of the CGU to which the corporate asset is allocated.

Impairment losses are recognised in surplus or deficit. Impairment losses recognised in respect of CGUs are allocated first to reduce the carrying amount of any goodwill allocated to the CGU (group of CGUs), and then 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.

3.7 Employee benefits

Defined contribution plans

A defined contribution plan is a 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 plans are recognised as an expense in surplus or deficit during which 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. Significant accounting policies (cont'd)

3.8 Provisions

A provision is recognised if, as a result of a past event, the Company has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

3.9 Income recognition

Grant income

Grant income designated for research purposes is recognised in surplus or deficit when the relevant qualifying costs are incurred. The deferral of certain grant income is described in note 3.10.

Grants which are designated for property, plant and equipment, and intangible assets purchases whose individual value of more than $1,000 and $10,000 respectively are 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.

3.10 Government grants

Government grants related to property, plant and equipment and intangible assets are taken to deferred income or to the surplus or deficit for assets which are written off in the year of purchase. Such government grant recognised in deferred income is recognised in the surplus or deficit over the periods necessary to match the depreciation/amortisation and write off of the property, plant and equipment and intangible assets purchased with the related grants. Upon the disposal of the property, plant and equipment and intangible assets, the balance of the related deferred income is recognised in the surplus or deficit to reflect the net book value of the assets disposed.

Government subvention

Government subvention is accounted for on an accrual basis in the surplus or deficit when there is reasonable assurance that the Company has complied with all the terms and conditions attached to the subvention and that there is reasonable certainty that the subvention will be received. Government subvention is a subsidy from the Ministry of Health for expenses incurred in relation to the Temporary occupation licence.

3. Significant accounting policies (cont'd)

3.11 Finance income and finance costs

The Company's finance income and finance costs include foreign currency gain or loss on financial assets and financial liabilities.

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.

3.12 Tax

The Company has been registered as a Charity, under Charities Act 1994 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.

3.13 New standards and interpretations issued but not yet effective

The Company has not adopted the following standards that have been issued but not yet effective:

Description	*Effective for annual periods beginning on or after*
Annual improvements to FRSs 2018-2021	1 January 2022
Amendments to FRS 103: *Reference to the Conceptual Framework*	1 January 2022
Amendments to FRS 16: *Property, Plant and Equipment – Proceeds before intended use*	1 January 2022
Amendments to FRS 37: *Onerous Contracts – Cost of Fulfilling a Contract*	1 January 2022
Amendments to FRS 1: *Classification of Liabilities as Current or Non-current*	1 January 2023
Amendments to FRS 8: *Definition of Accounting Estimates*	1 January 2023

The directors expect that the adoption of the standards above will have no material impact on the financial statements in the year of initial application.

4. Property, plant and equipment

	Medical and laboratory equipment $	Computers $	Office equipment $	Furniture and fittings $	Motor vehicle $	Right-of-use assets (Note 14) $	Construction-in-progress $	Total $
Cost								
At 1 April 2020	15,830,173	1,957,978	155,899	413,040	204,781	2,548,221	2,249,808	23,359,900
Additions	2,211,043	285,627	7,353	–	–	–	785,184	3,289,207
Disposals	(1,269,484)	(534,583)	(110,378)	(232,410)	–	–	–	(2,146,855)
Reclassifications	274,085	–	–	–	–	–	(274,085)	–
At 31 March 2021	17,045,817	1,709,022	52,874	180,630	204,781	2,548,221	2,760,907	24,502,252
Additions	532,559	65,681	3,433	42,254	–	2,602,001	396,364	3,642,292
Disposals	(497,331)	(74,159)	–	–	–	(2,548,221)	(71,619)	(3,191,330)
Reclassifications	315,078	236,848	–	–	–	–	(551,926)	–
At 31 March 2022	17,396,123	1,937,392	56,307	222,884	204,781	2,602,001	2,533,726	24,953,214
Accumulated depreciation								
At 1 April 2020	11,120,146	1,275,784	126,709	306,483	102,390	899,372	–	13,830,884
Depreciation charge for the year	1,455,451	361,061	11,162	23,863	40,957	899,372	–	2,791,866
Disposals	(1,119,983)	(533,588)	(110,378)	(228,917)	–	–	–	(1,992,866)
At 31 March 2021	11,455,614	1,103,257	27,493	101,429	143,347	1,798,744	–	14,629,884
Depreciation charge for the year	1,477,605	599,851	11,505	25,440	40,955	894,033	–	3,049,389
Disposals	(475,640)	(73,879)	–	–	–	(2,548,221)	–	(3,097,740)
At 31 March 2022	12,457,579	1,629,229	38,998	126,869	184,302	144,556	–	14,581,533
Carrying amounts								
At 31 March 2021	5,590,203	605,765	25,381	79,201	61,434	749,477	2,760,907	9,872,368
At 31 March 2022	4,938,544	308,163	17,309	96,015	20,479	2,457,445	2,533,726	10,371,681

5. Intangible assets

	Computer software $
Cost	
At 1 April 2020	1,880,803
Additions	15,127
Write-off	(779,923)
At 31 March 2021	1,116,007
Additions	16,058
At 31 March 2022	1,132,065
Accumulated amortisation	
At 1 April 2020	1,759,269
Amortisation charge for the year	38,878
Write-off	(775,007)
At 31 March 2021	1,023,140
Amortisation charge for the year	68,405
At 31 March 2022	1,091,545
Carrying amounts	
At 31 March 2021	92,867
At 31 March 2022	40,520

6. Trade and other receivables

	Note	2022 $	2021 $
Deposits and other receivables	7	22,023,707	17,073,699
Trade amounts due from:			
- Immediate holding company		1,617,321	3,570,333
- Intermediate holding company		254,639	541,694
- Related corporations		552,500	64,733
Deferred expenses		56,916	33,581
		24,505,083	21,284,040
Non-current		56,916	33,581
Current		24,448,167	21,250,459
		24,505,083	21,284,040

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

Information about the Company's exposures to credit risks and impairment losses for trade and other receivables are included in note 21.

7. Deposits and other receivables

	Note	2022 $	2021 $
Deposits		84,027	53,505
Receivables from funding bodies		19,967,116	16,145,065
Grant receivables from third parties		1,974,674	845,708
Sundry receivables		40,764	40,968
		22,066,581	17,085,246
Less: Impairment loss		(42,874)	(11,547)
	6	22,023,707	17,073,699

Receivables from funding bodies are non-interest bearing and have no credit terms.

8. Cash and cash equivalents

	2022 $	2021 $
Cash at bank and in hand	12,076,761	11,647,664

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 or deficit 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. In the event of an operating deficit or a shortfall of current assets over current liabilities, the Company will obtain appropriate financial support from its immediate holding company to pay liabilities, as and when they fall due.

Capital management

Capital comprises the accumulated fund of the Company. The Company's operation is funded primarily from grants from various funding bodies and loans 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

	2022 $	2021 $
Capital expenditure grants	5,039,684	6,047,047
Other grants	–	3,148,721
	5,039,684	9,195,768
Non-current	3,624,278	4,394,925
Current	1,415,406	4,800,843
	5,039,684	9,195,768

Capital expenditure grants

Capital expenditure grants comprised grants received for the purchase of property, plant and equipment ("PPE") and intangible assets ("IA"). Income received is deferred and amortised over the periods necessary to match the depreciation of the PPE and amortisation of the IA purchased with the related grants.

Included in other grants are grants provided by the government to support the salary costs incurred for the period of economic uncertainty due to the global pandemic outbreak.

Movement in deferred income relating to capital expenditure grants is as follows:

	2022 $	2021 $
At cost	19,577,918	18,970,673
Less: Accumulated amortisation:		
At 1 April	12,923,626	13,685,488
Amortisation charge for the year	2,153,625	1,868,226
Disposal of assets funded by grants	(539,017)	(2,630,088)
At 31 March	14,538,234	12,923,626
	5,039,684	6,047,047
Non-current	3,624,278	4,394,925
Current	1,415,406	1,652,122
	5,039,684	6,047,047

11. Trade payables

	2022 $	2021 $
Trade payables	453,221	821,155
Trade amounts due to:		
- Immediate holding company	1,935,520	1,962,800
- Intermediate holding company	3,249,205	3,534,386
- Related corporations	337,294	175,765
	5,975,240	6,494,106

The Company's exposure to liquidity risks related to trade payables is disclosed in Note 21.

12. Other payables

		2022 $	2021 $
Accrued operating expenses		4,879,977	3,840,243
Loans from immediate holding company		6,000,000	6,000,000
Research grants received in advance from third parties		4,571,909	9,545,762
Research grants received in advance from related corporation		12,683,289	3,994,466
Lease liabilities	14	2,454,114	788,194
Refundable deposits		34,690	15,190
		34,626,003	28,184,157
Non-current		1,627,668	–
Current		32,998,335	28,184,157
		34,626,003	28,184,157

Loans from immediate holding company are unsecured, interest-free and repayable on demand.

The Company's exposure to liquidity risks related to other payables is disclosed in Note 21.

13. Employee benefits

	2022 $	2021 $
Liability for short-term accumulated compensated absences	1,266,933	1,078,664

14. Leases

Company as a lessee

The Company's obligations under its leases are secured by the lessor's title to the leased assets.

Set out below are the carrying amounts of right-of-use assets (included under property, plant and equipment) recognised and the movements during the period:

	Building and office space $
At 1 April 2020	1,648,849
Depreciation expense	1,648,849
At 31 March 2021	749,477
Additions	2,602,001
Depreciation expense	(894,033)
At 31 March 2022	2,457,445

Set out below are the carrying amounts of lease liabilities (included under trade and other payables) and the movements during the period:

	2022 $	2021 $
At 1 April	788,194	1,690,716
Additions	2,602,001	–
Accretion of interest	42,958	65,681
Payments	(979,039)	(968,203)
At 31 March	2,454,114	788,194
Current	826,446	788,194
Non-current	1,627,668	–
	2,454,114	788,194

The maturity analysis of lease liabilities are disclosed in Note 21.

14. Leases (cont'd)

Company as a lessee (cont'd)

The following are the amounts recognised in surplus or deficit:

	2022 $	2021 $
Depreciation expense of right-of-use assets	894,033	899,372
Interest expenses on lease liabilities	42,958	65,681
Expenses relating to short-term leases (included in Rental & utilities)	79,548	150,768
Expenses relating to leases of low-value assets (included in Rental & utilities)	98,884	72,210
Total amount recognised in surplus or deficit	1,115,423	1,188,031

The Company had total cash outflows for leases of $1,157,471 (2021: $1,191,181) in 2022. The Company also had non-cash additions to right-of-use assets and lease liabilities of $2,602,001 in 2022 (2021: $Nil). There are no lease contracts committed but not yet commenced as at 31 March 2022.

15. Operating 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.

16. Other income

	2022 $	2021 $
Clinical trial and research income	3,687,214	4,488,427
Other miscellaneous income	462,622	327,699
	4,149,836	4,816,126

17. Net finance costs

	2022 $	2021 $
Interest expense on lease liabilities (Note 14)	(42,958)	(65,681)
Net foreign exchange (loss)/gain	(4,459)	2,380
Net finance costs	(47,417)	(63,301)

18. Government subvention

Government subvention is recognised in the surplus or deficit when conditions attached to its recognition are met by the Company. The Government is currently reviewing and finalising the subvention paid and payable to the Company in respect of the current year, no adjustment has been made in the financial statements for this component in the current financial year.

19. Tax expense

The Company is a non-profit organisation registered with the Commissioner of Charities under the Singapore Charities Act 1994. With effect from Year of Assessment 2008, all registered and exempt charities will enjoy automatic income tax exemption. Thus, no provision for taxation was made in the financial statements.

20. Surplus/(deficit) for the year

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

	2022 $	2021 $
Contributions to defined contribution plan included in staff costs	2,105,841	1,910,142
Loss on disposal of property, plant and equipment	93,590	153,989
Intangible assets written off	–	4,916

21. Financial Instruments

Overview

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

- credit risk
- liquidity 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 occurring 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.

21. Financial Instruments (cont'd)

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 as and when they fall due.

The carrying amount of financial assets in the balance sheet represents the Company's 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.

Financial assets measured at amortised cost

The Company has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis.

The allowance account in respect of trade and other receivables is used to record impairment losses unless the Company is satisfied that no recovery of the amount owing is possible. At that point, the financial asset is considered irrecoverable and the amount charged to the allowance account is written off against the carrying amount of the impaired financial asset.

Cash is placed with financial institutions which are regulated.

The Company's primary exposure to credit risk arises through its receivables from funding bodies and corporations. These parties are established and reputable institutions which management regarded the associated credit risk to be minimum. The Company's historical experience in the collection of accounts receivable falls within the recorded allowances for impairment losses. Due to these factors, management believes that no additional credit risk beyond the amounts provided for collection losses is inherent in the Company's trade and other receivables.

The maximum exposure to credit risk for trade and other receivables of the Company at the reporting date (by type of debtor) is:

	2022 $	2021 $
Funding bodies	19,967,116	16,145,065
Corporations	4,481,051	5,105,394
	24,448,167	21,250,459

21. Financial Instruments (cont'd)

Credit risk (cont'd)

Impairment losses

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

	2022 Not credit-impaired $	2022 Credit-impaired $
Not past due	21,655,978	–
Past due 1 – 30 days	133,576	–
Past due 31 – 150 days	2,356,052	7,971
Past due over 150 days	302,561	34,903
Total gross carrying amount	24,448,167	42,874
Impairment loss allowance	–	(42,874)
	24,448,167	–

	2021 Not credit-impaired $	2021 Credit-impaired $
Not past due	17,920,038	–
Past due 1 – 30 days	3,033,291	–
Past due 31 – 150 days	54,811	14,360
Past due over 150 days	227,959	11,547
Total gross carrying amount	21,236,099	25,907
Impairment loss allowance	–	(11,547)
	21,236,099	14,360

21. Financial Instruments (cont'd)

Credit risk (cont'd)

Impairment losses (cont'd)

The Company uses an allowance matrix to measure the ECLs of trade and other receivables from funding bodies and corporations (excluding related parties).

Other receivables from funding bodies of $19,967,116 and $16,145,065 as at 31 March 2022 and 31 March 2021 respectively are neither past due nor impaired.

The following table provides information about the exposure to credit risk and ECLs for other receivables from corporations (excluding related parties) as at 31 March:

2022	Weighted average loss rate %	Gross $	Impairment losses $
Not past due	–	1,398,621	–
Past due 1 – 30 days	–	–	–
Past due 31 – 150 days	2.1	380,463	7,971
Past due over 150 days	14.8	236,354	34,903
		2,015,438	42,874

2021	Weighted average loss rate %	Gross $	Impairment losses $
Not past due	–	667,091	–
Past due 1 – 30 days	–	149,833	–
Past due 31 – 150 days	2.1	1,380	29
Past due over 150 days	16.9	68,372	11,518
		886,676	11,547

Loss rates are based on actual credit loss experience over the past three years. These rates are adjusted by scalar factors to reflect differences between economic conditions during the period over which the historic data has been collected, current conditions and the Company's view of economic conditions over the expected lives of the receivables. These scalar factors are calculated using statistical models that determine numeric co-relation of loss rates with relevant economic variables.

Amounts due from related parties

Impairment on these balances has been measured on the 12-month expected loss basis which reflects the low credit risk of the exposures. The amount of the allowance on these balances is insignificant.

21. Financial Instruments (cont'd)

Credit risk (cont'd)

Movements in allowance for impairment in respect of trade and other receivables

The movement in the allowance for impairment in respect of trade and other receivables during the year was as follows:

	2022 $	2021 $
At 1 April	11,547	54,732
Reversal of impairment loss	31,327	(43,185)
At 31 March	42,874	11,547

Cash and cash equivalents

The Company held cash and cash equivalents of $12,076,761 at 31 March 2022 (2021: $11,647,664). The cash and cash equivalents are held with regulated financial institutions.

Allowance for impairment losses on cash and cash equivalents has been measured on the 12-month expected loss basis and reflects the short maturities of the exposures. The Company considers that its cash and cash equivalents have low credit risk based on the external credit ratings of the counterparties. The amount of the allowance on cash and cash equivalents was negligible.

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 immediate holding company has agreed to provide financial support as is necessary for the next twelve months to enable the Company to meet its liabilities as and when they fall due (see Note 2.1).

21. Financial Instruments (cont'd)

Liquidity risk (cont'd)

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 $	Within 5 years
2022					
Non-derivative financial liabilities					
Trade payables	11	5,975,240	(5,975,240)	(5,975,240)	–
Other payables*	12	10,914,667	(10,914,667)	(10,914,667)	–
Lease liabilities	14	2,454,114	(2,678,554)	(945,372)	(1,733,182)
		19,344,021	(19,568,461)	(17,835,279)	(1,733,182)
2021					
Non-derivative financial liabilities					
Trade payables	11	6,494,106	(6,494,106)	(6,494,106)	–
Other payables*	12	9,855,433	(9,855,433)	(9,855,433)	–
Lease liabilities	14	788,194	(806,836)	(806,836)	–
		17,137,733	(17,156,375)	(17,156,375)	–

*** Excludes research grants received in advance from government, third parties and related corporation and lease liabilities**

The maturity analysis shows the undiscounted cash flows of the Company's financial liabilities on the basis of their earliest possible contractual maturity.

21. Financial Instruments (cont'd)

Measurement of fair values

The Company has an established control framework with respect to the measurement of fair values.

If third party information, such as broker quotes, property valuations or pricing services, is used to measure fair values, then the Company assesses and documents the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of FRS, including the level in the fair value hierarchy in which such valuations should be classified.

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 fall into 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.

21. Financial Instruments (cont'd)

Accounting classifications and fair values

The carrying amounts of recognised financial assets and liabilities, as shown below, with a maturity of less than one year (including trade and other receivables, cash and cash equivalents, trade payables and other payables) approximate their fair values because of the short period to maturity. Accordingly, no fair value is separately presented.

	Note	Financial assets at amortised cost $	Financial liabilities at amortised cost $	Total carrying amount $
31 March 2022				
Financial assets not measured at fair value				
Cash and cash equivalents	8	12,076,761	–	12,076,761
Trade and other receivables^	6	24,448,167	–	24,448,167
		36,524,928	–	36,524,928
Financial liabilities not measured at fair value				
Trade payables	11	–	(5,975,240)	(5,975,240)
Other payables*	12	–	(10,914,667)	(10,914,667)
		–	(16,889,907)	(16,889,907)

	Note	Financial assets at amortised cost $	Financial liabilities at amortised cost $	Total carrying amount $
31 March 2021				
Financial assets not measured at fair value				
Cash and cash equivalents	8	11,647,664	–	11,647,664
Trade and other receivables^	6	21,250,459	–	21,250,459
		32,898,123	–	32,898,123
Financial liabilities not measured at fair value				
Trade payables	11	–	(6,494,106)	(6,494,106)
Other payables*	12	–	(9,855,433)	(9,855,433)
		–	(16,349,539)	(16,349,539)

^ Excludes deferred expenses

*** Excludes research grants received in advance from government, third parties and related corporation and lease liabilities**

22. Commitments

	2022 $	2021 $
Capital commitments:		
- contracted but not provided for	2,120,362	1,644,713

23. 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:

	2022 $	2021 $
Other income received/receivable		
Intermediate holding company	(364,731)	(457,616)
Immediate holding company	(2,433,811)	(1,861,140)
Related corporation	(709,969)	(1,666,571)
Purchase of manpower services		
Intermediate holding company	3,197,716	3,085,982
Immediate holding company	787,167	674,403
Related corporation	869,174	389,382
Purchase of other services		
Intermediate holding company	1,563,878	1,351,166
Immediate holding company	1,232,388	1,337,342
Related corporations	411,120	744,587
Purchase of supplies and consumables		
Intermediate holding company	1,110,533	303,222
Immediate holding company	46,174	44,779
Related corporations	62	498
Other expenses paid/payable		
Intermediate holding company	1,983,389	2,353,782
Immediate holding company	213,361	342,724
Related corporations	170,970	99,205

The Company occupies space at the premises of its intermediate and immediate holding companies. The current year rental of $72,283 (2021: $72,283) is waived by the immediate holding company.

23. Related parties (cont'd)

Key management personnel remuneration

Key management personnel of the Company are those persons having the authority and responsibility for planning, directing and controlling the activities of the Company. The senior management are considered as key management personnel of the Company.

Key management personnel remuneration recognised in the statement of comprehensive income is as follows:

	2022 $	2021 $
Key management personnel		
- short-term employee benefits	1,293,269	1,380,985
- contribution to defined contribution plan	32,208	57,747
	1,325,477	1,438,732

In compliance with the Code of Corporate Governance for Charities and Institutions of a Public Character - Guideline 8.3, the annual remuneration of the Company's three highest paid staff who each received remuneration exceeding $100,000, in the following bands in the year are as follows:

	2022	2021
Number of personnel in bands:		
- $200,001 to $300,000	1	1
- $300,001 to $400,000	1	1
- $400,001 to $500,000	1	1

24. Authorisation of financial statements for issue

The financial statements for the financial year ended 31 March 2022 were authorised for issue in accordance with a resolution of the directors on 5 September 2022.

APPENDIX

In compliance with the Code of Corporate Governance for Charities and Institutions of a Public Character - Guideline 8.3, the annual remuneration of the Company's three highest paid staff who each received remuneration exceeding $100,000, in the following bands in the year are as follows:

None of these three highest paid staff serves as a governing board member of the charity.

There is no paid staff, being a close member of the family belonging to the Executive Head or a governing board member of the charity, who has received remuneration exceeding $50,000 during the financial year.

	2022	2021
Number of personnel in bands:		
- $200,001 to $300,000	1	1
- $300,001 to $400,000	1	1
- $400,001 to $500,000	1	1

SERI Board Meeting

The SERI Board Meeting were held twice every financial year.

Details of the meetings:

SERI Board Meeting on 14 September 2021, 6pm via Zoom	
Present	**Absent with Apologies**
Prof Wong Tien Yin	Prof Tan Sze Wee
Prof Ang Chong Lye	Prof Vernon Lee
Prof Wang Linfa	
Dr Geh Min	
Ms Ooi Chee Kar	
Prof Thomas Coffman	
Prof Chong Yap Seng	
Prof Benjamin Seet	
Mr Tan Shong Ye	

SERI Board Meeting on 30 March 2022, 6pm via Zoom	
Present	**Absent with Apologies**
Prof Aung Tin	Prof Chong Yap Seng
Prof Vernon Lee	Mr Tan Shong Ye
Prof Benjamin Seet	
Ms Ooi Chee Kar	
Prof Thomas Coffman	
Prof Tan Sze Wee	
Prof Joseph Sung	
Ms Eileen Yeo	
Ms Poh Mui Hoon	
Mr Esmond Choo	