

## 1.1 Biodata



### **PARTICULARS**

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Name	Victor Koh Teck Chang
NRIC	S8318781F
Date of Birth	30 June 1983
Telephone Number	+65-90230056(mobile)
Email Address	<a href="mailto:Victor_koh@nuhs.edu.sg">Victor_koh@nuhs.edu.sg</a> , <a href="mailto:viktorkoh@gmail.com">viktorkoh@gmail.com</a>
Nationality	Singaporean

Current Appointments

- Consultant**  
Department of Ophthalmology  
National University Hospital  
Singapore
- Consultant  
Deputy Chief**  
Department of Ophthalmology  
Alexandra Hospital  
Singapore
- Assistant Professor**  
National University of Singapore
- Auditor and Executive Committee Member**  
Singapore Society of Ophthalmology
- President**  
Glaucoma Surgeons Singapore

## 1.2 Academic History

### *Academic Degrees and Qualifications*

Year	Institution	Degree/Program
2007	Yong Loo Lin School of Medicine National University of Singapore	MBBS
2013	National University of Singapore	MMed (Ophthalmology)
2016	Royal College of Surgeons of Edinburgh	MRCSEd
2016	National University of Singapore	Specialist Accreditation Examination, FAMS (Best Candidate)
2018	National University of Singapore	MSc
2018	National Medical Research Council	Research Fellowship
2019	Ministry of Health – Health Manpower Development Plan	Fellowship in Paediatric Glaucoma at Moorfields Eye Hospital
2019	National University of Singapore Summit Program in Innovation – Ophthalmology	Visiting Scholar at Stanford University/Byers Eye Institute

## 1.3 Employment History

Year	Institution	Appointment
2 May – 2 Sept 2007	Singapore General Hospital	House Officer (General Medicine)
3 Sept – 1 Jan 2008	Tan Tock Seng Hospital	House Officer (Orthopaedic Surgery)
2 Jan – 1 May 2008	Singapore General Hospital	House Officer (General Surgery) -Best House Officer Award
2 May 2008 – 31 Oct 2008	Changi General Hospital	Ophthalmology Medical Officer
3 Nov 2008 – 27 Feb 2009	67 <sup>th</sup> Medical Officer Cadet Course	Medical Officer -Ranked number 6 out of 60 cadets
2 Mar 2009 – 30 Jul 2010	Medical Classification Centre (Central Manpower Base)	Ophthalmology Medical Officer
1 Aug 2010 – 29 Oct 2010	Jurong General Hospital	Ophthalmology Medical Officer
1 Nov 2010 – 30 June 2013	National University Hospital	Ophthalmology Basic Specialist Trainee
1 July 2013 – 30 June 2016	National University Hospital	Ophthalmology Advance Specialist Trainee

1 July 2016 – 1 August 2018	National University Hospital	Associate Consultant, Department of Ophthalmology
2 August 2018 – 11 August 2019	National University Hospital	Consultant, Department of Ophthalmology
12 August 2019 – 11 February 2020	Moorfields Eye Hospital	Adult and Paediatric Glaucoma Fellow
11 Feb 2020 – Present	National University Hospital	Consultant

### ***Academic Appointments***

Year	Institution	Appointment
2013 – 2017	National University of Singapore	Clinical Instructor
2017 – present	National University of Singapore	Assistant Professor

### **1.4 Public and Professional Service**

June 2017 – present	Executive Committee – Auditor Singapore Society of Ophthalmology
April 2015 - April 2017	Executive Committee Member Singapore Society of Ophthalmology
June 2016 - present	Lead for Medical Technology and Innovation Department of Ophthalmology, NUH
April 2017 –July 2019	Secretary Glaucoma Surgeons Society of Singapore
July 2019 - present	President Glaucoma Surgeons Society of Singapore
January 2018 – present	Specialist (ophthalmology) advisor for National University Polyclinics Specialty Advisory Group
August 2018 – present	Deputy Chief, Department of Ophthalmology Alexandra Hospital
2016 – present	Advisor to Occvix- a local start-up specializing in novel glaucoma lasers
2017 - present	Advisor to Telemedc – a multi-national tele-ophthalmology company
2019 - present	Advisor to Ocuviz – a NUS GRIP Spin-off company

## 1.5 Honors and Awards

Year	Awards/keynote addresses/elected membership in professional & learned societies
2011	NUHS Ophthalmology Research Day: Second Runner-up
2012	NUHS Ophthalmology Research Day: First Runner-up
2012	NUHS Ophthalmology Research Day: Most Innovative Research Idea Award
2014	Australia-New Zealand Glaucoma Interest Group Travel Scholarship
2014	Top 5 oral presentation (International Glaucoma Review) for Australia-New Zealand Glaucoma Interest Group
2014	National Ophthalmology Resident Research Day: Second Runner-up (Senior Oral Presentation)
2014	NUHS Long Service Award (5 years)
2014	NUHS Ophthalmology Young Teacher prize
2014	NUHS Clinician Scientist Program - Residency Award
2015	NUS-NUH Young Educator Award
2015	Australia-New Zealand Glaucoma Interest Group Travel Scholarship
2015	National Ophthalmology Resident Research Day: Best Oral Presentation (Senior Category)
2015	Singapore Chief Residency Programme - Cohort 3
2015	NUH Young Clinician Mentor Award
2016	Ophthalmology Exit Exams - FAMS Gold medal - Best candidate in the vitreoretina, medical retina and uveitis Gold medal - Best candidate in oculoplastics and adnexae
2016	NMRC Research Fellowship
2017	Bayer-NUS Grants4Apps Challenge – EyeDEA Two-in-One Card and Wearable to improve compliance to glaucoma eye drops. SGD 10,000 (one of three teams selected out of 80 international entries)
2017	Rotary Club Keynote lecture - World Glaucoma Week
2018	Clinical Quality Improvement Project – Reduction in length of stay for cataract surgery – Merit award
2018	NUS-NUH-MIT Artificial Intelligence Healthcare Datathon: Champions
2018	NUHS Teaching Excellence Award
2018	NUHS Ophthalmology Research Mentorship Award
2021	Eye and Vision Health Awards Singapore : Visionary Award
2021	Great Teacher Award AY2020-21

## 1.6 Publications

### *Publications in peer-reviewed journals*

- **Use of Micropulse Trans-Scleral Cyclophotocoagulation for Acute Rise in Intraocular Pressure due to Anterior Segment Inflammation**  
Asano S, [Koh V](#), Aquino MC, Chew P  
European Journal of Ophthalmology – in press
- **Surgical Outcomes of a Second Ahmed Glaucoma Valve Implantation in Asian Eyes with Refractory Glaucoma**  
Sze Chuan Ong, Maria Cecilia Aquino, Paul T K Chew and [Koh V](#)  
Journal of Ophthalmology – in press
- **MP3 Plus: A Modified Micropulse Trans-scleral Cyclophototherapy Technique for the Treatment of Refractory Glaucoma.** Kirsten Wong, Cecilia Maria Aquino, Ting K W Y, [Koh V](#), Aquino CM, Macasaet AM, Suwandono ME, Chew Tec Kuan P  
J Glaucoma. 2020 Jan 15
- **Reliability of Graders and Comparison with an Automated Algorithm for Vertical Cup-Disc Ratio Grading in Fundus Photographs.**  
Tong W, Romero M, Lim V, Loon SC, Suwandono ME, Shuang Y, Di X, Kanagasingam Y, [Koh V](#)  
Ann Acad Med Singapore. 2019 Sep;48(9):282-289.
- **Evaluating the Laser Output of the Micropulse P3 Laser Delivery Device Following Repeated Use.**  
Lun K, Maya ES, [Koh V](#), Chew PT.  
J Glaucoma. 2019 May 13
- **The Effect of Gender on Visual Field Sensitivity: The Singapore Chinese Eye Study.**  
Tan NYQ, Tham YC, [Koh V](#), Cheung CY, Aung T, Wong TY, Cheng CY.  
Ophthalmic Epidemiol. 2019 Jan 23:1-6.
- **Predicting the outcome of laser peripheral iridotomy for primary angle closure suspect eyes using anterior segment optical coherence tomography.**  
[Koh V](#), Keshtkaran MR, Hernstadt D, Aquino MCD, Chew PT, Sng C  
Acta Ophthalmol. 2019 Feb;97(1):e57-e63.
- **Diagnostic accuracy of macular ganglion cell-inner plexiform layer thickness for glaucoma detection in a population-based study: Comparison with optic nerve head imaging parameters.**  
[Koh V](#), Tham YC, Cheung CY, Mani B, Wong TY, Aung T, Cheng CY.  
PLoS One. 2018 Jun 26;13(6):e0199134.
- **Outcomes and Complications of Ahmed Tube Implantation in Asian Eyes.**  
Choo JQH, Chen ZD, [Koh V](#), Liang S, Aquino CM, Sng C, Chew P.  
J Glaucoma. 2018 Aug;27(8):733-738
- **Outcomes and Complications of Scleral-Fixated Intraocular Lens Combined with Ahmed Tube Surgery.**  
Sachdev N, Aquino MC, Loon SC, Chan YH, Chew P, [Koh V](#).  
J Ophthalmol. 2018 Mar 25;

- **Novel Automated Approach to Predict the Outcome of Laser Peripheral Iridotomy for Primary Angle Closure Suspect Eyes Using Anterior Segment Optical Coherence Tomography.**  
Koh V, Swamidoss IN, Aquino MCD, Chew PT, Sng C.  
 J Med Syst. 2018 Apr 27;42(6):107.
- **Peripheral retinal changes in highly myopic young Asian eyes.**  
 Chen DZ, Koh V, Tan M, Tan CS, Nah G, Shen L, Bhargava M, Cheng CY, Zhao P, Wong TY, Saw SM.  
 Acta Ophthalmol. 2018 Mar 25.
- **Imaging of the lamina cribrosa and its role in glaucoma: a review.**  
 Tan NY, Koh V, Girard MJ, Cheng CY  
 Clin Exp Ophthalmol. 2017 Dec 7
- **Comparing the use of phacoemulsification and combined surgery in angle-closure glaucoma**  
 CS Teoh, MC Aquino, SC Loon, P Chew, Koh V  
 Expert Review of Ophthalmology, 2017
- **Comment on: Five Year Pooled Data Analysis of the Ahmed Baerveldt Comparison Study and the Ahmed Versus Baerveldt Study**  
Koh V, Chew P  
 Editors Selection International Glaucoma Review 2017 18-3
- **The Effect of Testing Reliability on Visual Field Sensitivity in Normal Eyes: The Singapore Chinese Eye Study.**  
 Tan NYQ, Tham YC, Koh V, Nguyen DQ, Cheung CY, Aung T, Wong TY, Cheng CY  
 Ophthalmology. 2017 Aug 29. pii: S0161-6420(17)31003-5
- **Microbial characteristics of posttraumatic infective keratitis.**  
 Lim BX, Koh V, Ray M.  
 Eur J Ophthalmol. 2017 Jul 8:0. doi: 10.5301/ejo.5001009.
- **Macular Ganglion Cell and Retinal Nerve Fiber Layer Thickness in Children With Refractive Errors-An Optical Coherence Tomography Study**  
 Goh JP, Koh V, Chan YH, Ngo C.  
 J Glaucoma. 2017 Apr 26.
- **Association of iris crypts with acute primary angle closure.**  
Koh V, Chua J, Shi Y, Thakku SG, Lee R, Nongpiur ME, Baskaran M, Kumar RS, Perera S, Aung T, Cheng CY.  
 Br J Ophthalmol. 2017 Mar 7
- **Success rates of 2-site phacoemulsification combined with fornix-based trabeculectomy using mitomycin C for primary angle-closure glaucoma and primary open-angle glaucoma in an Asian population.**  
Koh V, Chen D, Aquino CM, Aduan J, Sng C, Chee LS, Chew P.  
 Jpn J Ophthalmol. 2017 Feb 10
- **Review of the Ahmed versus Baerveldt study—5-year treatment outcomes**  
Koh V, Aquino CM, Chew P.  
 Ann Eye Sci 2017;2:18. doi: 10.21037/aes.2017.02.07

- **Inter-Relationships Between Retinal Vascular Caliber, Retinal Nerve Fiber Layer Thickness, and Glaucoma: A Mediation Analysis Approach.**  
Tham YC, Siantar RG, Cheung CY, Tan SP, Koh V, Aung T, Wong TY, Cheng CY. Invest Ophthalmol Vis Sci. 2016 Jul 1;57(8):3803-9.
- **Reply.**  
Koh V, Tan C, Tan PT, Tan M, Balla V, Nah G, Cheng CY, Tan MM, Yang A, Zhao P, Wong TY, Saw SM, Ohno-Matsui K. Am J Ophthalmol. 2016 Aug;168:296
- **Complex wavelet based quality assessment for AS-OCT images with application to Angle Closure Glaucoma diagnosis.**  
Niwas SI, Jakhetiya V, Lin W, Kwok CK, Sng CC, Aquino MC, Koh V, Chew PT. Comput Methods Programs Biomed. 2016 Jul;130:13-21
- **Choroidal thickness does not predict visual acuity in young high myopes**  
Gupta P, Cheung CY, Saw SM, Koh V, Tan M, Yang A, Zhao P, Cheung CM, Wong TY, Cheng CY. Acta Ophthalmol. 2016 May 19
- **Comparison of incidence of ptosis after combined phacotrabeculectomy with mitomycin C and phacoemulsification**  
Koh V, Tatsios J, Chew PT, Amrith S. Indian J Ophthalmol. 2015 Dec;63(12):895-8
- **Myopic Maculopathy and Optic Disc Changes in Highly Myopic Young Asian Eyes and Impact on Visual Acuity**  
Koh V, Tan C, Tan PT, Tan M, Balla V, Nah G, Cheng CY, Ohno-Matsui K, Tan MM, Yang A, Zhao P, Wong TY, Saw SM. Am J Ophthalmol. 2016 Apr;164:69-79
- **Survey of Common Aesthetic Practices Among Oculofacial Surgeons in Asia-Pacific Region**  
K Lun, V Koh, Sundar G. Asia Pac J Ophthalmol (Phila). 2015 Sep-Oct;4(5):293-9
- **Retinal Vein Occlusion in a Multi-Ethnic Asian Population: The Singapore Epidemiology of Eye Disease Study**  
V Koh, C Cheung, L Xiang, Tian DC, Wang JJ, P Mitchell, Cheng CY, Wong TY. Ophthalmic Epidemiol. 2016 Feb;23(1):6-13
- **Complications and outcomes of primary phacotrabeculectomy with mitomycin C in a multi-ethnic asian population.**  
Chen DZ, Koh V, Sng C, Aquino MC, Chew P. PLoS One. 2015 Mar 16;10(3)
- **Meta-analysis of Genome-Wide Association Studies Identifies Novel Loci Associated With Optic Disc Morphology.**  
Springelkamp H, Mishra A, Hysi PG, Vithana E, Koh V, Tai ES, Jonas JB, Cheng CY, Aung T, van Duijn CM, Hammond CJ et al. Genet Epidemiol. 2015 Mar;39(3):207-16
- **Correlation of structural and electrophysiological changes in the retina of young high myopes**  
Koh V, Tan C, Nah G, Zhao P, Yang A, Lin ST, Wong TY, Saw SM, Chia A.

Ophthalmic Physiol Opt. 2014 Nov;34(6):658-66

- **Survey of Common Practices Among Oculofacial Surgeons In The Asia-Pacific Region: Evisceration, Enucleation and Management of Anophthalmic Sockets**  
Koh V, Chiam N, Sundar G.  
Orbit. 2014 Sep 10:1
- **Survey of Common Practices among Oculofacial Surgeons in the Asia-Pacific Region: Management of Orbital Floor Blowout Fractures**  
Koh V, Chiam N, Sundar G.  
Craniofacial Trauma Reconstr. 2014 Sep;7(3):197-202
- **Survey of common practices among oculofacial surgeons in the Asia-Pacific region: Graves' orbitopathy**  
Sundar G, Chiam N, Lun K, Koh V  
Orbit. 2014 Oct;33(5):319-25
- **Differences in prevalence of refractive errors in young Asian males in Singapore between 1996-1997 and 2009-2010**  
Koh V, Yang A, Saw SM, Chan YH, Lin ST, Tan MM, Tey F, Nah G, Ikram MK.  
Ophthalmic Epidemiol. 2014 Aug;21(4):247-55
- **Can an inexperienced observer accurately plot disc contours using Heidelberg retinal Tomograph?**  
Koh V, Wee S, Lim M, Wong WL, Wong TY, Aung T, Loon SC.  
Can J Ophthalmol. 2014 Jun;49(3):249-55
- **Laser iridotomy and the corneal endothelium: a systemic review**  
Wang PX, Koh V, Loon SC.  
Acta Ophthalmol. 2014 Nov;92(7):604-16
- **Periorbital muscle atrophy associated with topical bimatoprost therapy**  
Wang PX, Koh V, Cheng JF.  
Clin Ophthalmol. 2014 Jan 29;8:311-4
- **Relationship between ganglion cell-inner plexiform layer and optic disc/retinal nerve fibre layer parameters in non-glaucomatous eyes**  
Tham YC, Cheung CY, Koh V, Cheng CY, Sidhartha E, Strouthidis NG, Wong TY, Aung T.  
Br J Ophthalmol. 2013 Dec;97(12):1592-7
- **Survey on the management of orbital and intraocular tumors among oculofacial surgeons in the Asia-Pacific region**  
Wang PX, Koh V, Lun K, Sundar G.  
Int Ophthalmol. 2014 Jun;34(3):723-33
- **Myopia-related fundus changes in Singapore adults with high myopia**  
Chang L, Pan CW, Ohno-Matsui K, Lin X, Cheung GC, Gazzard G, Koh V, Hamzah H, Tai ES, Lim SC, Mitchell P, Young TL, Aung T, Wong TY, Saw SM.  
Am J Ophthalmol. 2013 Jun;155(6):991-999
- **Pathologic Changes in Highly Myopic Eyes of Young Males in Singapore**  
V Koh, Nah KM, L Chang, Yang HX, Lin ST, Kyoko OM, Wong TY, Saw SM  
Ann Acad Med Singapore. 2013 May;42(5):216-24.



- **Chlorpromazine-induced corneal toxicity**  
Koh V, Khor WB, Lim L.  
Arch Ophthalmol. 2012 Nov;130(11):1409
- **Determinants of ganglion cell-inner plexiform layer thickness measured by high-definition optical coherence tomography**  
Koh V, Tham YC, Cheung CY, Wong WL, Baskaran M, Saw SM, Wong TY, Aung T.  
Invest Ophthalmol Vis Sci. 2012 Aug 24;53(9):5853-9
- **Fundus flavimaculatus and choroidal neovascularization in a young patient with normal electroretinography: case report**  
Koh V, Naing T, Chee C.  
Can J Ophthalmol. 2012 Jun;47(3):e3-5
- **Prevalence and risk factors of epiretinal membrane in Asian Indians**  
Koh V, Cheung CY, Wong WL, Cheung CM, Wang JJ, Mitchell P, Younan C, Saw SM, Wong TY.  
Invest Ophthalmol Vis Sci. 2012 Feb 27;53(2):1018-22
- **Blindness and long-term progression of visual field defects in chinese patients with primary angle-closure glaucoma**  
Quek DT, Koh V, Tan GS, Perera SA, Wong TT, Aung T.  
Am J Ophthalmol. 2011 Sep;152(3):463-9
- **Comparing stereometric parameters between Heidelberg Retinal Tomography 2 and 3 in Asian eyes: the Singapore Malay Eye Study**  
Koh V, Loon SC, Wong WL, Wong TY, Aung T.  
J Glaucoma. 2012 Feb;21(2):102-6.
- **The use of HRT with and without the aid of disc photographs**  
Loon SC, Tong L, Gazzard G, Chan YH, Sim EL, Aung T, Tan DT, Healey PR, Wong TY, Koh V, Saw SM.  
J Glaucoma. 2011 Apr-May;20(4):207-10
- **Relationship of retinal vascular tortuosity with the neuroretinal rim: The Singapore Malay Eye Study**  
Koh V, Cheung CY, Zheng Y, Wong TY, Wong W, Aung T.  
Invest Ophthalmol Vis Sci. 2010 Jul;51(7):3736-41.
- **Plateau Iris in Asian Subjects with Primary Angle Closure Glaucoma**  
Rajesh SK, Visanee T, Melissa H Wong, Kobkuea L, Orathai C, Desmond T Quek, Koh V, Lakshmana SR, Kelvin Y Lee, Prin Rojanapongpun, Tin Aung  
Arch Ophthalmol. 2009 Oct;127(10):1269-72
- **Confirmation of the presence of uveal effusion in Asian eyes with primary angle closure glaucoma: an ultrasound biomicroscopy study**  
Kumar RS, Quek D, Lee KY, Oen FT, Sakai H, Koh V, Mohanram LS, Baskaran M, Wong TT, Aung T.  
Arch Ophthalmol. 2008 Dec;126(12):1647-51
- **Risk factors for contact lens related fusarium keratitis: a case-control study in Singapore.**  
Undergraduate Research Opportunity Programme (UROP)

Arch Ophthalmol. 2007;125(5):611-617.

- **Utility of positron emission tomography /CT in the detection of malignancy within a choledochal cyst**

Koh V, Goh BK, Goh AS, Chow PK.

Clinical Gastroenterol Hepatol. 2008 Oct 22.



### **Book and Book Chapters**

- **Essentials of Ophthalmology: For Medical School and Beyond**  
Chief Editors: Victor Koh, Ray Manotosh
- **Yanoff & Duker, Ophthalmology 5th edition**  
**Chapter 10.12: Angle-Closure Glaucoma**  
Dawn K.A. Lim, Victor T.C. Koh, Maria Cecilia D. Aquino, Paul T.K. Chew
- **Glaucoma diagnosis: Resident's Gateway to Glaucoma**  
Book chapter on Angle Closure Glaucoma  
V Koh, C Aquino, C Sng, P Chew
- **Ophthalmological Imaging and Application**  
Book chapter: Optic Nerve Analysis and Imaging in Relation to Glaucoma  
Victor Koh, Rosalynn Grace, Seng Chee Loon

- **The use of Micropulse Trans-Scleral Cyclophototherapy (MP3) for Glaucoma: Current and Future Practice**

Victor Koh, Marcus Tan, Cecilia Maria Aquino, Dawn Lim, Paul Chew  
Book chapter New Concepts in Glaucoma Series Volume 3 – in press

## 1.7 Research Interest

There is a common theme to the 3 key focus of my research which is centered on down-stream translational of novel bench-to-bedside research involving glaucoma diagnostics and therapeutics. This required a unique combination of clinical training as an ophthalmologist and a researcher trained in commercialization pathways.

**First**, the SPIN Program would be the catalyst for decentralization of glaucoma screening/diagnosis into the community.

**Second**, our novel anterior segment optical coherence tomography imaging algorithms would individualize diagnosis and promote precision medicine in angle closure glaucoma management.

**Third**, the development of novel glaucoma therapeutics followed by clinical trials to provide proof-of-concept evidence of efficacy and safety.

### 1.7.1. Research training

Year	Program
2014	NUHS Clinician Scientist Program - Residency
2016	National Medical Research Council - Research Fellowship
2016	LEAN Launchpad by NUS Enterprise
2018	Master of Science (Innovation Graduate Program) Yong Loo Lin School of Medicine, National University of Singapore
2018	Summit Program in Innovation: SPINner Program for Innovation

### 1.7.2. Ongoing research projects and grants

Competitive Grants	Funding (SGD)	Role
Novel and Automated Detection of Primary Angle Closure Mechanism using Anterior Segment Optical Coherence Tomography <b>Grant:</b> Cooperative Basic Research Grant New Investigators Grant <b>Duration:</b> Dec 2015 (LOA Date) to Mar 2018	279,499	PI
A smarter, user-friendly, portable and reliable automated (SUPRA-VR) perimetry device <b>Grant:</b> NUH-NHIC Joint Medtech (100,000) <b>Duration:</b> 1 Nov 2016 to 30 Apr 2018 National Health Innovation Centre I2D (208,000) <b>Duration:</b> 1 Nov 2018 to 31 Jul 2020 NUS SPIN Programme (300,000) SPINNER (427,500) <b>Duration:</b> 26 Sep 2017(LOA) to 31 Mar 2022	1,077,500	PI

The Asia Primary Tube versus Trab (TVT) Study <b>Grant:</b> NMRC CTG IIT-L(SERI) <u>Duration:</u> 16 Oct 2015 to 16 Oct 2020	358,643	Site PI
Self-Tonometry device for monitoring of intra-Ocular Pressure (STOP) for Glaucoma <b>Grant:</b> NUH Innovation Grant <u>Duration:</u> 3 Feb 2020 to 2 Feb 2021	49,900	PI
Detecting Diabetic Retinopathy from Tears using Raman Spectrometry <b>Grant:</b> NUS Innovation Graduate Program Seed Grant	10,000	PI
EyeDEA - Eye Drop Electronic Alarm (Glaucoma Medication Management System) <b>Grant:</b> Bayer-NUS Grants4Apps Challenge-Awarded 3 May 2017(Fully Utilized)  National Health Innovation Centre I2P <u>Duration:</u> 1 Sep 2017 to 28 Feb 2018  NUH-NHIC Joint Medtech <u>Duration:</u> 1 Aug 2018 to 31 Jan 2020	120,000	PI
Novel Ab Externo Laser Therapy for Primary Open Angle Glaucoma (POAG) and Primary Angle Closure Disease  <b>Grant:</b> National Health Innovation Centre I2P <u>Duration:</u> 1 Aug 2017 to 31 Jan 2018	10,000	Co-I
<b>Total funding</b>	<b>1,905,542</b>	

<b>Non-competitive sponsorship/endowment</b>	<b>Funding (SGD)</b>	<b>Role</b>
A Phase III, Randomized, Observer-Masked, Active-Controlled, Parallel-Group, Multinational and Multicenter Study Assessing the Safety and Efficacy of DE-117 Ophthalmic Solution 0.002% Compared with Latanoprost Ophthalmic Solution 0.005% in Subjects with Open-Angle Glaucoma or Ocular Hypertension- PEONY Study(Ended 23 April 2019)	49,706	Co-I
Paul Glaucoma Implant (PGI) Case Series	394,450	PI
EyeDEA - Eye Drop Electronic Alarm (Glaucoma Medication Management System) – Fully Utilized	5,000	
Novel Ab Externo Laser Therapy for Primary Open Angle Glaucoma (POAG) and Primary Angle Closure Disease (No Expiry Date)	25,000	
<b>Total funding</b>	<b>519,156</b>	

### 1.7.3. Invitation to speak and chair meetings

Congress/Meeting	Role
Asia-Pacific Glaucoma Congress 2018	Invited Speaker
Malaysia-Singapore Ophthalmology Meeting 2018	Invited Speaker
Ophthalmology A-Z Meeting 2018	Invited Speaker
Malaysia-Singapore Ophthalmology Meeting 2019	Represented SSO and gave the opening/welcome address Invited chairperson for free paper session Invited chairperson and Speaker for session on intraocular pressure and filtering surgery
Philippines Academy Ophthalmology Midyear Congress 2019	Invited Speaker
3rd Guangzhou Glaucoma Forum (GZGF) - Zhongshan Ophthalmic Center	Invited speaker
World Glaucoma Congress 2019	Invited speaker
Iridex Micropulse Cyclo G6 @ WGC 2019	Invited instructor
International Congress Glaucoma Surgery 2020	Invited speaker
Asia-Pacific Academy of Ophthalmology 2020	Invited speaker Invited Chair on session for Case presentation and discussion: Diagnostic and therapeutic challenges of glaucoma
Asia-Pacific Glaucoma Congress 2020	Invited speaker

### 1.7.4. Reviewer in peer-reviewed journals and grant application

Journal Title	Impact factor
American Journal of Ophthalmology	4.02

Investigation Ophthalmology and Visual Sciences	3.66
JAMA Ophthalmology	4.49
Ophthalmic and Physiological Optics	2.64
Translational Vision Science and Technology	-
PLOS ONE – Ophthalmology	3.73
Acta Ophthalmologica	2.35
Ophthalmology	6.10
Clinical and Experimental Ophthalmology	2.55
Journal of Ophthalmology	1.46
Asia-Pacific Journal of Ophthalmology	-
Seminars in Ophthalmology	1.19
Current Eye Research	1.64
British Journal of Ophthalmology	3.81
European journal of ophthalmology	0.81
Computer Methods and Programs in Biomedicine	3.24
NUS Ophthalmology Book Prize Review 2017, 2018, 2019	
NHIC Innovation to Develop (I2D)	
FY19 Grant Call for Science-Translational and Applied Research (STAR) I & II 2019	

#### 1.7.5. Abstract Presentation

- **Association for Research in Vision and Ophthalmology (ARVO) 2008 Annual Meeting, Florida, USA**  
Presented a poster on Prevalence of Plateau Iris in Primary Angle Closure Glaucoma  
V Koh, R.S. Kumar, K.Y. Lee, D.T. Quek, F.T. Oen, L.S. MohanRam, T. Aung
- **SNEC 18<sup>th</sup> Anniversary International Meeting 14-17 March 2008**
- **SNEC Orbital meeting- “orbital disease unlimited” 14-17 March 2008**
- **24<sup>th</sup> Singapore-Malaysia joint meeting in Ophthalmology “Current Trends in Ophthalmology” 22-24 August 2008**
- **ARVO 2010 Annual Meeting, Florida, USA**

Presented a poster on Long-term Progression Of Visual Field Defects In Patients With Treated Primary Angle Closure Glaucoma  
V Koh, Quek DT, T Aung

- **Asia-ARVO Meeting, Singapore 20 – 23 January 2011**  
Presented a poster on: The Learning Curve of New Observers for HRT-2  
V Koh, Loon SC, Wong WL, Wong TY, Aung T
- **ARVO 2011 Annual Meeting, Florida, USA**  
Presented a poster on: Prevalence and risk factors of Epiretinal Membranes in an Asian Indian population – comparison with other ethnic groups  
V Koh, Cheung Y, Wong WL, Wang JJ, P Mitchell, T Aung, Wong TY
- **ARVO 2012 Annual Meeting, Florida, USA**  
Presented a poster on: Determinants of ganglion cell complex layer thickness in non-glaucomatous Chinese eyes measured by spectral-domain Optical Coherence Tomography  
V Koh, Tham YC, Cheung Y, Wong WL, Wong TY, T Aung
- **European Glaucoma Society Meeting 2012, Copenhagen, Denmark**  
Presented a poster on: Assessing the learning curve of an inexperienced observer in plotting optic disc contours: A Heidelberg Retinal Tomography study  
V Koh, M Lim, S Wee, Wong TY, T Aung, Loon SC
- **ARVO 2013 Annual Meeting, Seattle, USA**  
Presented a poster on: Prevalence and risk factors of retinal vein occlusion in Asian Indians - comparative study between Singapore and India  
V Koh, C Cheung, Wong WL, Wang JJ, P Mitchell, T Aung, TY Wong
- **ARVO 2014 Annual Meeting, Orlando, USA**  
Presented a poster on: Optic Disc and Retinal Changes in Highly Myopic Young Adolescent Eyes  
V Koh, CY Cheng, P Zhao, C Tan, Saw SM
- **Australia-New Zealand Glaucoma Interest Group Meeting, Brisbane, Australia**  
Oral presentation: Success rates of combined phacotrabeculectomy with mitomycin C for primary angle-closure and primary open-angle glaucoma in an Asian population  
V Koh, D Chen, C Aquino, C Sng, Loon SC, P Chew
- **ARVO 2015 Annual Meeting, Denver, USA**  
Presented a poster on: Diagnostic accuracy for glaucoma detection in a population-based study: comparison of stereometric parameters from high-definition optical coherence tomography and Heidelberg retinal tomography-3  
V Koh, C Cheung, Tien Y Wong, Tin Aung
- **ARVO 2016 Annual Meeting, Seattle, USA**  
Presented a poster on: Trans-scleral Pars Plicatoplasty in the Treatment of Eyes with Primary Angle Closure Disease  
V Koh; Maria Cecilia Aquino; Joel Aduan; Thomas Thamboo; Paul Chew
- **ARVO 2017 Annual Meeting, Baltimore, USA**  
Oral presentation/Free paper: Predicting the Outcome of Laser Peripheral Iridotomy for Primary Angle Closure Suspect Eyes using Anterior Segment Optical Coherence Tomography

V Koh; Mohammad Reza; Paul Chew; Cecilia Aquino; Chelvin Sng

- **Innofest Unbound 2017**  
Victaz Portable Photo-Gonioscopy
- **Tech Innovation 2017**  
Victaz Portable Photo-Gonioscopy and Fundoscopy for angle closure glaucoma screening
- **ARVO 2018 Annual Meeting, Honolulu, Hawaii, USA**  
Poster: Six-year Incidence and Risk Factors of Primary Glaucoma in the Singapore Indian Eye Study  
Victor Koh, Yih-Chung Tham, Nicholas YQ Tan, Nguyen Duc Quang, Charlene Wong, Charumathi Sabanayagam, Tien-Yin Wong, Tin Aung, Ching-Yu Cheng
- **Asia-Pacific Glaucoma Conference 2018, Busan, Korea**  
Oral presentation on: Improving glaucoma drainage implant performance – a new tube design
- **ARVO 2019 Annual Meeting, Vancouver, Canada**  
Poster: First-in-man clinical study on a novel glaucoma drainage implant  
Victor Koh, Cecilia Aquino Maria, Paul Chew, Keith Barton

#### **1.7.6. Patents and Invention Disclosures**

US Provisional Application No. 62/204,547

Title: VICTAZ Portable Photo-Gonioscopy Device ILO Ref: 15195N-US/PRV

Invention Disclosure; National University of Singapore ILO Ref: 2017-147

Title: Victaz Portable Fundus Photography Device

Patent Design No. 30201704230R in Class & Subclass 09-03,24-99

Title: HOLDER FOR EYE DROPS BOTTLE

Singapore Patent Application Serial No. 10201706747U

Title: SYSTEM AND APPARATUS FOR EYE DROP ADMINISTRATION COMPLIANCE

New Singapore Patent Application Serial No. 10201705145P

Title: Micropulse trans-scleral SCHLEMM trabeculoplasty

Invention Disclosure; NUH Ref: NUHSRO-ID/2018/015

Title: Automatic Scleral Spur Detection and Parameters Measurement in AS-OCT Images using Deep Neural Network Segmentation

Singapore Patent Application No. 10201806935Y

Title: METHOD AND DEVICE FOR SELF-MEASUREMENT OF INTRAOCULAR PRESSURE

SG Non-Provisional Application No. 10201906314P

Title: An Automated Slit Lamp With Computer Parts and A Method of Eye Screening Using The Same



## 1.8 Teaching experience

### 1.8.1. Coordination of exams

Teaching course	Role
Final MMed (Ophthalmology) Preparatory Course 2013	Lead coordinator
Final MMed (Ophthalmology) Preparatory Course 2014	Lead coordinator
Final MMed (Ophthalmology) Clinical Examination 2013	Lead coordinator
Final MMed (Ophthalmology) Clinical Examination 2014	Lead coordinator
MMed (Ophthalmology) Refraction Assessment 2013	Lead coordinator
Mock Ophthalmology OSCE Preparation Course 2015	Examiner

### 1.8.2. Research elective for medical students with project output (**bold = presented at conferences or published in peer-reviewed journals**)

	Year	Name of Student	Research Titles
1	2016	Jessica Choo Qian Hui	<b>Outcomes of Ahmed Tube Implantation in Asian Eyes</b>
			<b>Complications of Glaucoma Drainage Device Implantation in a Multi-Ethnic Asian Population</b>
2	2017	Wong Ci-Hui Edith	The Epidemiology and Factors Affecting Clinical Outcomes of Open Globe Injuries in a Single Tertiary Institution in Singapore
3	2016	Jody Paige Goh Shu Min	<b>The impact of surgical intraocular pressure reduction on visual field progression in Asian eyes with Glaucoma</b>
			<b>Micropulse Transscleral Diode Laser Cytophotocoagulation in the Treatment of Paediatric Glaucoma</b>

	2017	Jody Paige Goh Shu Min	Longitudinal visual field changes in an Asian population with glaucoma on follow-up at the National University Hospital Eye Surgery Centre <b>Comparison of visual field progression after primary Ahmed valve glaucoma implantation and trabeculectomy for Asian eyes with glaucoma</b>
4	2017	Nikhel Sacholev	<b>Outcomes and Complications of Scleral-Fixated Intraocular Lens Combined with Ahmed Tube Surgery</b>
5	2018	Ng Xin Le	Correlation between HVF and OCT RNFL in predicting progression of glaucoma in a local tertiary centre
6	2018	Edward Lim Jianyang	<b>Outcomes of Combined Micropulse Transscleral Cyclophototherapy with Phacoemulsification and Intraocular Lens Implantation</b>
			<b>Long-term Efficacy and Safety Outcomes of Micropulse Trans-Scleral Diode Cyclophototherapy<sup>3</sup></b>
			Efficacy and Safety Outcomes of Repeated Micropulse Trans-Scleral Diode Cyclophototherapy
7	2018	Lim Yijun	<b>Comparison of visual fields before and after Ahmed Glaucoma Valve (AGV) and Trabeculectomy with Mitomycin C (MMC) Surgery in Asian Eyes with Glaucoma</b>
8	2018	Wu Yanlong	<b>Longitudinal visual field analysis and development of novel predictive algorithms</b>
			Developing novel algorithms to predict glaucoma progression
9	2018	Ong Sze Chuan	<b>AVATAR – Automated Visual Acuity Testing using Augmented Reality</b>
			<b>Surgical outcomes of second Ahmed valve implantation in Asian Eyes with Refractory glaucoma</b>
10	2018	Chiew Wenqi	Self Tonometry device for monitoring of intra-Ocular Pressure (STOP): Evaluation of a new trans-palpebral tonometer for measuring intraocular pressure
11	2019	Jimmy Hong	<b>A retrospective comparison of 3-year surgical outcomes between primary trabeculectomy and Ahmed glaucoma valve insertion in Asian eyes</b>

*Elective students supervised (local & overseas)*

S/N	Year	Name of Student	Name of Medical School	Start Date	End Date	Type of Electives
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1	2016	Jessica Choo Qian Hui	National University of Singapore (Yong Loo Lin School of Medicine)	16/2/16	26/2/16	Local
2	2016	Cheng-Hsu Lu	National Taiwan University	7/3/2016	18/3/16	Clinical
3	2016	Ong Yan Lin	National University of Singapore (Yong Loo Lin School of Medicine)	21/3/2016	1/4/16	Local
4	2016	Tay Wan Jiun	National University of Singapore (Yong Loo Lin School of Medicine)	18/4/16	29/4/16	Local
5	2016/2017	Jody Paige Goh	NUS Yong Loo Lin School of Medicine	16/5/16	1/7/16	Clinical & Research
6	2017	Nikhel Sacholev	NUS Yong Loo Lin School of Medicine	6/3/17	31/3/17	Clinical-Research
7	2017	Wong Ci-Hui Edith	NUS Yong Loo Lin School of Medicine	3/4/2017	28/4/17	Research
8	2017	Jiacheng Yin	Fudan University Shanghai Medical University	1/5/17	12/5/17	Clinical
9	2017	Aloysius Ang Jian Feng	NUS Yong Loo Lin School of Medicine	25/9/2017	29/9/17	Clinical
10	2017	Quek Qiao Yun Debra	Duke-NUS Medical School	18/12/2017	29/12/17	Clinical
11	2018	Kishanth Sritheran	King's College London	29/1/2018	23/2/18	Clinical
12	2018	Lim Yijun	Yong Loo Lin School of Medicine NUS	26/2/2018 5/3/2018 23/4/2018	02/03/2018 16/03/2018 04/05/2018	Clinical Research
13	2018	Ng Xin Le	Yong Loo Lin School of Medicine NUS	30/4/2018	25/5/18	Clinical-Research
14	2018	Chun-Yueh Chang	National Taiwan University	7/5/2018	18/5/18	Clinical

15	2018/2019	Lim Jianyang , Edward	National University of Singapore YLLSoM	4/3/19	22/3/19	Clinical/ Research
16	2018	Kirsten Wong	University of Leeds	16/07/2018	24/8/18	Clinical
17	2018	Wu Yanlong	Lee Kong Chian School of Medicine	1/8/2018	1/7/19	Research
18	2019	Jimmy Ming HONG	LKCmedicine	21/2/2019	31/12/19	Research
19	2019	Chiew Wenqi	National University of Singapore YLLSoM	4/3/19	29/3/19	Clinical/ Research
20	2019	Agnes HO	The Chinese University of Hong, Faculty of Medicine	8/4/19	19/4/19	Clinical
21	2019	Ong Sze Chuan	National University of Singapore YLLSoM	15/4/19	10/5/19	Clinical/ Research
22	2020	Ong Chee Wui	NUS YLLSoM	2/3/2020	27/3/20	Clinical & Research

### 1.8.3. Student Feedback Report

Year	Number of hours of teaching	Mean teaching scores (out of 5)	Number of best teacher nominations)
2015 - 2016	63	4.66	19
2016 – 2017	17	4.66	11
2017 - 2018	13	4.83	15
2018 - 2019	15	4.59	5

### 1.9 Community Work

Event	Date
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Singapore Women Association Visioncare Programme	4 Sept 2016 25 May 2015 1 December 2013 7 July 2013 19 May 2013 22 July 2012 21 April 2012
"Eye-See-the-World" Cataract Surgery Camp to Bangladesh	21- 23 November 2014
Lifeline Express to rural parts of China	13 – 19 August 2017 10 – 18 July 2018

## **REFERENCES**

### **Associate Professor Paul Chew**

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