



Prof Gemmy Cheung

MBBS, FRCOphth, FAMS, MCI

Senior Consultant
Singapore National Eye Centre

Specialty: Medical Retina, Cataract & Comprehensive Ophthalmology
Sub-specialties: Medical Retina, Cataract & Comprehensive Ophthalmology

Professor Gemmy Cheung is currently Professor of Duke-NUS Medical School in Singapore. She is also the Head and Senior Consultant of the Medical Retina Department, at Singapore National Eye Centre and Head of the Retina Research Group at the Singapore Eye Research Institute (SERI).

Professor Cheung has published over 200 peer-reviewed articles mostly in Age-related Macular Degeneration and Polypoidal Choroidal Vasculopathy, and has completed several clinical trials in anti-vascular endothelial growth factor therapies in her capacity as a Principal Investigator. She is currently a Principal Investigator for two ongoing large research programmes funded by the Singapore National Medical Research Council and Biomedical Research Council. She has given more than 100 invited lectures and served as an instructor on courses at the Asia-Pacific Academy of Ophthalmology (APAO) and American Academy of Ophthalmology (AAO) congress.

Professor Cheung has received a number of prestigious awards, including Secretariat Award and Achievement Awards from the American Academy of Ophthalmology (AAO), the Macula Society Young Investigator Award, the Asia-Pacific Academy of Ophthalmology Achievement Award, Nakajima Award and Outstanding Service in Prevention of Blindness Award.

Education

MCI
FRCOphth (2006)
MRCOphth (2000)
MBBS (1997)

Professional Appointments and Committee Memberships

Council Member, Asia-Pacific Ocular Imaging Society (APOIS) (2019 - present)

Member and Regional Adviser, American Academy of Ophthalmology (AAO) (2019 - present)

Exco, International Retinal Imaging Society (IntrIS) (2019 - present)

Council Member, Asia-Pacific Vitreo-retina Society (APVRS) (2018 - present)

Member and Credentialing Committee, Macula Society (2013 - present)

Member, American Society of Retinal Specialists (ASRS) (2012 - present)

Member, International Society for Clinical Electrophysiology of Vision (ISCEV) (2010 - present)

Member, Singapore Society of Ophthalmology (2007 - present)

Fellow, Royal College of Ophthalmologists (2006 – present)

Awards

- Asia-Pacific Vitreo-retina Society (APVRS) Constable Lecture, 12th Asia-Pacific Vitreo-retina Society (APVRS) Congress (2018)
- Certificate of Excellence for Outstanding Abstract, World Ophthalmology Congress (2018)
- Achievement Award, American Academy of Ophthalmology (2017)
- Young Investigator Award, Macula Society (2017)
- Achievement Award, Asia-Pacific Academy of Ophthalmology (2017)
- Silver Award, SingHealth Quality Service Award (2016)
- Singapore Eye Foundation Lecture, SNEC 25th Anniversary International Meeting (2015)
- Nakajima Award, Asia-Pacific Academy of Ophthalmology Congress (2014)
- Outstanding Service in Prevention of Blindness Award, Asia-Pacific Academy of Ophthalmology Congress (2013)
- SingHealth GCEO Clinical Excellence Award 2013: Outstanding Clinical Researcher, Honorable Mention (2013)
- Global Ophthalmology Research Award, Bayer (2012)
- Khoo Clinical Scholar Program, Duke-NUS (2011)
- Silver Award, SingHealth Quality Service Award (2010)
- Clinician Investigator Award, Singapore National Eye Centre (2009)
- Junior Ophthalmologist Prize, Midland Ophthalmology Society (2005)
- Roper-Hall Medal, Birmingham & Midland Eye Centre, UK (2003)
- Elizabeth Hunt Medal, Royal College of Ophthalmologists, London (2000)

Research Interests

Imaging and treatment of retinal disorders including age-related macular degeneration, idiopathic polypoidal vasculopathy, diabetic retinopathy and retinal dysfunction in association with ocular inflammation (uveitis)

Publications

Tsai ASH, Jordan-Yu JM, ... Cheung CMG.

Diabetic macular ischemia: influence of optical coherence tomography angiography parameters on changes in functional outcomes over 1-year.

Invest Ophthalmol Vis Sci 2020. In press.

Cheung CMG, Tan CS, Patalauskaite, Margaron P, Lai TYY.

Ranibizumab with or without verteporfin photodynamic therapy for polypoidal choroidal vasculopathy: predictors of visual and anatomical response in the EVEREST II study.

Retina 2020. In press

Tsai ASH, Gan ATL, Ting DSW, Wong CW, Teo KYC, Tan ACS, Lee SY, Wong TY, Tan GSW, Gemmy Cheung CM. DIABETIC MACULAR ISCHEMIA: Correlation of Retinal Vasculature Changes by Optical Coherence Tomography Angiography and Functional Deficit.

Retina. 2020 Nov;40(11):2184-2190. doi: 10.1097/IAE.0000000000002721.

Jordan-Yu JM, Teo K, ... Cheung CMG.

Phenotypic and genetic variations between Asian and Caucasian polypoidal choroidal vasculopathy.

Br J Ophthalmol 2020 Oct9;bjophthalmol-2020-317537

Cheung CMG, Teo KYC, Tun SBB, et al.

Differential reperfusion patterns in retinal vascular plexuses following increase in intraocular pressure-an OCT angiography study.

Sci Rep 2020. Oct 5;10(1):16505.

Lim TH, Lai TTY, Takahashi K, Wong TY, Chen LJ, Ruamviboonsuk P, Tan CS, Lee WK, Cheung CMG, Ngh NF, Oatalaukaite R, Margaron P, Koh AK.

Comparison of Ranibizumab With or Without Verteporfin Photodynamic Therapy for Polypoidal Choroidal Vasculopathy: The EVEREST II Randomized Clinical Trial

JAMA Ophthalmol. 2020 Sep 1;138(9):935-942. doi: 10.1001/jamaophthalmol.2020.2443.

Cheung CMG, Lai TTY, Teo K, et al.

Polypoidal choroidal vasculopathy: consensus nomenclature and non-ICGA diagnostic criteria from the Asia-Pacific Ocular Imaging Society (APOIS) PCV Workgroup.

Ophthalmology. 2020 Aug 11;S0161-6420(20)30784-3. doi: 10.1016/j.ophtha.2020.08.006.

Song Y, Tham YC, Chong C,... Cheung CMG.

Patterns and determinants of choroidal thickness in a multi-ethnic Asian population: the Singapore Epidemiology of Eye Diseases Study.

Ophthalmol Ret. 2020 Aug 26;S2468-6530(20)30340-7. doi: 10.1016/j.oret.2020.08.012.

Teo KYC, Yanagi Y, Wong TY, Chakravarthy U, Cheung CMG.

Morphologic Predictors and Temporal Characteristics of Conversion from Nonexudative to Exudative Age-Related Macular Degeneration in the Fellow Eye.

Ophthalmol Ret 2020 Jul 14;S2468-6530(20)30283-9. doi: 10.1016/j.oret.2020.07.005.

Fenner BJ, Ting DSW, Tan ACS, Teo K, Chan CM, Mathur R, Yeo IYS, Wong TY, Wong EYM, Cheung CMG.

Real-World Treatment Outcomes of Age-Related Macular Degeneration and Polypoidal Choroidal Vasculopathy in Asians.

Ophthalmol Retina. 2020 Apr;4(4):403-414. doi: 10.1016/j.oret.2019.10.019.

Doble B, Finkelstein EA, Tian Y, Saxena N, Patil S, Wong TY, Cheung CMG.

Cost-effectiveness of Intravitreal Ranibizumab With Verteporfin Photodynamic Therapy Compared With Ranibizumab Monotherapy for Patients With Polypoidal Choroidal Vasculopathy.

JAMA Ophthalmol. 2020 Mar 1;138(3):251-259. doi: 10.1001/jamaophthalmol.2019.5628.

Cheung CMG, Grewal DS, Teo KYC, Gan A, Mohla A, Chakravarthy U, Wong TY, Jaffe GJ.

The Evolution of Fibrosis and Atrophy and Their Relationship with Visual Outcomes in Asian Persons with Neovascular Age-Related Macular Degeneration.

Ophthalmol Retina. 2019 Dec;3(12):1045-1055. doi: 10.1016/j.oret.2019.06.002.

Research Trials

TAAP: Translational Asian Age-related macular degeneration Program (2018–2023)

SIPRAD – SERI-IMCB Programme in Retinal Angiogenic Diseases (2018–2021)

An Open Label-study to Compare the Efficacy of Aflibercept Monotherapy for Polypoidal Choroidal

Vasculopathy Using a Modified Intensive Treat and Extend Regime to a Fixed Dosing Regimen (2017-2019)

Retinal Autoantibodies in Myopic Maculopathy (2017-2018)

To develop and validate imaging biomarkers to predict morphological and functional outcome in Asian patients with neovascular age-related macular degeneration, and to evaluate the impact of genetic polymorphisms on these imaging parameters (Duke/Duke-NUS/RECA(Pilot)/2016/0020) (2016–2017)

Long-term In vitro Safety Profile of Anti-VEGF Drugs: Bevacizumab, Ranibizumab, Aflibercept on Human Retinal Pigment Epithelium cells (RPE) and Human Retinal Microvascular Endothelial (RME) cells (2015-2016)

A Two-Year, Randomized, Double-Masked, Multicenter, Two-Arm Study Comparing the Efficacy and Safety of RTH258 6 mg Versus Aflibercept in Subjects with Neovascular Age-Related Macular Degeneration (RTH258-C002) (2015-2016)

Influence of severity of myopic maculopathy on efficacy of aflibercept treatment in eyes with choroidal neovascularization (mCNV) secondary to pathologic myopia (NMRC/MOHIAFCat1/0032/2015) (2015-2016)

Long-term follow-up of East Asian patients from the RADIANCE clinical trial (CRFB002F2301): a retrospective cohort study (2015-2017)

Efficacy of bispecific crossmab antibodies in model of laser induced CNV in NHP (2015-2017)

PLANET: A randomized, double-masked, sham-controlled phase 3b/4 study of the efficacy, safety, and tolerability of intravitreal Aflibercept monotherapy compared to Aflibercept with adjunctive photodynamic therapy as indicated in subjects with polypoidal choroidal vasculopathy (2014 – 2016)

The associations of scleral and choroidal thickness with myopic maculopathy (2014-2016)

Using the laser induced CNV model in rats as Screening Platform to address angiogenic and inflammatory components of retinal eye disease (2013-2015)

Expression profiling of human monocyte transcriptome in age-related macular degeneration (2013-2015)

Development of a pig model of diabetic retinopathy: a preliminary pilot study (2013-2015)

Natural history and clinical course of Age-related Macular Degeneration in Asians: Asian AMD Phenotyping Study (2012-2013)

Mab_A2V in Age-related Macular Degeneration (AMD) (2012-2014)

A predictive algorithm for indocyanine green angiography usage to differentiate polypoidal choroidal vasculopathy from age-related macular degeneration (2012-2014)

EVEREST II: A 24-month, phase IV, randomized, double masked, multi-center study of ranibizumab monotherapy or ranibizumab in combination with verteporfin photodynamic therapy on visual outcome in patients with symptomatic macular polypoidal choroidal vasculopathy. (2012-2015)

Pre-clinical testing of CTA1 in the prevention of laser-induced Choroidal Neovascularization in a murine model (2012 – 2012)

Indocyanine Green Angiography with Confocal Scanning Laser Ophthalmoscopy versus Digital Flash Photography for Polypoidal Choroidal Vasculopathy (2012-2014)

Does Genetic Variation in the CFH region of age-related macular degeneration patients allow bacteria to trigger the disease? (2011–2015)

A 12 month, phase III, randomized, double-masked, multi-center, active-controlled study to evaluate the efficacy and safety of two different dosing regimens of 0.5mg ranibizumab vs verteporfin PDT in patients with visual impairment due to choroidal neovascularization secondary to pathologic myopia (2010–2011)

A Phase III, Multi-center, Randomized, Double-masked, Sham-controlled Study of Intravitreal VEGF Trap-Eye in Patients with Choroidal Neovascularization Secondary to Pathologic Myopia (MYRROR) (2010–2011)

LUMINOUS: A study to observe the effectiveness and safety of Lucentis through individualized patient treatment and associated outcomes. (2010-2015)

Myopic Macular Degeneration - Quantifying Risk Factors and Impact on Quality of Life (2010-2013)

Molecular signatures of Anterior segment CMV infection and its prevalence in patients with hypertensive uveitic syndrome (2009-2010)

Phenotyping Asian Macular Diseases - a prospective functional and angiographic study of the clinical course of three common acquired retinal conditions in an Asian population (2009-2012)